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REFLEXIVE LAW AND REFLEXIVE PROPERTY RIGHTS

TACKLING THE REGULATORY TRILEMMA OF
ECOSYSTEMS CONSERVATION



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**To Francisca
and to our lovely children Sofia, Diego and Amelia**

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ABSTRACT

This thesis intends to be a contribution both to the sociological analysis of law and to the analysis of regulatory approaches of biodiversity conservation.

In particular, and on the one hand, I intend to contribute to a better understanding of the regulatory trilemma of ecosystems conservation in the context of the local implementation of the Convention on Biological Diversity (the 'CBD'). Specifically, I examine how local legal systems utilize traditional regulatory instruments, and particularly traditional property rights, in order to implement the ecosystems conservation -or in-situ conservation- measures of the CBD.

On the other hand, I intend to develop an understanding of the reflexive or non-exclusionary nature of law, on the basis of the general theory of society of Niklas Luhmann. This will entail the development of an understanding of the reflexive form of law, which in turn will, first, allow us to go beyond the Weberian dichotomy between form and substance and, second, allow us to assess the varying degrees of social reflexivity –or reflexive capacity- of different legal forms.

These theoretical developments will then be combined with Gunther Teubner's post-regulatory approach known as reflexive law, which will allow us to explore general mechanisms for enhancing mutual observation and interference between law and society that, in turn, will be expressed on new forms of law that should have a higher reflexive capacity to tackle the limits of regulatory law. Furthermore, in the context of my analysis of reflexive law, I will propose an understanding of Teubner's idea of *interference* –and of the encompassing idea of direct contact between law and society- by reference to Maturana's and Hejl's ideas on the *relational* and *social domain*, and to Bankowsky's notion of *transitional spaces*, that should allow observing or better observing the interactions between law and different spheres of society.

These theoretical understandings will allow me to better analyse the regulatory trilemma of ecosystems conservation and, particularly, better assess the limitations of the legal form of traditional property rights as a regulatory instrument for ecosystem's conservation. This will show that these property rights are predominantly reflexive to the observations of the economic sphere but not to the observations of other social spheres. This analysis and critique will be mainly focused on *ownership* but, as will be shown, it will also apply to other traditional property rights such as *easements* and *servitudes*.

Finally, it will be on the basis of all these understandings and considerations that I will propose and assess the creation of a new property right - the conservation property right- as a reflexive law mechanism that should allow broader social interaction amongst different spheres of society for the purpose of better tackling the regulatory trilemma of ecosystems conservation.

LAY SUMMARY

This thesis intends to be a contribution both to the sociological understanding of the relationship between law and society and to the analysis of regulatory strategies for the conservation of biodiversity.

In particular, and on the one hand, it seeks to examine the regulatory failures (ref. regulatory trilemma) of the legal frameworks for ecosystems conservation in the context of the local implementation of the Convention on Biological Diversity (the 'CBD'). Specifically, it examines how local legal systems utilize traditional regulatory instruments, and particularly traditional property rights, in order to implement the ecosystems conservation -or in-situ conservation- measures of the CBD.

On the other hand, it seeks to develop an understanding of the interaction between law and society through the idea of 'reflexivity' on the basis of the general theory of society of Niklas Luhmann. This will entail the development of an understanding of the reflexive or non-exclusionary nature of law, as well as an understanding of the reflexive form of law. This will make possible the assessment of the varying degree of internalization by the legal system of observations of other spheres of society (ref. varying 'reflexive capacity').

This theoretical development will then be combined with Gunther Teubner's post-regulatory approach known as reflexive law, which will allow us to explore general mechanisms for enhancing the interaction between law and society that, in turn, will be expressed on new forms of law that should have a higher reflexive capacity to tackle the failures of regulatory law. Furthermore, in the context of our analysis of reflexive law, it will be argued that the idea of direct contact between law and society (ref. interference) makes possible an understanding of a 'social domain' (as a shared transitional space between law and society) that should allow us to observe or better observe the interactions between the legal system and different spheres of society.

These theoretical understandings will make possible to both better analyze the regulatory failures of ecosystems conservation and, particularly, better assess the limitations of the legal form of traditional property rights as a regulatory instrument for ecosystem's conservation. This will show that these property rights are predominantly reflexive to the observations of the economic sphere but not to the observations of other social spheres. This analysis and critique will be mainly focused on *ownership* but, as will be shown, it will also apply to other traditional property rights such as *easements* and *servitudes*.

Finally, these understandings and considerations will provide the theoretical basis for proposing the creation of a new property right, the conservation property right, as a reflexive mechanism that should facilitate a broader consideration of social observations for tackling the regulatory trilemma of ecosystems conservation.

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DECLARATION

I declare that the thesis I have presented for examination for the PhD degree of the University of Edinburgh is solely my own work other than where I have clearly indicated that it is the work of others.

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Jaime C. Ubilla Fuenzalida

Edinburgh, 31 of August, 2016

ABBREVIATIONS

CBD	Convention on Biological Diversity
COP	Conference of the parties of the CBD
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IUCN	International Union for the Conservation of Nature
MA	Millennium Ecosystem Assessment of 2005
NSB	National Strategy of Biodiversity
PA(s)	Protected Areas
PoWPA	Programme of Work on Protected Areas of the CBD
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice of the CBD
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Climate Change Convention
WCPA	World Commission on Protected Areas
WGRI	Working Group on Review of Implementation of the CBD

CHAPTER 1

BACKGROUND

1.1. Social Complexity

There is a widespread critical view of the expansive logic of the economy for its purported capacity to overtake, colonize or weaken the rationalities of other spheres of society¹.

This critical view has taken a whole new dimension in the current stage of economic globalization or 'global capitalism'^{2 3}.

However, the global social changes and uncertainties we are experiencing do not appear to stem solely from 'economic globalization', as many seem to assert⁴, but from complex social dynamics that result from the differentiated⁵, pluralistic⁶ and multicultural⁷ nature of society.

This is a *poly-contextural*⁸ landscape in which not only various social spheres or systems – such as science, politics, law, economy, morality, religion, media, education, health, sports and so on – but also various regional cultures interact and generate differentiated descriptions of the social and ecological phenomena⁹.

It is in this context that today we face the uncertainties and contingencies associated with ecological sustainability; global security; financial systems stability; increasing disparities in living conditions; risks of renewed ethnic, national and religious wars; conflicts over the distribution of global resources; human rights violations, food safety and human health; among many other problems.

This social landscape normally raises the question of how specific spheres of society – such as politics and the law – can handle the corresponding social uncertainties. However, this social context should raise a more fundamental question about broader social dynamics. Surely, if we take complexity seriously enough, we should rather at first understand the way in

¹ Luhmann (1989), pp. 56, 58, 59; Habermas (1985b), pp.196; Habermas (1998), pp. xvii, pp.46.

² Greider (1997).

³ Hertz (2003).

⁴ Shapiro and Varian (1998).

⁵ See section 5.6 of Chapter 5. Also, especially Luhmann (1977), pp. 29–53,

⁶ Sousa Santos and Rodríguez-Garavito (2005).

⁷ Teubner and Korth, (2012).

⁸ Teubner and Fischer-Lescano (2006), pp.4.

⁹ Teubner (2000a), pp. 1–17.

which these different spheres of society operate and interact, how their rationalities couple with one another, and how the different social processes unfold and integrate.

In this regard, social theory has traditionally been interested in understanding how both *social differentiation* and *social integration* take place¹⁰.

Social differentiation has been understood in different ways by different theoretical approaches, some analysing the processes of autonomization or objectivation of certain spheres of society¹¹, some analysing the rationalization of separate value spheres¹², and some analysing the functional differentiation of society into various subsystems¹³, among other approaches.

One of the most emphatic observers of the process of objectivation or reification has certainly been Jürgen Habermas, who keenly analyzed how political philosophy and political morality had disregarded these social processes by focusing solely on the normative – human agency – perspective without acknowledging the autonomous, objectivated functional processes that unfold in society independent of any communicative action and away from the lifeworld¹⁴.

An understanding of the process of social differentiation is also the basis for an understanding of social integration. The socio-theoretical analysis of social integration covers a wide range of important issues, such as to what extent and how the different spheres integrate or interact among themselves; or how, to what extent and in what form it is possible – if at all – to find a generalized background of communication behind these specialized spheres, whether through a traditional lifeworld¹⁵, through a generalized background language¹⁶, through macro-rationalities¹⁷ or through a *social domain*¹⁸

¹⁰ A classical and paradigmatic example of theories that approach both differentiation and integration can be found in Durkheim (2014). Durkheim was interested in understanding how societies maintain social integration after economic relations replaced traditional social bonds. It is in this regard that he develops the ideas of two forms of social integration: mechanical and organic solidarity.

¹¹ Simmel (1997), pp.55; Wolff (2011), pp.41. Faught (1985), pp.158.

¹² Weber (2009), pp. 138-9; Weber (1978), pp.656.

¹³ Parsons (1991); Habermas (1985a); Habermas (1985b); Luhmann (1995a).

¹⁴ Habermas (1998), in xxx and pp.57. This is exactly his departure point in trying to combine the external and the internal perspectives of respectively facticity and validity. Earlier Habermas had said: “*On this plane of analysis the uncoupling of system and lifeworld is depicted in such a way that the lifeworld, which is at first co-extensive with a scarcely differentiated social system, gets cut down more and more to one subsystem among others. In the process system mechanisms get further and further detached from the social structures through which social integration takes place. As we shall see modern societies attain a level of system differentiation at which increasingly autonomous organizations are connected with one another via delinguistified media of communication: these systemic mechanisms – for example, money – steer a social intercourse that has been largely disconnected from norms and values, above all those subsystems of purposive rational economic and administrative action that, on Weber’s diagnosis, have become independent of their moral-political foundations*”; Habermas (1985b), pp.154.

¹⁵ Habermas (1998), pp.56.

¹⁶ Teubner (1993), pp.86. Teubner states that ‘...all forms of specialized communication in any social subsystem ... are also at the same time always forms of general societal communication’

resulting from structural coupling among discourses, or otherwise.

Traditionally, theoretical issues surrounding social differentiation and social integration have been analysed in order to understand how social order, social control or the stabilization of society can be achieved.

However, in the face of the increasing social complexity of our contemporary society, these questions are being re-oriented towards the urgent need to understand how – if at all – our societies will be able to cope with the current state of uncertainty, contingency and risk.

In this sense, there seems to be a paradigmatic change from an orientation towards *controlling and stabilizing the world* to an orientation towards *coping with uncertainty, contingency and risk*¹⁹.

However, this change in orientation does not seem to be a change in the focus of the theoretical analysis alone. It also seems to reflect a change of paradigm within societal processes in different spheres of society (i.e. the economy, science, technology), which appear to be experiencing a major shift from a traditional *past-oriented social perspective* – oriented by a pre-existing order – to a *future-oriented social perspective* – oriented by an unfolding contingent future²⁰.

This shift in societal orientation is becoming all the more evident under the new scenario of globalization in which the different spheres of global society are showing tendencies towards expansion and acceleration. As Teubner states, the '*economization, politicization, juridification, medialization, medicalization of the world – indicate a high-speed compulsive growth dynamic that is generating unprecedented contingencies and risks*'²¹.

The *expansion tendencies*, on the one hand, appear to generate further complexity through collisions between and among different rationalities²², where, for instance, the economy takes over spheres of society that were originally controlled by local cultural practices, by traditional legal concepts or by the autonomous interests of scientific research²³.

The *acceleration tendencies*, on the other hand, appear to be an expression of the shift towards a future-orientation further intensified in the expansive search for new solutions to new problems for which the past does not seem to provide answers. These acceleration tendencies represent further

¹⁷ Teubner (2012), pp.81. Teubner here refers to a potential macro-rationality with the caveat that '*there is no authority that could define this 'macro-rationality' but specific subsystems could reflect on such macro-rationality*'.

¹⁸ See Chapter 8 and specially Section 8.4.

¹⁹ Luhman (2007); pp. 112 and Ch.5; Luhman (2005), esp. pp. 44-48, 118, 145; Ladeur (2004), pp.9; Vesting (2004), pp. 281.

²⁰ Ibid.

²¹ Teubner (2012), pp.79.

²² Teubner and Fischer-Lescano (2006), pp.4; also Teubner (2012). Teubner refers here to: collisions with their own rationalities, with the rationalities of the other spheres or with the general background rationalities.

²³ As it is well known, Habermas refers to the colonization of the lifeworld. However, Habermas only applies this colonization notion to the life-world and not to all inter-systemic relations –as Luhmann's systems theory does-. See Habermas (1985b).

complexity in the process of social differentiation, because, as will be explained, the temporal dimension of the different spheres²⁴ appears to have different time horizons and different time-speeds, creating further challenges to social integration²⁵ as well as further challenges to the interactions between different spheres of society and the natural environment²⁶.

It is in light of the described features of contemporary society that the present thesis has required careful selection of a proper theoretical framework considering *social complexity* as a central aspect of its analysis of society. As explained throughout this thesis and particularly in Chapter 5, social systems theory as developed by Niklas Luhmann departs from the understanding that systems observe by making distinctions, that is, from the understanding that systems operate by reducing and constructing complexity. This theoretical framework also takes into account complexity deriving from the *temporal dimension* of these social processes.

These features of systems theory make it an especially suitable theoretical framework for the analysis of the complex issues being faced by our contemporary society and, particularly, for the analysis of the complex biodiversity conservation issues discussed in this thesis²⁷.

1.2. Social Complexity and the Law

1.2.1. A Sociological Approach to Law

It is in the context of the social complexity previously described that we should consider a proper theoretical understanding of law and its function.

In consideration of this increasing social complexity, I believe that any such understanding must be seriously embedded within a broader theory of society capable of grasping the different ways in which law interacts with other spheres of society.

Only in this way will we be able to provide broader answers to critical questions, such as how the internal structures and operations of the law determine or influence its interactions with other spheres of society²⁸, and understand how internal descriptions of the law influence and eventually reduce the complexity of corresponding social processes (i.e. depoliticising or demoralising the corresponding issues)²⁹, thereby expropriating and distorting socially embedded conflict³⁰ or excluding supra-individual, collective or institutional processes by conceiving all these complex social orders only as a result of individual action³¹, among many other possible examples.

²⁴ See Chapter 5 on Systems Theory, particularly Section 5.9.

²⁵ Rosa (2003), pp. 3–33.

²⁶ Luhmann (1989), pp.57.

²⁷ Luhmann (2005); Luhmann (1989); Rosa (2003), pp. 3–33.

²⁸ See Chapter 7.

²⁹ Fraenkel and Kirchheimer, in Teubner (1987), pp.9; Christodoulidis (1998); Bankowski (2001); Bankowski and Mungham (1976).

³⁰ Christie and Hegenbarth, in Gunther Teubner (1987), pp.9; Christodoulidis (1998), pp.100-101.

³¹ Teubner (2012), pp.19.

If we take the processes of social differentiation seriously, we will be able to develop a more plausible theoretical understanding of the legal system as well as a more plausible pragmatic approach to the available regulatory approaches for tackling social and ecological uncertainty.

Again, as will be explained later, only in this way will it be possible to take into account the complexities arising from the temporal dimension of the process of social differentiation and its current acceleration. This broader approach allows understanding of how the temporal paradigm shift from the traditional past-oriented social perspective to a future-oriented social perspective could involve or trigger a change in the understanding of the function of the legal system from a *past-oriented focus on certainty* to a *future oriented focus on contingency*³².

1.2.2. Traditional Legal Theories as Archimedean Approaches

Traditional legal theory has not been concerned with the aforementioned broader social issues but has rather been interested in developing approaches to conceive and conceptualize the law and its autonomy³³. An example of this is the positivist theory of H.L.A. Hart³⁴, whose approach to *descriptive sociology*³⁵ was focused on the understanding of the normativity of law from the perspective of the internal participants of the legal system, rather than the development of a broader sociological theory of law that would have taken into account different societal perspectives³⁶.

Similarly, Ronald Dworkin's interpretive theory³⁷ from an *anti-archimedean*³⁸ approach laid sole emphasis on the internal perspective (of the first-order arguments), this time that of the judicial practice. Paradoxically, Dworkin's theory takes an *archimedean* approach (in a broader epistemological sense) since it assumes the privileged position of the aforementioned internal view.

A very different approach is that of the legal realists such as Oliver Wendell Holmes³⁹, who took the opposite archimedean standpoint of the external perspective to dismiss the internal view as a façade covering the real issues behind ordinary first-order arguments which, ultimately, were nothing other than questions of social policy. Similarly, Felix Cohen considered legal arguments mere transcendental nonsense or obfuscation, and believed that the only elements that withstood serious scrutiny were assessments of the likely

³² See Section 8.3.1. of Chapter 8.

³³ Postema (1996), pp.79, 80.

³⁴ Hart (2012).

³⁵ Ibid, pp.vi.

³⁶ This notwithstanding that –in my view- the original theoretical basis of Hart's theory would have allowed him for a broader sociological perspective by referring, for instance, to a wider *social setting* of rules that would consider different *forms of life*. See Winch (2007), pp.31, 39. See also Section 6.3. of Chapter 6 for further analysis of the internal and external views from the perspective of systems theory.

³⁷ Dworkin (1998); Dworkin (1977); Ripstein (2007), pp.5-6.

³⁸ Archimedes reportedly said '*give me something to stand on and I can move the world*'. This metaphor has appealed to many philosophers that from Plato to Habermas have searched for some stand point from outside the corresponding human practices.

³⁹ Wendell (2006).

effects of competing resolutions of legal debates⁴⁰.

Although – from a general sociological perspective and particularly from a systems theory approach – the realist tradition correctly opens up the discussion to consider broader social considerations, it appears to grant an archimedean privileged position to the external observer, disregarding the internal view of the law. This general approach of the realists is coupled with an assumption about the capacity of the law to have a direct and linear influence on regulated social activities⁴¹ (i.e. to execute and achieve the effects of different social policies⁴²).

Some related observations can be made with respect to the approach of Jürgen Habermas. Even though Habermas adopted a broader sociological approach and also – significantly – recognized the differentiation of certain spheres of society, his approach still relied on a simplified understanding of the interactions between systems and between systems and the lifeworld. Habermas adopted the Parsonian approach of action systems and the input/output approach to the interaction between systems and the lifeworld, without recognizing the self-referential closure of systems⁴³. In this context, Habermas conceives law as an ambiguous medium⁴⁴ that can directly communicate with – and influence – both the life-world and systems through *'translation into the complex legal code that is equally open to lifeworld and system'*⁴⁵. In this way law, from what again appears to be a privileged archimedean position, plays a critical role in protecting the lifeworld from colonization *through consensus-oriented procedures*^{46 47}. However, this consensus-oriented discourse ethics approach also appears to be an inadequate response⁴⁸ to the complex issues that arise in highly differentiated postindustrial societies⁴⁹.

From this general description of some of the most relevant approaches to legal theory, it can be understood that some appear to be focused on conceptual matters from an internal perspective, some appear to take into account broader social issues but only from an external perspective without considering the internal perspective and the limitations of the law in steering society, and some also appear to simplify both social processes and their interactions with the law. In other words, all these theories seem to take a rather simplistic stand with regard to social complexity. This is manifest both in their archimedean positions and in their implicit understanding of the possibility of direct and linear interaction between the law and other sectors of society.

⁴⁰ Cohen (1935), pp.812.

⁴¹ Regarding this issue see Chapter 4.

⁴² Nonet and Selznick (2001).

⁴³ See Chapter 5 on Social Systems Theory.

⁴⁴ Habermas (1999), pp.56.

⁴⁵ Ibid, pp.56.

⁴⁶ Habermas (1986a), Teubner (1986c), pp. 203–20.

⁴⁷ Habermas only applies this colonization notion to the life-world and not to inter-systemic relations. As we will see the relations between law and politics or law and the economy, and other systems, are particularly critical to the regulatory trilemma (Chapter 4). This is why Teubner suggests that: “the concept of ‘colonization’ needs to be generalized and applied to any inter-system” relation, in Teubner (1984a), pp. 375–400.

⁴⁸ See Chapter 5 on Social Systems Theory, particularly Section 5.3.

⁴⁹ Luhmann (1984b), pp.15.

1.2.3. Law as a Social System

I believe, as will be further explained, that the broader approach of systems theory and the corresponding *theory of law as a social system*⁵⁰ avoid the aforementioned limitations of traditional legal theory by, among others:

(a) Understanding that law is one of several autonomous spheres of society, recognizing the co-existence and importance of the various observing perspectives of those spheres without attributing a privileged position to any of them⁵¹.

(b) Understanding that the autonomy of law is built on the co-existing features of *operational closure* and *cognitive openness*, and that it is this cognitive openness and the corresponding *structural coupling* between subsystems that allows for the contingent coordination with other subsystems of society⁵².

(c) Understanding and taking into account both *internal self-descriptions* of the legal system and *hetero-referential second order observations* of the legal system with respect to observations of other spheres relating to the cognitive and normative elements of legal norms⁵³.

(d) Understanding the non-linear interactions between systems, which will in turn make possible the understanding of the ways in which observations of law will interact with observations – and operations – of other spheres of society, with the contingent possibility of regulatory failures (or the *regulatory trilemma*)⁵⁴.

Moreover, it will be in the context of Luhmann's theory that I will be able to further develop an understanding of the *reflexive* or *non-exclusionary* nature of law. This effort will imply a detailed analysis of the *form of law* in order to put forward the notion and understanding of the *reflexive form of law*⁵⁵. This will provide a theoretical tool for assessing the varying *reflexive capacity* of different legal forms, which is the capacity to coordinate the normative and cognitive orientations of law.

Furthermore, it will be in the context of Luhmann's theory that I will explore the notion of *social domain* between different spheres of society⁵⁶, which I will argue will facilitate the assessment and development of new forms of law with higher reflexive capacity.

Finally, it will be in the context of Luhmann's theory that I will explore an adequate *post-regulatory strategy* for tackling the challenges of biodiversity conservation law, as I will now briefly discuss.

⁵⁰ See Chapter 6.

⁵¹ See Chapter 5.

⁵² See Chapters 5 and 6.

⁵³ See Chapter 5, 6, and 7, respectively for general concepts on observation, the combination of normative and cognitive orientations in the law and the reflexive interaction of those orientations in the form of law.

⁵⁴ See Chapter 4.

⁵⁵ See Chapter 7.

⁵⁶ See Chapter 8.

1.3. The Challenges of Post-Regulatory Law

The landscape of complexity described in the previous sections poses unprecedented challenges to the law.

Serious concerns about the law's regulatory capacity to tackle these challenges are causing important debates in the politics of legal regulation⁵⁷, from those promoting regulatory strategies oriented towards progressive agendas to those promoting a minimal role of law that should be facilitative only of market and scientific expertise^{58 59}.

These concerns and oppositional patterns in the politics of legal regulation are reminiscent of those of the last hundred years⁶⁰, particularly the legal sociology of the 1980s and 1990s when various *post-regulatory approaches* were put forward to deal with inadequate forms of juridification⁶¹ in the face of a normatively exhausted welfare state⁶², to deal with the expansion of regulatory law into the life-world⁶³, or to tackle the so-called 'failure of law'⁶⁴ or 'regulatory trilemma'⁶⁵.

These post-regulatory approaches all arose from a shared understanding, that is, that direct external control of society through law had reached its limits⁶⁶.

The proponents of these approaches intended to implement strategies that would overcome the limitations of the traditional regulatory models (i.e. the formal rationality of the liberal state, and the material rationality of the welfare state) by proposing the development of 'responsive'⁶⁷, 'procedural'⁶⁸⁶⁹, 'contextual'⁷⁰ and 'reflexive'⁷¹ strategies to deal with social complexity and uncertainty.

The post-regulatory approaches of the 1980s and 1990s intended to overcome regulatory problems that resemble those we face today, because both then and now the source of the challenges is social complexity⁷². Globalization has only accentuated or intensified challenges to public

⁵⁷ Zumbansen (2008), pp.71.

⁵⁸ Rittich (2003), pp. 727, 739.

⁵⁹ Kennedy (1973), pp. 351–83, pp.371.

⁶⁰ Willis (1936), pp. 53. Rittich (2005), pp. 853.

⁶¹ Teubner (1987), pp. 1–48.

⁶² Habermas (1986b), pp. 1–18.

⁶³ Habermas (1985b).

⁶⁴ Wiethölter (1986a), pp. 231; Willke (1986), pp. 280; Teubner (1986b), pp. 305; Habermas (1986a), pp. 218; Luhmann (1986b), pp. 123.

⁶⁵ Teubner (1986a), pp.4.

⁶⁶ Wiethölter (1986a), pp. 231; Willke (1986), pp. 280; Teubner (1986b), pp.305; Habermas (1986a), pp. 218; Luhmann, (1986b), pp. 123.

⁶⁷ Nonet and Selznick (2001).

⁶⁸ Wiethölter (1986a), pp. 221–49.

⁶⁹ Habermas (1986a).

⁷⁰ Willke (1986), pp. 280–98.

⁷¹ Teubner (1989), pp. 727–57.

⁷² Luhmann (1989a), pp.11, 72, 73; Teubner (2000a) pp.1, 2, 3; Zumbansen (2008), pp.789; Zumbansen (2009) pp.426.

governance in ways that were already beginning to unfold from within the welfare state⁷³.

In other words, in both periods we are facing similar challenges that derive from encounters between different spheres of society that result in separate and diverging descriptions of social phenomena, that develop separate sources of normativity – normative expectations – and that therefore influence social entities and activities based on different criteria or observing perspectives.

It is in consideration of this context of social complexity that the present thesis adopts the systemic perspective of *reflexive law*⁷⁴, as this post-regulatory approach appears to be better prepared to tackle the current dilemmas of law⁷⁵ and particularly those of biodiversity conservation law. I will argue that this systems theory approach is both consistent with an understanding of the reflexive or non-exclusionary nature of *law* and appropriate for tackling the aforementioned aspects of social and ecological complexity.

1.4. The Global and Local Challenge of Biodiversity Conservation

The complex nature of the challenges faced by law, described above, is paradigmatically expressed in the realm of environmental law and, particularly, in the area of biodiversity conservation law.

It is in this area of law that we see the most diverse voices⁷⁶ from the most diverse spheres of society, interest groups, minorities and from civil society in general, with respect to the most diverse elements and sources of the law⁷⁷, at local, national, international and global levels⁷⁸.

It is in this area that we experience confluence and collision between and amongst various spheres of society, from the different branches of science to politics, economics, education, media, ethics, aesthetics, religion, technology and so on⁷⁹. These different spheres of society hold different descriptions regarding critical issues that impinge on interactions between society and the natural environment.

It is also in this area that we see a local and global civil society that, in different degrees and with different rationales⁸⁰, could be – or could become – a *third aspect* opposing the steering mechanisms of the globalized economy and international political arenas⁸¹.

It is, again, in this realm that we find dramatic gaps and contrasts between what the 'policies' say and what 'reality' demonstrates, between what

⁷³ Zumbansen (2008), pp.786.

⁷⁴ See Chapter 8 on Reflexive Law.

⁷⁵ See Chapter 4 on The Limits of Regulatory Law.

⁷⁶ Görg and Brand (2000), pp. 371–98.

⁷⁷ Schiff (2005), pp. 485.

⁷⁸ Heyvaert (2013), pp. 1–31.

⁷⁹ Luhmann (1989), pp. 11.

⁸⁰ Ford (2003), pp. 120–34.

⁸¹ Teubner (2000a), pp. 9.

international conventions intend and what national laws implement, and between what national laws implement and the practical consequences that unfold⁸².

It is exactly because of all these aspects that the *biodiversity conservation crisis* appears as a paradigmatic example of the challenges that law is facing in the 21st century.

It is within this broad background that I will consider, in general, the Convention on Biological Diversity of 1992 (the CBD) as well as, in particular, the local implementation of its keystone measure known as *in-situ conservation* or *ecosystems conservation*.

As will be explained, in-situ conservation operates through the creation of 'protected areas' over relevant ecosystems and habitats at national level. Considering that the CBD is based on the concepts of *biodiversity* and the *ecosystem approach*, amongst others, the implementation of in-situ conservation appears to be critical to the achievement of the convention's overall goals.

This thesis examines how in-situ conservation has relied and still relies on traditional regulatory instruments, particularly on *traditional property rights*. It concludes that such implementation in its current form is facing a regulatory trilemma preventing or significantly reducing the effectiveness of the CBD⁸³.

By applying a systems theory approach, this thesis proposes the creation of a new property right: the *conservation property right*. I argue that this conservation property right, by allowing the reflexive interaction of different spheres of society, will increase the reflexive capacity of the law and will be better prepared to tackle the regulatory trilemma of ecosystems conservation.

1.5. Outline of the Thesis

1.5.1. Structure and Questions

A general background for the thesis is set out in Chapter 1 on the basis that the idea of *complexity* – from the social and temporal perspectives – remains central throughout.

In Chapter 2, I present how such complexity becomes a regulatory challenge for the legal system when attempting to provide a regulatory framework for the conservation of biodiversity. I specifically show how the CBD faces complex implementation issues, which are expressed in the Strategic Plan of 2011–2020 and the Aichi Targets⁸⁴.

In Chapter 3, I further review how the *protected area system* (in-situ

⁸² Joerges (2005), pp. 218; Zumbansen (2009), pp.418.

⁸³ Pimbert (1997), pp.416; and see here Section 2.3. of Chapter 2, Section 3.6. of Chapter 3 and Chapter 4.

⁸⁴ See Section 4 of Chapter 2. Also particularly refer to what has been known as the 'obstacles for the implementation of the CBD' as referred in Section 2.2.4.

conservation or ecosystems conservation), is being generally implemented as a specific keystone measure of the CBD, and I also review the specific case of its local implementation in the jurisdiction of Chile.

All this will set the scene to explain, in Chapter 4, the *limits of regulatory law* and the regulatory trilemma in the area of ecosystems conservation. In assessing the regulatory trilemma I will explain that its three variants (the *problem of indifference*, the *disintegration of society by law* and the *disintegration of law through society*) are present in different ways in the regulatory framework of the Chilean system of protected areas.

In Chapter 5, I provide a general overview of the main concepts of Niklas Luhmann's *systems theory*, with special emphasis on meaning, observation, communication and functional differentiation, as these concepts will facilitate the description of the concept of *law as a social system* in Chapter 6. In this latter chapter I emphasize the interaction between closure and openness as well as the combination of normative and cognitive orientations in the legal system.

This will set the stage for Chapters 7 and 8. In Chapter 7 I will develop an understanding of the reflexive or non-exclusionary nature of law. This will also involve developing an understanding of the reflexive form of law.

This theoretical development will be combined in Chapter 8 with Gunther Teubner's reflexive law, which will allow exploration of general mechanisms for enhancing *mutual observation* and *interference* between law and society.

In Chapter 9, I will apply the systemic approach to the theory of property, and will analyse the form and limitations of traditional property rights.

On this basis I will then develop and propose a new reflexive property right – the conservation property right – that I argue avoids the shortcomings of traditional property rights and, therefore, is better prepared to tackle the regulatory trilemma of ecosystems conservation.

The *main questions* that this thesis intends to answer can be separated into two groups. The first group of questions relates to the regulatory challenges presented by the legal framework of ecosystems conservation. I have attempted to explain the general limitations of regulatory law as well as the most relevant forms of regulatory failure or regulatory trilemma in ecosystems conservation at local or national level. I have explored how traditional regulatory instruments and traditional property rights have prevented the achievement of the regulatory goals of ecosystems conservation. The second group of questions relates, to the relationship between law and society and, in particular, to how the law can tackle the limitations of regulatory law. I have attempted to clarify the most appropriate understanding of the form of law and its relation to form and substance. I have further explored the most appropriate post-regulatory approach to tackle the aforementioned regulatory failures, and I have analysed how such an approach should be applied in ecosystems conservation. A matter of special relevance has been to understand the limitations derived from the application of

traditional property rights in the implementation of the *system of protected areas*. In this regard, my central endeavour has been to analyse possible reflexive law strategies to tackle the aforementioned limitations, centred on the possibility of proposing the creation of a new property right (the conservation property right). For this purpose, and from a systemic understanding, I have established the theoretical basis for this new reflexive property right, which I have argued will be better prepared to tackle the regulatory trilemma of ecosystems conservation.

1.5.2. Contributions

This thesis intends to be a contribution both to the sociological analysis of law and to the analysis of regulatory approaches of biodiversity conservation.

In particular, and on the one hand, I intend to contribute to a better understanding of the limitations of the current regulatory framework of in-situ conservation in the context of local implementation of the CBD, demonstrating how the use by local legal systems of traditional regulatory instruments, and particularly of traditional property rights, appears to be inadequate or, at least, insufficient to facilitate the unfolding of the necessary social practices for conservation.

On the other hand, and from a systems theory perspective, I intend to develop an understanding of the reflexive or non-exclusionary nature of law, which is centrally relevant to the comprehension of the interaction between law and society. This will also entail the development of an understanding of the reflexive form of law, which will allow us to go beyond the Weberian dichotomy between form and substance and assess the varying degrees of social reflexivity of different legal forms.

These theoretical developments will make possible a better understanding of Gunther Teubner's post regulatory approach known as reflexive law, which in its application will be expressed in new forms of law that should have a higher reflexive capacity to tackle the limits of regulatory law. Moreover, in the context of my analysis of reflexive law I will propose an understanding of Teubner's idea of *interference* –and of the encompassing idea of direct contact between law and society- by reference to Maturana's and Hejl's ideas on the *relational* and *social domain*, and to Bankowsky's notion of *transitional spaces*, that should allow observing or better observing the interactions between law and different spheres of society.

These various theoretical understandings will then be applied to the analysis of the regulatory trilemma of ecosystems conservation and, in particular, to the analysis of the limitations of the legal form of traditional property rights as a regulatory instrument for ecosystems conservation. Specifically, these theoretical understandings will allow me to assess the reflexive capacity of traditional property rights, showing that these rights appear to be predominantly reflexive to the observations of the economic sphere but not to other spheres of society. This means that all the relationships that connect natural ecosystems with other spheres of society are either excluded or reconfigured on economic terms. As will be explained, considering the form of traditional property rights, even when social

observations from other social spheres are taken into account, they are reconfigured or transformed into limitations or obligations, thereby distorting the original value content of those observations.

This analysis will be mainly focused on 'ownership' as this is not only the main regulatory mechanism used in the case studied in Chapter 3 -and assessed in Chapter 4- but also an essential element of the regulatory framework of ecosystems conservation of most countries. However, my main critique against traditional property rights will also apply to other rights such as *easements* or *servitudes*. To the extent that these easements or servitudes are used for conservation (e.g. in countries such as the U.S.A.), and to the extent that they also appear to transform the conservation interests –that is, the observations and communications of social spheres other than the economy- into limitations, restrictions or obligations, I argue that they are not reflexive enough to tackle the regulatory trilemma of ecosystems conservation.

It will be on the basis of all these understandings and considerations that I will propose and assess the creation of a new property right -the conservation property right- as a reflexive law mechanism that should allow broader social interaction amongst different spheres of society for the purpose of better tackling the regulatory trilemma of ecosystems conservation.

CHAPTER 2

THE CONVENTION ON BIOLOGICAL DIVERSITY

2.1. Introduction

Few decades ago there was no international awareness about the need for global action to address the global environmental challenges arising in contemporary society.

The initial efforts to tackle these challenges date back to the second half of the 19th century⁸⁵. Further efforts to tackle the damage to the environment and to protect endangered species date back to the turn of the 19th and 20th centuries⁸⁶. Additional efforts to address various environmental problems during most of the 20th century were, however, fragmentary and lacked sufficient political support.

A fundamental step towards a more comprehensive and coordinated international approach was given in the 1972 United Nations Conference on the Human Environment held in Stockholm, which brought much attention to these environmental issues and triggered new political communications in the national states worldwide. In conjunction with this fundamental step several new international treaties were signed in the 1970s, but they only addressed specific aspects and components of biodiversity⁸⁷.

Notwithstanding these efforts, in the late 1980s and early 1990s, the continuously increasing impact on global biodiversity led to a broad understanding that all these conventions together could not ensure the global

⁸⁵ See, e.g., Convention between France and Great Britain relative to Fisheries, Nov. 11, 1867, *reprinted in* 21 I.P.E. 1; Convention establishing Uniform Regulations concerning Fishing in the Rhine between Constance and Baselle, Dec. 9, 1869, *reprinted in* 9 I.P.E. 4695.

⁸⁶ See, e.g., International Phylloxera Convention, June 23, 1882, *reprinted in* 4 I.P.E. 1571; Convention between the Riverine States of the Rhine Respecting Regulations Governing the Transport of Corrosive and Poisonous Substances, May 11, 1900, *reprinted in* 25 I.P.E. 214.

⁸⁷ At the global level, the Convention concerning the Protection of the World Cultural and Natural Heritage, 1972 (“WHC”) relates to internationally important natural and cultural sites. The Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973, relates to the specific threat posed by trade to endangered species. The protection of a particular type of ecosystem, namely the wetlands, was addressed by the 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (“Ramsar Convention”). A specific category of species, the migratory species, is protected through the 1979 Convention on the Conservation of Migratory Species of Wild Animals. Additionally, there are several *regional* conventions on the conservation of aspects of nature and natural resources such as the 1979 Convention on the Conservation of European Wildlife and Natural Habitats; the 1976 Convention on the Conservation of Nature in the South Pacific; the 1968 African Convention on the Conservation of Nature and Natural Resources; the 1982 Protocol concerning Mediterranean Specially Protected Areas; the 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources; and the 1986 Convention on the Protection of the Natural Resources and Environment of the South Pacific.

conservation of biodiversity. Their fragmentary, uncoordinated, sectorial and regional nature resulted in an overall lack of governance. A more comprehensive, integrated and global approach to address the continuing loss of biological diversity was required. This awareness led to the adoption of the United Nations Convention on Biological Diversity, also generally known as the 'CBD'.

This chapter intends to provide a general background on the CBD, and some general observations on its status of implementation.

2.2. The Convention on Biological Diversity

2.2.1. A General Background

The CBD is known as one of the three Rio Conventions⁸⁸ and entered into force on December 29th, 1993. At present, it has 196 members, 195 countries and the European Community (EC).⁸⁹

The *Conference of the Parties* of the CBD (COP) is its governing body. It is assisted by the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), which is mandated, under CBD Article 25, to provide the COP with advice relating to the Convention's implementation.

The meetings of the COP have been the fundamental mechanism to develop and implement de general framework of the CDB⁹⁰.

At its sixth meeting of 2002 (COP 6), the COP adopted the Convention's *Strategic Plan for 2002-2010*, including the targets to significantly reduce the rate of biodiversity loss by 2010.

At its seventh meeting of 2004 (COP 7), the COP established the Working Group on Review of Implementation (WGRI) with the mandate to address a range of implementation-related issues, such as progress in the implementation of the CBD's successive Strategic Plans and impacts and effectiveness of existing CBD processes. It also adopted work programmes on mountain biodiversity, *protected areas (PAs)*, and technology transfer and cooperation, and mandated the Working Group on Access and benefit Sharing (ABS) to initiate negotiations on an international regime on ABS.

At its tenth meeting of 2010 (COP 10), the COP adopted **the CBD Strategic Plan for the period 2011-2020**, including a mission, strategic goals and the **Aichi Targets** aiming to inspire broad-based action by parties and stakeholders. The COP also adopted over 40 decisions, including on: inland water biodiversity, sustainable use, climate change and biodiversity and ways and means to improve SBSTTA's effectiveness.

At its eleventh meeting of 2012 (COP 11), the COP requested the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem

⁸⁸ Secretariat of the Convention on Biological Diversity (2010), pp.15.

⁸⁹ <http://www.cbd.int/information/parties.shtml>

⁹⁰ For detailed information on the contents of each COP and their resolutions see the Earth Negotiations Bulletin of the IISD (www.iisd.ca).

Services (IPBES) to consider ways in which the activities of this platform could, as appropriate, contribute to assessments of the achievement of the Aichi Targets and provide information on policy options available to deliver the 2050 vision of the Strategic Plan.⁹¹

2.2.2. Nature, Objectives and Principles

The CBD has been described as a new breed of environmental agreement⁹² because it intends to achieve a balance between conservation and sustainable use. This is an expression of a more *integrated model* that understands that *conservation* requires an innovative and flexible framework that encourages partnerships between national and local authorities, local and indigenous communities, and the private sector.

The CBD is the first international treaty to take a holistic *ecosystem based approach* to the conservation and sustainable use of biodiversity.

The CBD is not a sectorial treaty since it does not target specific sites, species or activities. Though not explicitly a framework agreement the CBD is widely regarded as one. MacGraw argues that there are three reasons for this. First, the CBD creates a global structure to promote international cooperation and support national implementation establishing a framework of general, flexible obligations to be applied nationally through laws and policies. Second, the CBD allows for its own development, through further negotiations of annexes and protocols. And third, the CBD, unlike ‘umbrella’ conventions, builds on the basis of existing agreements establishing a wider context in which such agreements (particularly ‘species’ and ‘geographic-based’ international environmental agreements) should be interpreted and implemented⁹³.

The CBD introduced new concepts such as biodiversity, ecosystems, genetic resources, biotechnology, benefit sharing, and traditional knowledge⁹⁴, which have also become a general conceptual framework for the further development of the CBD and for the further coordination of the CBD with other international agreements.

The keystone term of *biodiversity* is broadly defined in the convention as the ‘*variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems*’.⁹⁵

In turn, the term *ecosystem* is defined as ‘*a dynamic complex of plant, animal and micro-organism communities and their non-living environment*

⁹¹ “Summary of the Fifth Meeting of the Working Group on the Review of the Implementation (WGRI 5) of the CBD & The Eighteenth Meeting of the Subsidiary Body on the Scientific, Technical and Technological Advice (SBSTTA 18) under the CBD. 16-28 JUNE 2014” (International Institute for Sustainable Development (IISD), June 16, 2014), www.iisd.ca.

⁹² Tinker (1995), pp.191.

⁹³ McGraw (2002), pp.17.

⁹⁴ Ibid, n° 20 18-19.

⁹⁵ Article 2 of the CBD.

interacting as a functional unit.⁹⁶ It is very important to notice that the ecosystem approach⁹⁷ is based on *'the application of appropriate scientific methodologies focused on levels of biological organization, which encompass the essential structure, processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of many ecosystems.'*⁹⁸

The *ecosystem approach* appears to be the most important conceptual tool for action under the CBD, and it is considered that only through its application the objectives of the CBD could be achieved⁹⁹.

The CBD sets out three *objectives*:

- i. The conservation of biological diversity;
- ii. The sustainable use of its components;
- iii. The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.¹⁰⁰

The CBD establishes that the three objectives can concurrently be achieved, and therefore, it purports that there is no opposition between conservation and the sustainable use of resources. In this sense, the CBD represents a departure from other biodiversity related agreements predominantly concerned with conservation. Moreover, the mentioned second and third objectives of the CBD acknowledge that countries need to make use of their resources for development purposes¹⁰¹.

To this extent, Le Prestre suggests that *'the CBD's three goals – conservation, sustainable use, and benefit sharing – make it a true sustainable development convention'*¹⁰².

The breadth of the concepts, objectives and principles of the CBD allow it to operate in coordination with other biodiversity related multilateral environmental agreements that focus on conservation elements ('MEAs'), and with the other two Rio Conventions, the United Nations Framework Climate Change Convention ('UNFCCC') and United Nations Convention to Combat Desertification ('UNCCD'), focusing on their sustainable development objectives¹⁰³.

The *principles* of the CBD are important, among other things, to understand the relationship of the CBD with other MEAs and with the corresponding national laws that implement it.

⁹⁶ Article 2 of the CBD. This definition does not refer to any spatial unit or scale, in contrast to the CBD definition of "habitat". Thus, the term "ecosystem" does not, necessarily, correspond to the terms "biome" or "ecological zone", but can refer to any functioning unit at any scale.

⁹⁷ See also the fifth COP 2000.

⁹⁸ Handbook of the CBD, 3rd Ed, pp.583.

⁹⁹ The CBD Programme of Work on Protected Areas, pp.1.

¹⁰⁰ Article 1 of the CBD.

¹⁰¹ UNEP Training Manual on International Environmental Law, Nairobi 2006 p.195

¹⁰² Laurence (2005), pp. 227, 246

¹⁰³ Sands (2003), pp.150. Lavrysen and Sheridan (2002).

These principles include the following¹⁰⁴: 'Sustainable Development, Integration and Interdependence'; 'Inter-Generational and Intra-Generational Equity'; 'National Sovereignty over Resources'; 'Biodiversity as a 'Common Concern''; 'Transboundary Environmental Responsibility'; 'Transparency, Public Participation and Access to Information'; 'Cooperation and Common but Differentiated Responsibilities'; the 'Precautionary Principle'; and 'Access and Benefit Sharing regarding Natural Resources'.

Among these principles, which are all fundamental to the framework of the CBD, I should emphasize, at this stage, the special relevance of the principle on *Transparency, Public Participation and Access to Information*¹⁰⁵ that refers, among others, to the issue of lack of information and knowledge which is a manifestation of social complexity and uncertainty generally referred to in Chapter 1, and which shall be a critical consideration for a viable implementation of the CDB.

2.2.3. The Measures of the CBD

The CBD also establishes five instruments to achieve its objectives. These have been denominated as the *Measures* and they include:

i. National Biodiversity Strategies and Action Plans ('NBSAPs')

The CBD provides that parties shall develop NBSAPs for the conservation and sustainable use of biological diversity and shall endeavour to integrate the conservation and sustainable use of biodiversity into relevant sectoral or cross-sectoral plans, programmes and policies¹⁰⁶.

The NBSAP is the most comprehensive tool at the national level for the implementation of the CBD.

ii. Identification and Monitoring

The CBD also requires parties to identify and monitor the components of biodiversity that are important for their conservation and sustainable use having regard to an indicative list of categories¹⁰⁷.

iii. In Situ Conservation

¹⁰⁴ See the preamble of the CBD, and see various historical sources of the principles: Boyle and Freestone (1999); the 1995 Copenhagen Declaration on Social Development, the 2002 Johannesburg Declaration on Sustainable Development, the 'Stockholm Declaration', the 'Rio Declaration', and the Millennium Development Goals.

¹⁰⁵ The preamble of the CBD states: "Aware of the **general lack of information and knowledge regarding biological diversity and of the urgent need to develop scientific, technical and institutional capacities to provide the basic understanding upon which to plan and implement appropriate measures**". The CBD also requires appropriate public participation in EIA procedures in Article 14.(1)(a); and article 13 further addresses the need for public education and awareness

¹⁰⁶ Article 6 of the CBD.

¹⁰⁷ Annex I. Article 7 of the CBD.

In-situ conservation is the cornerstone measure of the CBD because biodiversity conservation and sustainable use of biological diversity are dependent upon properly maintaining sufficient natural habitats.

The CBD requires parties to meet specific objectives in terms of in situ conservation, defined in Art. 2 as: '*the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings*'.

Considering the central relevance of this instrument to the CBD and to the theme of this thesis, I will separately examine *In-situ conservation* in the following chapter. Throughout this thesis I will refer to this measure also as 'ecosystems conservation'.

iv. Ex-Situ Conservation

The CBD also requires parties to meet specific commitments regarding Ex-situ conservation, defined in Art 2 as the conservation of components of biological diversity outside their natural habitats¹⁰⁸.

v. Sustainable Use

The CBD also outlines the main commitments regarding sustainable use, which is defined in Art. 2¹⁰⁹.

2.2.4. The Strategic Plan for 2010. The 2010 Biodiversity Target

In 2002, after 10 years from the inception of the CBD, the loss of biodiversity continued at unprecedented rates. In light of this, COP 6 of 2002 adopted the decision VI/26 and thereby established the first 'Strategic Plan' (the '*2010 Strategic Plan*') and the corresponding biodiversity target, the '*2010 Biodiversity Target*'.

Among other things, the 2010 Strategic Plan, in its section A numbers 4 and 5 declared:

'The rate of biodiversity loss is increasing at an unprecedented rate, threatening the very existence of life as it is currently understood. The maintenance of biodiversity is a necessary condition for sustainable development, and as such constitutes one of the great challenges of the modern era. The threats must be addressed.

Addressing the threats to biodiversity requires immediate and long-term fundamental changes in the way resources are used and benefits are distributed. Achieving these adjustments will require broad-based action among a wide range of actors'.

In its mission statement, parties committed themselves to a more effective and coherent implementation of the three objectives of the

¹⁰⁸ See Article 9 of the CBD.

¹⁰⁹ See Article 10 of the CBD.

Convention, to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level, as a contribution to poverty alleviation and for the benefit of all life on earth.

The section A of the Strategic Plan, further, and very importantly for the purpose of our analysis, referred to the obstacles for the implementation of the CBD, and stated:

The implementation of the Convention on Biological Diversity has been impeded by many obstacles, as outlined in the appendix hereto. A fundamental challenge for the Convention lies in the broad scope of its three objectives. The need to mainstream the conservation and sustainable use of biological resources across all sectors of the national economy, the society and the policy-making framework is a complex challenge at the heart of the Convention. This will mean cooperation with many different actors, such as regional bodies and organizations. Integrated management of natural resources, based on the ecosystem approach, is the most effective way to promote this aim of the Convention.'

The detailed list of the aforementioned obstacles is included in Appendix I hereto, but I should already note that the third category of obstacles refers to 'Lack of Accessible Knowledge/Information, and the fourth category refers to 'Lack of Appropriate Policies and Laws'.

2.2.5. Global Biodiversity Outlook 3

The Global Biodiversity Outlook ('GBO') is the most comprehensive assessment of the implementation results of the CBD, and it is based on the national reports of the parties, with the collaboration of the United Nations Environmental Programme and the administrative bodies of the CBD.

The Third Edition of the GBO ('GBO3') was issued at a critical moment. It coincided with the deadline agreed for the 2010 Biodiversity Target.

The GBO3's main conclusions, which are included in Appendix II hereto, drew great concern as they basically indicated that "*there are multiple indications of continuing decline in biodiversity in all three of its main components (genes, species and ecosystems).*"

With respect to the implementation of the CBD, the report critically made reference to the many failures and omissions, and examined how the '*underlying drivers*' had not been properly tackled:

"...action to implement the Convention on Biological Diversity has not been taken on a sufficient scale to address the pressures on biodiversity in most places. There has been insufficient integration of biodiversity issues into broader policies, strategies and programmes, and the underlying drivers of biodiversity loss have not been addressed significantly. Actions to promote the conservation and sustainable use of biodiversity receive a tiny fraction of funding compared to activities aimed at promoting infrastructure and industrial developments. Moreover, biodiversity considerations are often ignored when such developments are designed, and opportunities to plan in

ways that minimize unnecessary negative impacts on biodiversity are missed. Actions to address the underlying drivers of biodiversity loss, including demographic, economic, technological, socio-political and cultural pressures, in meaningful ways, have also been limited.

Most future scenarios project continuing high levels of extinctions and loss of habitats throughout this century, with associated decline of some ecosystem services important to human well-being.”¹¹⁰

The GBO3 also and very importantly makes reference to ‘*uncertainty*’ and refers to how the encompassing risks should be handled under the ‘*precautionary principle*’.¹¹¹

2.2.6. The Strategic Plan for 2011-2020. Aichi Biodiversity Targets 2020

As a result of and in response to the GBO3, in the tenth meeting of the Conference of the Parties (COP 10) of 2010 held in Nagoya, Aichi Prefecture, Japan, the parties adopted a revised and updated ‘**Strategic Plan for Biodiversity**’, including a revised and updated set of targets, the Aichi Biodiversity Targets for the 2011-2020 period.

This 2011-2020 Strategic Plan is meant to be the overarching framework on biodiversity, and the plan itself states its broad coverage:

“The purpose of the Strategic Plan for Biodiversity 2011-2020 is to promote effective implementation of the Convention through a strategic approach, comprising a shared vision, a mission, and strategic goals and targets (“the Aichi Biodiversity Targets”), that will inspire broad-based action by all Parties and stakeholders. The Strategic Plan will also provide a flexible framework for the establishment of national and regional targets and for enhancing coherence in the implementation of the provisions of the Convention It will also serve as the basis for the development of communication tools capable of attracting the attention of and engaging stakeholders, thereby facilitating the mainstreaming of biodiversity into broader national and global agendas.”¹¹²

The 2011-2020 Strategic Plan starts with a description of its *rationale* and emphasizing the *obstacles* that have prevented and are still preventing the successful implementation of the CBD. These ‘*obstacles*’ were already listed in the first Strategic Plan (2010), but the new plan has emphasized the ‘*insufficient integration of biodiversity issues into broader policies, strategies programmes and actions*’¹¹³, and the ‘*insufficient scientific information for policy and decision making*’.¹¹⁴

¹¹⁰ GBO 3, pp.9.

¹¹¹ GBO 3, pp.11. Here the report also states: “*Scientific uncertainty surrounding the precise connections between biodiversity and human well-being, and the functioning of ecosystems, should not be used as an excuse for inaction.*”

¹¹² Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Target, pp.6.

¹¹³ No5 of the Rationale, of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Target, pp.7.

¹¹⁴ No6 of the Rationale, of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Target, pp.7

The Strategic Plan includes a set of 20 targets, the Aichi Targets, ultimately aimed at achieving a '2050 Vision' of a world where biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people (the '2050 Vision' or the '2050 Vision of Living in Harmony with Nature')¹¹⁵.

I will refer to the 20 Targets in the next section when I analyse their achievement status under the GBO4 report.

The 2011-2020 Strategic Plan establishes that it will be “*implemented primarily through activities at the national or subnational level, with supporting action at the regional and global levels.*”¹¹⁶

It immediately adds that: “*National biodiversity strategies and action plans are key instruments for translating the Strategic Plan to national circumstances, including through the national targets, and for integrating biodiversity across all sectors of government and society. The participation of all relevant stakeholders should be promoted and facilitated at all levels of implementation. Initiatives and activities of indigenous and local communities, contributing to the implementation of the Strategic Plan at the local level, should be supported and encouraged. The means for implementation may vary from country to country, according to national needs and circumstances.*”

2.2.7. The Global Biodiversity Outlook 4¹¹⁷

The Global Biodiversity Outlook 4 (GBO4) published by the Secretariat of the CBD in October 2014, provides a 'half-way' report on the progress towards meeting the 20 Aichi Biodiversity Targets and potential actions to accelerate that progress.

In the 'Key Messages' section of the GBO4 we find global conclusions that should generate great concern:

It is reported that even though some progress has been made, “*in most cases this progress will not be sufficient to achieve the targets set for 2020, and additional action is required to keep the Strategic Plan for Biodiversity 2011–2020 on course*”. It adds that “*Extrapolations for a range of indicators suggest that based on current trends, pressures on biodiversity will continue to increase at least until 2020, and that the status of biodiversity will continue to decline*”¹¹⁸.

Even though it is recognized that global and national efforts are increasing, it is expressed that the insufficient results “*may be partly due to time lags between taking positive actions and discernable positive outcomes. But it could also be because responses may be insufficient relative to pressures, such that they may not overcome the growing impacts of the drivers of biodiversity loss*”¹¹⁹.

¹¹⁵ Section II of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Target

¹¹⁶ Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Target, pp.13.

¹¹⁷ Secretariat of the CBD, “GBO 4”, 2014.

¹¹⁸ Ibid, pp.10.

¹¹⁹ Ibid, pp.10.

The report repeats and emphasizes that *“Each of the Aichi Biodiversity Targets cannot be tackled in isolation, as some targets are strongly dependent on other targets being achieved. Actions towards certain targets will have an especially strong influence on the achievement of the rest. In particular there are targets relating to addressing the underlying causes of biodiversity loss (generally those targets under Strategic Goal A), developing national frameworks for implementing the Aichi Biodiversity Targets (Target 17), and mobilizing financial resources (Target 20).”*

This last remark related to these 3 strategic targets will be very important for our analysis and review of the regulatory models available. It is noteworthy that one of them is exactly the one related to *‘developing national frameworks for implementing the Aichi Biodiversity Targets (Target 17)’*.

The report continues expressing that there are “plausible pathways” to achieve the 2050 Vision for an end to biodiversity loss, in conjunction with key human development goals, limiting climate change to two degrees Celsius warming and combating desertification and land degradation. However, it clearly states that *“reaching these joint objectives requires changes in society including much more efficient use of land, water, energy and materials, rethinking our consumption habits and in particular major transformations of food systems”*.

And here, a critically important statement is added:

“Analysis of the major primary sectors indicates that drivers linked to agriculture account for 70 per cent of the projected loss of terrestrial biodiversity. Addressing trends in food systems is therefore crucial in determining whether the Strategic Plan for Biodiversity 2011–2020 will succeed. Solutions for achieving sustainable farming and food systems include sustainable productivity increases by restoring ecosystem services in agricultural landscapes, reducing waste and losses in supply chains, and addressing shifts in consumption patterns”.

This is critical for our analysis, because the current strategies at the national level, as will be explained (i.e. in the case of Chile), do not include instruments or mechanisms that link or allow the coordination between ecosystems conservation – ‘In-situ conservation’- and agricultural lands related policies. But this also reveals how complexity unfolds and how relevant is to tackle it at all levels. Also, it reveals how fragmentation of regulatory strategies and an overall assessment of how the regulatory model in place works, are critical aspects to be considered for a proper implementation of the CBD.

I have included in Appendix 1 a brief summary of the main conclusions of the GBO4 with respect to the status and progress towards the achievement of each of the Aichi Targets. This will serve as reference at different points of my analysis as will be indicated in each case.

2.3. Comments on the Implementation of the CBD

Through the years, the CBD has become a complex set of different bodies, processes and instruments for its implementation at the international and national levels.

According to Elisa Morgera, this institutional proliferation is worth analysing *'from a two-fold perspective. First, it has resulted in the continuous refinement of the CBD provisions, through the development of thematic and crosscutting programmes of work, and the adoption of guidelines, principles, and other COP decisions. Second, this system is characterized by the lack of a mechanism to monitor national-level compliance, notwithstanding the reliance on national regulation for CBD implementation.'*¹²⁰

Regarding this lack of implementation monitoring mechanisms, Morgera notices that: *'notwithstanding the emphasis on national implementation, there is no mechanism to systematically and effectively monitor implementation and compliance at the national level. The CBD COP does not review individual national reports but, rather, offers conclusions on the basis of the CBD Secretariat's syntheses of these reports. This examination tends to focus on the mere submission of the report and on a quantitative analysis of legislative developments (for instance, the percentage of parties with biodiversity-related legislation in place) rather than on a qualitative analysis of the content of the national reports, including the quality and comprehensiveness of national legislation and impacts of state measures on biodiversity and achievement of the CBD objectives.'*

Morgera further notices that: *'A few steps were taken at COP-10 to address the structural problems of the CBD described earlier. The new Strategic Plan for Biodiversity 2011-20... explicitly tasks the COP to consider in 2012 the possible development of additional mechanisms to facilitate compliance with the convention and the plan or the need to strengthen the SBSTTA or the WGRI to this end. This mandate signals parties' increasing awareness of a gap in the CBD regime with regard to international monitoring of compliance, but it does not yet provide a clear indication of the response that will be devised to address it.'*^{121 122}

The point made by Morgera is a very critical one. It is critical not only because it shows that *implementation* is a repetitive problem in the conservation legal system, but also and especially because it could be a sign of a deeper problem, a problem in the *regulatory approach* of the CBD and its measures.

It is clear that the emphasis on *implementation* and *compliance* has been present in the CBD from its very inception and through the different 'work plans', the 2010 Strategic Plan and now the new 2011-2020 Strategic Plan. In other words, we are seeing a repeated insistence in additional plans, processes, procedures and mechanisms for political implementation and enforcement.

¹²⁰ Tsioumani and Morgera (2011), pp.6.

¹²¹ Ibid, pp.6.

¹²² The lack of support for on the ground implementation is clearly felt. See Prip and Gross (2010), pp.24, 25, 96.

And it is doubtless that the processes and procedures are being substantially refined but the real question is whether the overall regulatory approach, especially at the national level, is consistent with the landscape of social and ecological complexity we are facing.

If we are facing a complex differentiated society with fragmented observations of unprecedented ecological uncertainties and risks then the kind of regulatory approach to be put in place should rather be one that can handle complexity and uncertainty to a greater degree so that our societies can develop learning processes and knowledge to better adjust to a changing environment in order to prevent irreversible consequences.

Therefore, the main question we are facing does not relate to the best implementation strategy or to the further refinement of processes and procedures. The issue here is not about 'how' we achieve 10%, 15% or 20% of world land protection. The goal of the whole system should not be simply about achieving those *contingent targets* determined by a divided scientific community¹²³. After all, the accumulative and combined ecological risks of climate change and biodiversity loss, and the limited information available regarding the progression of various targets as reported by the GBO4, do not allow for definitive conclusions regarding the appropriateness of those targets and percentages¹²⁴.

And even though the creation of the Subsidiary Body on Scientific, Technical, and Technological Advice shows awareness of the need of new knowledge; the real issue is that the overall regulatory model does not appear to take complexity and uncertainty seriously enough as I will try to show in the following section. Moreover, this also appears from the fact that the regulatory model seems to simply assume that *traditional legal instruments and administrative mechanisms of national systems* will be able to trigger social processes both for the generation of information and knowledge and for the conservation of biodiversity.

The fact is that the reports of the GBO3 and GBO4 allow us to conclude that the implementation mechanisms in place do not seem to be promoting the *reflexive processes* that would trigger the creation of new knowledge and the unfolding of new practices for the conservation of biodiversity. These reflexive social processes would facilitate and promote the interactions between different social sectors, and between different subsystems of society, so that information would be broadly communicated and integrated, and new social practices would be developed from within –the internal- rationality of those different sectors and subsystems.

If the different subsystems of society are generating differentiated perspectives about our contingent future, and our legal system does not articulate mechanisms to facilitate the reflexive interaction of those observations, then what we are risking is the development of the very knowledge that could prevent the irreversible consequences that we need to prevent.

¹²³ Luhmann (1989), pp.76, 79, 80.

¹²⁴ Ladeur (1994), pp.300.

Our legal system may dictate the creation of sophisticated bodies and procedures, but if these mechanisms do not steer such reflexive processes, practices and interaction, our legal system will be doing very little to achieve the conservation of the world's biodiversity.

2.4. Observations from a Sociological Perspective

2.4.1. General Observations

In this section I will make some observations on some specific aspects of the 2011-2020 Strategic Plan, the Aichi targets as well as of the GBO4's conclusions and recommendations¹²⁵.

From the sociological perspective adopted in this thesis, the most relevant question that can be posed regarding the CBD and its implementation is whether the corresponding implementation mechanisms are taking complexity seriously enough.

A limited consideration of such social complexity by the 2011-2020 Strategic Plan or the Aichi Targets, would eventually manifest itself, for instance, in the disregard of certain social spheres or in the attribution of a privileged position to certain spheres of society -such as the scientific and the economic spheres- over other spheres, or in the simple assumption of the possibility of linear transitions/translations/communications between different spheres of society such as the spheres of science, economy, politics and the law.

The assessment of this matter should be conducted both theoretically but also empirically, with especial emphasis on the practical implementation of the CBD and the 2011-2020 Strategic Plan and the Aichi Targets.

Here, in this Chapter, I can only put forward some general and tentative theoretical considerations regarding certain aspects that can be observed through the different measures and targets of the 2011-2020 Strategic Plan, the Aichi Targets and the GBO4.

In this respect, and in general, I may say in the first place that there seems to be an assumption that the scientific and economic understandings have certain prevalence over the observations of other social spheres.

In this sense, it seems to be the case that science takes the lead on all aspects relating to *knowledge* as appears from the description of Aichi Target 19 in the GBO4 on Sharing Information and Knowledge. In this regard Target 19 is focused on the collection and processing of information and data on biodiversity. A representative example is the reference to the network known as 'Diversitas' that helps to bring scientists together to collaborate on biodiversity research relevant to decision making. This is further enhanced by the 'Intergovernmental Science-Policy Platform on Biodiversity and Ecosystems Services (IPBES), which also aims at enabling informed decisions at all scales. This is further supplemented, regarding monitoring, with the work of the Group on Earth Observations Biodiversity Observation Network

¹²⁵ See Appendix III hereto.

(GEO BON) that is developing the 'essential biodiversity variables' (EBVs).

Therefore, in our understanding, other social sources of knowledge appear to be only background information or supplementary information – certainly not even used as means of potential falsification of scientific findings-. In this sense, for instance, the collection of information from *indigenous and local communities*, or from *communities of practice*, appear as peripheral when seen in light of all the various institutional efforts put in place to strengthen and promote the further development, collection, accumulation, mobilization and access to scientific data.

In this same sense, again, it seems that the consideration of the needs of local and indigenous communities, in Aichi Targets 14 and 15, does not necessarily involve a serious consideration of the observations of these groups about social and ecological realities (on an equal stand as compared to the scientific approach); as this consideration only appears to be part of an implementation process that takes into account these groups' needs -as understood by the scientific and economic systems- in order to make possible their necessary cooperation.

Then again, we could also consider other aspects of complexity by emphasizing that other spheres, such as the art sphere (aesthetic), the religious sphere, the education and the media spheres, among others, do not seem to be taken into account, at least sufficiently, when developing, accumulating or processing knowledge.

The potential consideration of the observations of local communities and indigenous groups, as well as the aesthetic views and the spiritual views of communities, can provide new perspectives and new understandings on what we are confronting as societies. All these views are equally relevant, and they not only have the potential but also have in fact proven their capacity to open new observations and insights on complex social and ecological trends that science has not been able to properly grasp -as will be discussed with respect to matters related to ecosystems conservation –In situ conservation¹²⁶. In this sense, science has been found to be subject to its own limitations¹²⁷, for instance, in the development of models to explain complex social and ecological phenomena. Moreover, science also appears to be internally fragmented and all this confirms that no sphere of society should be granted a privileged position, as each sphere applies its own internal criteria to observe the social and ecological environment¹²⁸.

Furthermore, it is important to notice that the due consideration of the observations of all these other spheres of society would be especially relevant in order to connect general policies and laws with *local social practices* on the ground. Therefore, this is not only a matter of abstract knowledge but also a matter of implementation and transformation of complex social practices.

Now, with respect to the privileged consideration of the observations of the economic sphere, we can find an expression of this tendency in Target 2

¹²⁶ See Chapter 3.

¹²⁷ Luhmann (1989), pp.76-83; Weinberg (1972), pp. 209–22; Paterson (2003), pp. 525–45.

¹²⁸ See Chapter 5.

relating to the *integration of biodiversity values into policies and national accounting*.

This target is generally known as the *mainstreaming* of biodiversity. This mainstreaming is focused on national and local development plans, poverty reduction plans, national accounting and reporting systems¹²⁹.

However, this mainstreaming seems to be predominantly economic in nature; since the normal political discourse about national and local development –and poverty reduction- mainly relates to economic variables; and this is confirmed by the emphasis on ‘national accounting’. In other words, the mainstreaming focuses mainly on the economic social sphere or on what the economic sphere is able to translate from other spheres of society. In this latter case the other spheres of society are not considered directly or with the same emphasis, since their observations are somehow filtered by the economic sphere.

Moreover, and from a different angle, the emphasis in this Target 2 is on national statistics and national accounts, and little attention is given to the private economy. The question here would be how could the private economy internalize the values of biodiversity, the ecosystems’ intangibles, the values of ecosystems services.

The GBO4 reveals that even in the limited sense of this Target 2, there is no significant progress in the achievement of it. The GBO4 states: *‘relatively little attention is given to the integration of biodiversity into national accounting and reporting systems’* and so ... *‘significant additional actions are required to meet the target by the 2020 deadline’*¹³⁰.

In our perspective, this limited trend shows that the economic sphere itself does not recognize yet –to any relevant extent- these biodiversity values, and therefore, it does not trigger recognition of the same at the level of the national accounts. The limitation of this approach can be a manifestation of a limited understanding of the complexities of social differentiation in our modern society; a limited understanding of the ways in which different sectors interact and observe their social and ecological environment.

But the CBD and its Strategic Plan not only appear to give insufficient regard to some spheres of society but also seem to oversimplify the way in which the various spheres of society interact with one another. This can be said even with respect to the main spheres taken into account by the CBD, that is, with respect to the interactions between science, economy, politics and law. First of all, there seems to be an assumption that the scientific and economic spheres can reciprocally, directly and congruently ‘communicate’ in a linear manner; and, secondly, there seems to be a further assumption that these understandings can also be introduced directly into policies and legal and social practices in a linear fashion.

In the case of law, all that I have commented in this section could also be understood as revealing three potentially co-existing implicit assumptions:

¹²⁹ Secretariat of the CBD, “GBO 4”, pp.36.

¹³⁰ Ibid, pp.37.

(a) that law does not seem to be considered as a separate sphere of society but only as a medium of implementation that can be instrumentalized by other spheres of society (through scientifically and economically dominated policies); (ii) that the other spheres of society (in this case, especially, science, economy and politics) seem to operate under the assumption that their communications will be translated in a direct and linear fashion into various legal instruments, and (iii) that this, in turn, would entail the assumption that those deployed legal instruments would be in a position to properly achieve 'communication' with the different spheres of society for the implementation of the corresponding policies and for the realization of their goals.

The GBO4 makes repeated reference to the need of further implementation efforts at the national level in order to '*enhance progress towards the targets*', reference which is especially emphatic with regard to ecosystems conservation related targets and those related to incentives (See Aichi Targets 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18). The critical question is how can the different policies -related to different targets- be translated into the proper legal instruments -how can the law internalize these policies- and then again, how can the law trigger the internalization by other social spheres of these intended programmes included in the legal instruments.

In this sense, and in more concrete terms, it is not clear how the National Biodiversity Strategies and Action Plan (Target 17), can be properly internalized by the law nor how can the law facilitate the corresponding internalization of these strategies and action plans by the different spheres of society.

If the law is merely conceived as a linear medium of implementation, both *from* the other spheres and also *towards* the other spheres, we are indeed repeating the mistaken assumptions that in the past have been considered to be the main reasons of the various regulatory failures¹³¹. But not only that, these assumptions also involve renouncing to the very role that law can play as a separate social sphere. Because, if the interaction between law and society is properly understood, then law may play a more fruitful role, for instance, by facilitating the reflexive interaction of the various social rationalities, making thereby possible the unfolding of *interference*¹³² between and among social spheres, which in turn should facilitate the development of new knowledge, and of new social practices.

A further example of the over-simplification of the complex interactions between law and the other social spheres can be found in the treatment of Target 3 on '*Incentives Reformed*'. This target refers to the elimination or reform of incentives that are harmful to biodiversity, such as forestry subsidies; and it also refers to the development of new positive incentives for the conservation of biodiversity. The basic idea is that reforming these incentives is critical to addressing the underlying causes of biodiversity loss.

¹³¹ See Chapter 4.

¹³² See Chapter 8, particularly Sections 8.2.3. and 8.4.

Now, the GBO4 declares that '*global information on non-financial incentives is limited. For this reason, the assessment of progress towards this target concentrates mainly on trends relating to financial incentives...*'¹³³.

This statement is a very significant one, with broad consequences for our analysis. The lack of information and proper assessment of non-financial incentives reveals a serious weakness in the overall implementation effort of the CBD. We can even say, more broadly, that considering that all *regulatory instruments* can be deemed in some way or another as *enhancers or detractors*, as facilitating or as blocking devices, then the lack of information about their practical social consequences also shows a weak assessment of the overall implementation strategy.

Furthermore, this approach appears to be limited in the sense of: (i) considering only instruments that are typified as incentives –what I could call in sociological terms 'first-order observation incentives', and not necessarily other mechanisms that indirectly create negative incentives or that indirectly block social communication –which could be considered as 'second order incentives'¹³⁴. In this respect, in Chapter 4, I will review the regulatory trilemma that intends to explain how different legal mechanisms operate generating different forms of regulatory failure.

All this shows the relevance and the need of a broader social approach that may consider various regulatory strategies to facilitate the unfolding of reflexive observations and practices to internalize social complexity. It is here where law also needs to develop new legal structures or forms with enhanced *reflexive capacity*.

It should be carefully observed, however, that this is not a mere matter of allowing different sectors of society to participate in procedural efforts, or a mere matter of recognizing the relevance of gathering the points of view of different sectors of society, or about making sure that there is local community involvement. This kind of understanding would involve again an over-simplification of the landscape of complexity we face. These sorts of over-simplified understandings seem to stop at the level of 'first order observations'¹³⁵, and do not seem to take seriously enough the closure and self-referentiality of the different spheres of society, which pose severe obstacles to the implementation of any policies -or targets-. Moreover, these simplified understandings do not take contingency and uncertainty seriously enough, especially if we are considering aspects of social complexity that relate to the interaction between society and the ecological environment.

Regarding this over-simplification tendency of policy instruments, I also think that it is very important to notice the following two additional –critical- aspects: the differing temporal dimensions of different spheres and the difficulties for changing social practices:

¹³³ Secretariat of the CBD, "GBO 4", pp.41.

¹³⁴ See Section on 'Observation' in Chapter 5.

¹³⁵ See Chapter 5, Section 5.5.

2.4.2. The Temporal Dimension

A critical aspect of the aforementioned over-simplification would be the mere assumption that in our accelerated modern society different spheres of society can easily synchronize in the temporal dimension¹³⁶, which is an especially sensitive matter particularly when we consider the interactions between different spheres and the ecological environment. It should not be simply assumed that the varying time horizons of science (i.e. ecology), economy, politics and law (i.e. stabilization of expectations) can be easily coordinated and synchronized. Overlooking such aspect of social differentiation can create serious problems and obstacles to implementation.

Concretely speaking, the temporal dimension of certain policies and incentives may not adjust well to the time dimension of economic cycles or to the time dimension of the ecological processes. This includes not only considerations of the *time horizon*, but also the *time-speed* of the different processes¹³⁷. This is especially critical in the case of ecological processes that are facing accelerated trends towards their tipping points –or threshold of irreversibility-.

2.4.3. The Difficulties for Changing Social Practices

On the other hand, an analysis of the aforementioned over-simplification of the relationship between law and society should also consider the difficulties we face when we intend to *change some social practices*.

In this respect, we may review Target 4 relating to *Sustainable Production and Consumption*. This target intends to keep the impacts of the patterns of production and consumption over the use of natural resources within safe ecological limits.

It is said that the adoption of the 10-Year Framework Programmes on Sustainable Consumption and Production, led by the United Nations Environment Programme, will help the process towards this target. But according to the GBO4, few countries' reports: '*refer to progress or actions related to keeping the impacts of the use of natural resources within safe ecological limits or on issues associated with consumption*'.

As we have seen before, the GBO4 confirms that our social practices are not changing, which means that notwithstanding decades of regulatory efforts, social practices remain expanding towards unsustainability. Moreover, the GBO4 confirms that if social practices of production and consumption continue as they are, the impact over our biodiversity will cross the threshold of ecological safety.

Among the actions that the GBO4 recommends in order to further the achievement of this target we find:

'Developing incentives, regulations and guidelines to encourage business development in sustainable production and consumption (Target 3)'

¹³⁶ See Chapter 5, Section 5.9.

¹³⁷ See Chapter 5, especially the discussion on time-speed in Section 5.9.

Therefore, it seems that the GBO4 send us back to the very beginning of our challenge. We are left again with the same questions: What are those incentives, regulations and guidelines that we need?. Do we need traditional regulatory approaches with their traditional incentives, regulations and guidelines?. Are we not noticing that the traditional regulatory strategies are failing?. But, if we don't even notice the regulatory failure how can we start looking for alternative regulatory approaches?. And then again even if we noticed the failures, what alternatives would we have?

¹³⁸ Secretariat of the CBD, "GBO 4", pp.47.

CHAPTER 3

ECOSYSTEMS CONSERVATION: THE PROTECTED AREA SYSTEM AND THE CHILEAN EXPERIENCE

3.1. Introduction

The previous chapter provided a general background on the CBD as well as a general description of the status of its implementation.

The current chapter narrows down the scope of analysis and focuses on the keystone measure of the CBD: *in-situ conservation*, also generally known as *ecosystems conservation*.

This is because, as explained in chapter 1, our thesis focuses on the regulatory limitations of the legal instruments used at the local level to implement *in-situ conservation*,

In-situ conservation entails the conservation of ecosystems and habitats, which in turn provide refugia and allow for species migration and ensure the maintenance of processes across the landscape. Ecosystems and habitats also *'provide a range of goods and ecological services while preserving natural and cultural heritage. They can contribute to poverty alleviation by providing employment opportunities and livelihoods to people living in and around them. In addition, they also provide opportunities for research including for adaptive measures to cope with climate change, environmental education, recreation and tourism.'*¹³⁹

All this explains why the CBD emphasizes in the preamble that *In-situ conservation* is the fundamental measure that countries must implement to achieve the objectives of the convention.

In this regard the preamble states:

"Noting further that the fundamental requirement for the conservation of biological diversity is the in-situ conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in

¹³⁹ Introduction to the Programme of Work on Protected Areas (PoWPA).

their natural surroundings.”

The main regulatory instrument established by the CBD to achieve *In-situ conservation* is the commitment of the parties to establish a *protected area system* at the national level¹⁴⁰.

The present chapter will, therefore, focus on the *protected area system* and particularly on the way in which this system is being implemented at the local level. For this purpose, I will then refer to the specific case of Chile.

3.2. Protected Areas in International Law

Protected areas were originally recognized at the national level, in different ways in different countries¹⁴¹ until 1933, when a first effort to reach an international consensus on the standards and terminology of protected areas was expressed in the Convention Relative to the Preservation of Fauna and Flora in their Natural State signed in London. A similar effort took place for the Americas through the Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere, signed in Washington D.C. in 1940 (the 'Washington Convention').

Currently, in 'international environmental law' there are thirteen regimes that have direct relation with protected area matters. These different regimes coexist and in many concrete situations overlap so that individual protected areas may be subject to several regimes¹⁴².

In this respect, the following conventions appear to be the most relevant ones: the World Heritage Convention (WHC), Man and the Biosphere (MAB), the Convention on Wetlands of International Importance (Ramsar), International Maritime Organisation (IMO) and the CBD.

However, as already mentioned in the previous chapter, the CBD operates in practice as a real framework agreement for all these conventions, since it has a broader approach to 'biodiversity' in general, and since it applies the 'ecosystems approach' to integrate conservation to sustainable development goals.

Therefore, notwithstanding that when necessary or relevant I will make reference to other conventions, the focus of this thesis will be in the analysis of the protected area system as conceived by the CBD, particularly with respect to the way in which it is being implemented at the local level (i.e. Chile).

3.3. In-Situ Conservation: The System of Protected Areas

As mentioned before, there is an overall agreement that protected areas are essential for biodiversity conservation. They are "*the cornerstones of*

¹⁴⁰ Article 8 of the CBD.

¹⁴¹ For a historical background from the pre-modern days until today see: Write and Mattson (1996), pp. 3–14; Thomas (1996); Gillespie (2007).

¹⁴² UNESCO (2004). 7th Extraordinary Session of the WHC. WHC-04/7. EXT.COM/9. Nov 25. Annex II.

virtually all national and international conservation strategies, set aside to maintain functioning natural ecosystems, to act as refuges for species and to maintain ecological processes that cannot survive in most intensely managed landscapes and seascapes. Protected areas act as benchmarks against which we understand human interactions with the natural world. Today they are often the only hope we have of stopping many threatened or endemic species from becoming extinct. They are complementary to measures to achieve conservation and sustainable use of biodiversity outside protected areas in accordance with CBD guidelines such as the Malawi and Addis Ababa Principles (CBD VII/11–12)”¹⁴³.

Protected areas prevent the loss and fragmentation of natural habitats and thereby diminish the loss of biological diversity¹⁴⁴. This has been reaffirmed by recent reviews that confirm that well managed protected areas reduce rates of habitat loss, which is the chief threat to biodiversity¹⁴⁵. From the ecological perspective, this is because it appears that for terrestrial ecosystems it is land use change the most significant factor triggering further ecological contingencies^{146 147}.

As mentioned, the CBD and the strategic plans all recognize the central and fundamental role of ‘In-situ conservation’. But ‘In-situ conservation’ is not only relevant as an instrument for the implementation of the CBD, it is also -and beyond that- the only mechanism that directly relates to the ecosystems themselves and to the space where society and the natural environment interact.

3.3.1. Protected Areas in the CBD

The term ‘Protected Area’ is defined in Article 2 of the CBD as “*a geographically defined area, which is designated or regulated and managed to achieve specific conservation objectives*”.

The CBD, in its Article 8, establishes the basic framework of a Protected Areas system by encouraging parties to achieve the:

- i. Establishment of a ‘Protected Area’ system for areas where special measures need to be taken to conserve biodiversity.
- ii. Development of guidelines for the selection, establishment and management of protected areas.
- iii. Regulation or management of biological resources important for the conservation of biodiversity within or outside Protected Areas, with a view to ensuring their conservation and sustainable use.
- iv. Promotion of the protection of ecosystems, natural habitats and maintenance of viable populations of species in natural surroundings.

¹⁴³ IUCN (2008), pp.2.

¹⁴⁴ Butchart et al (2012), pp.2.

¹⁴⁵ Brandon, Redford, and Sanderson (1998), pp.415.

¹⁴⁶ Alcamo and Bennett (2003), pp.64.

¹⁴⁷ Sala et al (2000), pp.1771.

- v. Promotion of environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas.
- vi. Rehabilitation and restoration of degraded ecosystems and recovery of threatened species.
- vii. Management and control of risks associated with genetically modified organisms ('GMOs') resulting from biotechnology.
- viii. Prevention, control and eradication of alien invasive species.
- ix. Respect, preservation and maintenance of traditional biodiversity related knowledge.
- x. Development of appropriate legislative and regulatory framework.
- xi. Regulate or manage the relevant processes and categories of activities where a significant adverse effect on biological diversity has been determined pursuant to Article 7.
- xii. Cooperate in providing financial and other support for in-situ conservation particularly to developing countries.

3.3.2. The Programme of Work on Protected Areas of 2004.

Notwithstanding the essential role of the protected areas system for meeting the CBD goals, according to the best available data in 2004, the global systems of protected areas were not sufficiently large, sufficiently well-planned, nor sufficiently well-managed¹⁴⁸ to maximize their contribution to biodiversity conservation. Therefore, the Conference of the Parties in 2004 agreed on the urgency to take action to improve the coverage, representativeness and management of protected areas nationally, regionally and globally.

This agreement of the parties was expressed in the most comprehensive and specific body of commitments ever made by the international community through the adoption of the *Programme of Work on Protected Areas* ('PoWPA').

The PoWPA enshrines the development of participatory, ecologically representative and effectively managed national and regional systems of protected areas, where necessary stretching across national boundaries.

From designation to management, the PoWPA has been considered as a defining framework for protected areas. It is a framework for cooperation between Governments, donors, NGOs and local communities.

The purpose of the programme is to support the establishment and maintenance of effectively managed, and ecologically representative national and regional systems of protected areas¹⁴⁹.

The programme explicitly takes into account and re-affirms the central role of the *ecosystem approach*.

¹⁴⁸ PoWPA, introduction, I.2.

¹⁴⁹ PoWPA, introduction, II. 1.

“The ecosystem approach is the primary framework for action under the Convention, and its application will help reach a balance between the three objectives of the Convention. Multiple-use protected areas applied in an ecosystem approach context can, for example, help meet specific goals relating to conservation, sustainable use and the fair and equitable sharing of benefits arising from the use of genetic resources”.¹⁵⁰

Furthermore, the programme stresses that this approach will allow for a more comprehensive understanding of the connections between protected areas and their surroundings and stakeholders.

The programme is intended to assist parties in establishing national programmes of work with targeted goals, actions, specific actors, time frame, inputs and expected measurable outputs. However, the programme expressly states that the parties may select from, adapt, and/or add to the activities suggested in the current programme of work according to particular national and local conditions and their level of development¹⁵¹.

3.4. The Protected Area System and the IUCN Guidelines

As protected areas were gradually established during the 20th century¹⁵², each country developed its own criteria and categories. As a result many different terms and standards were used in different countries to create protected areas. Additionally, there have also been a variety of international protected area systems created under global conventions (e.g., World Heritage sites) and regional agreements (e.g., Natura 2000 sites in Europe)¹⁵³.

Historically, the first effort to clarify the terminology was made in 1933, at the International Conference for the Protection of Fauna and Flora, in London. This set out four protected area categories: *national park*; *strict nature reserve*; *fauna and flora reserve*; and *reserve with prohibition for hunting and collecting*. In 1940, the Washington Convention also incorporated four types: *national park*; *national reserve*; *nature monument*; and *strict wilderness reserve*¹⁵⁴.

The International Union for Conservation of Nature (IUCN), the world’s oldest and largest global environmental organisation, through its World Commission on Protected Areas (WCPA), after several years of work and progressive efforts developed and approved in 1994 a system of categories of protected areas and governance types¹⁵⁵.

The development of this new system took place at the same time that the overall approach towards ecosystems conservation was shifting from the

¹⁵⁰ Ibid, II. 3

¹⁵¹ Ibid, II. 4

¹⁵² Barzetti (1993).

¹⁵³ IUCN (2008), pp.4.

¹⁵⁴ Washington Convention, also see Adams (2000).

¹⁵⁵ IUCN (1994).

original '*pristine model*' of protected areas, towards an '*integrated approach*'. The influence of social sciences generated an increased awareness about the interaction between and among different areas of society and ecosystems¹⁵⁶. Under the new approach, local economic activities, local communities, and their surrounding lands, among other factors, are no longer considered as external and negative elements but as possible collaborators in the conservation undertakings^{157 158}.

The various efforts to develop this *new integrated approach* were in fact channelled by the IUCN to develop the new system of categories and governance types of 1994¹⁵⁹, which in different ways recognizes that local economies, local communities and protected areas can co-exist productively under the adequate management regimes. This system was confirmed through the new '*Guidelines for the Application of the Categories of Protected Areas*' in 2008, that added detailed criteria for the application of the system of protected areas and governance types.

This system of categories of protected areas and governance types, that is briefly summarized in Appendix IV hereto, has become a *framework for organizing and understanding protected areas* around the world. The IUCN categories are the most widely accepted and used at an international level.

IUCN secured the endorsement of this framework by the Convention on Biological Diversity at the 7th Conference of the Parties to the CBD in Kuala Lumpur in February 2004. The CBD's Programme of Work on Protected Areas declared that "*the value of a single international classification system for protected areas and the benefit of providing information that is comparable across countries and regions and therefore welcomes the ongoing efforts of the IUCN World Commission on Protected Areas to refine the IUCN system of categories ...*"¹⁶⁰.

However, in different countries we may still find, as will be mentioned below, a wide variety of approaches to defining, designating, and managing protected areas, and therefore, in many cases these categories only serve as a broad reference, as some areas do not fit into any category and shall be understood as "sui generis".

The new guidelines of 2008 explain that the proper approach must be flexible and adjust to the social circumstances. Therefore, it is recognized that "*Some situations will need strict protection; others can function with, or do better with, less restrictive management approaches or zoning of different management strategies within a single protected area*"¹⁶¹.

The guideline also explains that: '*The variety reflects recognition that conservation is not achieved by the same route in every situation and what may be desirable or feasible in one place could be counter-productive or*

¹⁵⁶ Barzetti (1993).

¹⁵⁷ Colchester (2000), pp.1365–67.

¹⁵⁸ Pauchard and Villarroel (2002), pp.319.

¹⁵⁹ IUCN (1994)

¹⁶⁰ IUCN (2008), pp.10.

¹⁶¹ Ibid, pp.3.

politically impossible in another. Protected areas are the result of a welcome emphasis on long-term thinking and care for the natural world but also sometimes come with a price tag for those living in or near the areas being protected, in terms of lost rights, land or access to resources. There is increasing and very justifiable pressure to take proper account of human needs when setting up protected areas and these sometimes have to be “traded off” against conservation needs. Whereas in the past, governments often made decisions about protected areas and informed local people afterwards, today the emphasis is shifting towards greater discussions with stakeholders and joint decisions about how such lands should be set aside and managed. Such negotiations are never easy but usually produce stronger and longer-lasting results for both conservation and people¹⁶².

The idea of a flexible approach is also closely linked to the four *governance types* developed by the IUCN that include: governance by government, by shared governance, by private governance and by indigenous peoples and local communities.

Private governance comprises protected areas under individual, cooperative, NGO or corporate control and/or ownership, and managed under not-for-profit or for-profit schemes. Typical examples are areas acquired by individuals or NGOs explicitly for conservation. In cases where there is no official recognition by the government, the accountability of private protected areas to society may be limited. Some accountability, for example in terms of long-term security, can be negotiated with the government in exchange for specific incentives.

The concrete application of the new guidelines of 2008 has become a challenge for all countries¹⁶³ and this means working towards assigning sites to management categories and governance types¹⁶⁴.

3.5. Ecological Complexity and the Protected Area System

At the same time that the IUCN was developing its new system of categories, and the aforementioned *new integrated approach* was being adopted, important changes in the understanding of biodiversity and ecosystems was also taking place.

3.5.1. The ‘New Ecology’: From an Equilibrium Model to a Non-Equilibrium Model.

The science of ecology has been repeatedly criticized over the years for failing to provide information relevant to conservation management and policy¹⁶⁵.

This critique has symbolised the distance between the theoretical work of ecologists, and the pragmatic approach of conservationists, that has been further confirmed by their separate training, respectively, in biology and

¹⁶² Ibid, pp.3.

¹⁶³ Phillips (2002).

¹⁶⁴ IUCN, (2008), pp.39.

¹⁶⁵ Baskerville (1997).

forestry -or agricultural- management schools.

This situation has been further complicated in the past 30 or so years “as many concepts that were considered central to ecology in previous decades have since been revised. These shifts in emphasis and perspective have important implications for how we manage ecosystems and species”¹⁶⁶

The fundamental shift in ecological thinking concentrates on the change in perception of ecosystems from static entities in equilibrium to complex systems that are subject to *non-equilibrium dynamics*, spatial and temporal variation, and uncertainty^{167 168}.

In this context, under this ‘*new ecology*’ approach, biodiversity has started to be viewed more broadly, as a dynamic ‘*network of processes and interactions between all entities at all scales*’¹⁶⁹; including genes, species, populations, communities, ecosystems, and landscapes, with each level of biological organization exhibiting characteristic and complex composition, structure, and functions¹⁷⁰.

As a result, current recommendations for biodiversity conservation focus on the need to conserve *dynamic, multiscale ecological patterns and processes* that sustain the full complement of biota and their supporting natural systems¹⁷¹.

Notwithstanding this paradigmatic change, and even though it is generally agreed that “*classical equilibrium theories are woefully inadequate*”¹⁷², much social science work, political ecology, environmental and ecological economics and conservation law, as well as the prevailing management strategies, remain firmly wedded to that *static and equilibrium view*¹⁷³.

Therefore, it is critical to note that “[a]ll too many of our current environmental policies and much of the street lore about the environment are based on the science of the 1950s, 1960s, and 1970s, not the science of the 1990s”¹⁷⁴.

In this sense, as will be further discussed later on in Chapters 8 and 9 on reflexive law and reflexive property rights, the *static and equilibrium model* is not only a perspective that restricts the understanding of the internal dynamics of how ecosystems work, but it also appears to be a perspective that has a limited capacity to grasp all the complex and contingent relationships between the ecosystems and the different spheres of society.

As a response to this challenging scenario, new attempts to bringing

¹⁶⁶ Wallington, Hobbs, and Moore (2005), pp.2.

¹⁶⁷ Fiedler, White and Leidy (1997), pp.83.

¹⁶⁸ Scoones (1999), pp. 479.

¹⁶⁹ Child (2011), pp. 527.

¹⁷⁰ Noss (1990), pp. 355–64.

¹⁷¹ Angermeier and Karr (1996), pp. 264–75.

¹⁷² Levin (1999), pp.1.

¹⁷³ Scoones (1999), pp.480.

¹⁷⁴ Lubchenco (1998), pp.495.

together different scientific approaches and conservation management approaches are being expressed in what is now known as *conservation biology*¹⁷⁵, which has been a prolific source of new studies in the last 30 years¹⁷⁶.

It is emphasized that the 'new ecology' model should be supported by '*further fundamental research, faster and more effective transmission of new and existing knowledge to policy- and decision-makers, and better communication of this knowledge to the public*'¹⁷⁷.

However, integrating current ecological thinking into policy has been difficult and this originates, among other things, in the fact that field observations have yet to provide sufficiently compelling evidence for many of the relationships suggested by current theories in ecology¹⁷⁸.

This can be seen as a visible feature of any science in transition from an analytical restrictive model to a broader integrative approach¹⁷⁹.

And this can also be seen as *uncertainty* deriving from contradicting contingent observations that characterize the "*frontiers of science*"¹⁸⁰, which is in fact one manifestation of the transitional space of interaction between science and the other sectors of society.

This uncertainty has meant that ecological research is less useful to policy makers and managers than it might otherwise be. It is difficult for managers and policy makers to know which theories are important, and how much uncertainty is associated with current ecological knowledge¹⁸¹.

The concrete effect and influence that ecological science may have on conservation practices depends critically on a commitment by ecologists to engage with questions concerning conservation of specific ecosystems.

The role of scientists in the pursuit of research into socially relevant questions should not be confused with advocacy¹⁸², in a narrowly defined political sense¹⁸³.

As will be explained in the following chapters, the reflexive approach presented in this thesis is an attempt at creating a social dynamic that would facilitate the flow of the relevant information produced by different spheres of society in order to trigger reflexive processes that will eventually lead to new knowledge and better practices¹⁸⁴.

¹⁷⁵ Gibbons (1992), pp. 20; Meffe and Carroll (1997).

¹⁷⁶ Poiani et al. (2000), pp. 133.

¹⁷⁷ Lubchenco (1998), pp.491.

¹⁷⁸ Wallington, Hobbs and Moore (2005), pp.2.

¹⁷⁹ Holling (1998), pp.1.

¹⁸⁰ Pickett, Kolasa, and Jones (2007), pp.129.

¹⁸¹ Wallington, Hobbs, and Moore (2005), pp.9.

¹⁸² Levin (1999).

¹⁸³ Wallington, Hobbs, and Moore (2005), pp.2.

¹⁸⁴ See Chapter 8.

3.5.2. Ecosystems and Communities

The IUCN new system of protected areas categories has been developed, at least partly, based on anthropological studies that have undermined the idea that 'strict protection' is necessary for conserving biodiversity¹⁸⁵.

This is a very critical point; it relates to how we conceive the relationship or interaction between ecosystems and society.

It is traditionally understood in western societies, that 'strict protection' in the sense of 'exclusion from human activities' is necessary for conserving biodiversity¹⁸⁶; and this still may be true in certain social or ecological circumstances. It seems intuitively correct to think that what may apply to traditional *segmentary* tribal societies, will not necessarily apply to *functionally differentiated* modern societies. Starting with the structure of their economies, many relevant factors will influence the way in which resources are exploited and used.

In many countries, still today, this is not only valid but a necessary and crucial distinction, because many important ecosystems are still under the *management* of traditional and indigenous communities. And this is why the governance type D of the IUCN guidelines refers to 'Governance by Indigenous Peoples and Local Communities'.

But more than that, it is important to note that we are not only facing a different *governance type*, but different forms of societal organization, and different ways of relating to nature.

Indigenous communities not only have different *governance models*, they have different *cosmogonies*, and they do not see themselves as 'doing conservation'; they do not even see themselves as 'separate from the land' or as 'external observers or users of nature'; they see themselves as part of it.

This is why, from a western anthropological perspective, McNeely expresses: '*Many traditional societies have developed highly adaptive behavioural rules for survival, supported by coherent belief systems based on strong motivating values which enable them to adapt to an unpredictable world*'. He adds that '*Reichel-Dolmatoff (1976) demonstrated that aboriginal cosmologies and myth structures, together with the ritual behaviour derived from them, reflect a set of ecological principles; these constitute a system of social and economic rules that have a highly adaptive value in the continuous struggle to maintain a balance between the resources of the environment and the demands of society*'¹⁸⁷.

Overall it is possible to conclude that whereas human activity can certainly deplete ecosystems, as can be observed by the wide expanses of

¹⁸⁵ Fairhead and Leach (1995), pp. 55–91.

¹⁸⁶ Gomez-Pompa and Kaus (1992), pp. 271–79. In this article, for instance, it is argued that environmental policy and education are predominantly based on Western beliefs about nature rather than on native and indigenous sensitivities.

¹⁸⁷ McNeely (2012), pp.7 (section on Protected areas and People).

wasteland found in many countries, 'the influence of local people can sometimes increase biodiversity rather than deplete it'¹⁸⁸.

The conservation community worldwide and many central governments are beginning to see advantages in protected areas involving local communities and indigenous people, and beyond that, this is also influencing the overall paradigm of a *new integrated approach*¹⁸⁹.

It is a fact that the creation of protected areas has involved significant impacts for communities where such areas have been established¹⁹⁰. The communities inhabiting those areas or their surroundings have long depended on the natural resources and *ecosystems services*¹⁹¹ of those areas. For many communities the adjustments to the new regulatory landscape has been extremely difficult. In this sense, the traditional way in which governments have created protected areas, has not necessarily considered a social impact assessment, and no prospective strategies for communities involvement has been designed¹⁹².

This also relates to how the planning and design of each protected area has been executed, and how *ecosystems services* have been considered or integrated into the planning and design¹⁹³.

This relates to the fact that in general, and not only in the case of national protected areas (i.e. publicly owned) but also in the case of private protected areas, conservation has meant or involved the exclusion and separation of communities from natural habitats¹⁹⁴. This will be further considered below, also, as one of the regulatory trilemmas created by the existing model of protected areas.

Strict protection is arguably a necessary management objective in some cases, but seeking total exclusion of human influence may be required for conserving biodiversity in only relatively few protected areas, and even in these cases the feasibility of excluding humans will remain in question as a reality for the long term¹⁹⁵.

As will be further addressed, these issues related to the relationship between conservation and local communities, are also connected to the use of traditional regulatory instruments (especially *regulatory* or *command and control* mechanisms) for the conservation of biodiversity. Strictly protected areas need to be implanted within much larger managed landscapes occupied by human beings who are –or may be– also interested in the environment and

¹⁸⁸ Ibid.

¹⁸⁹ Ibid.

¹⁹⁰ Brockington, Igoe, and Schmidt-Soltau (2006), pp. 250–52.

¹⁹¹ See section Ecosystem Services below.

¹⁹² Ferraro and Hanauer (2011), pp. 269–86; Naughton-Treves, Buck Holland and Brandon (2005), pp. 219 – C – 1.

¹⁹³ Costanza et al. (1997), pp. 253–60.

¹⁹⁴ Agrawal and Redford (2009), pp.1-10.

¹⁹⁵ McNeely (2012).

the well-being of future generations¹⁹⁶.

As McNeely emphasises, by way of example, that most protected areas can continue supporting traditional and highly diverse forms of agriculture without sacrificing conservation values¹⁹⁷. Therefore, as the next section shows, these areas can also make important contributions to agriculture¹⁹⁸.

But the question is whether the current regulatory instruments used at the local level in different countries, allow or create the incentives for such sustainable integration of conservation to different societal activities.

I argue that the current regulatory tools used in different countries to implement the CBD do not take the aforementioned social and economic complexity seriously into account, and that this is the main reason, I believe, of the fact that countries are failing to achieve their conservation targets.

All this is to show that, considering social complexity, the interaction between ecosystems and society (all sectors of society, including law) is far from being easily describable in linear terms.

This is also to say that ecological uncertainties shall also depend on the manner in which the different spheres of society will interact between and among them. The manner in which science, politics, economics, law, education, moral, religion, media and other spheres of society interact amongst them with respect to ecological risks, will define the manner in which information will flow and the necessary knowledge will be created¹⁹⁹.

3.5.3. Ecosystems Services

The 'ecosystem approach' emerged as a topic of discussion in the late 1980s and early 1990s amongst the research and policy communities concerned with the management of biodiversity and natural resources²⁰⁰. People argued that a new focus was required in order to achieve robust and sustainable management and policy outcomes. An ecosystem approach, it was suggested, would deliver more *integrated* policy and management at a landscape-scale and be more firmly directed towards human well-being²⁰¹.

The concept of 'ecosystems services' is also specifically covered by the principles underlying the ecosystem approach as set out in the CBD.

Ecosystem services are normally defined in very simple terms, as '*the benefits ecosystems provide*'²⁰²

¹⁹⁶ Colchester (2000), pp.1365-7.

¹⁹⁷ McNeely (2012).

¹⁹⁸ Smardon and Faust (2006), pp. 160–92.

¹⁹⁹ Luhmann (2005), pp.73-77; Luhmann (1989), pp.135.

²⁰⁰ Hartje, Klaphake, and Schliep (2003), pp.12.

²⁰¹ Haines-Young and Potschin (2010), pp. 110-139.

²⁰² "Millennium Ecosystem Assessment, 2005. Ecosystems and Human Well-Being: Synthesis. World Resources Institute" (2005), pp.1.

Like the term ecosystem itself, the concept of *ecosystem services* is relatively recent—it was first used in the late 1960s²⁰³. Research on ecosystem services has grown dramatically within the last decade²⁰⁴.

The Millennium Ecosystem Assessment of 2005 (MA)²⁰⁵, was the first global assessment of ecosystems and ecosystem services.

It is common practice in economics both to refer to goods and services separately and to include the two concepts under the term *services*. Although *goods*, *services* and *cultural services* are often treated separately for ease of understanding, the MA considers all these benefits together as *ecosystem services* because it is sometimes difficult to determine whether a benefit provided by an ecosystem is a *good* or a *service*. Also, when people refer to ecosystem goods and services, cultural values and other intangible benefits are sometimes forgotten.

Ecosystem services have been categorized in a number of different ways²⁰⁶ and different critical positions have been presented^{207 208}.

Wallace²⁰⁹ has noted that the MA and the wider research literature are ambiguous about how to distinguish between the mechanisms by which services are generated (called by some ecosystem functions) and the services themselves.

There is a need to specify clearly what the reference is in each case, particularly in a new field like this, where concepts are developing rapidly.

Fisher and Turner prefer to think of intermediate and final services or products, rather than getting trapped in arguments about what is and is not a service²¹⁰. This can be considered a more integrated approach, because in many cases the direct contribution of biodiversity to human well-being, is only part of a much larger system that may include social, economic and long-term ecological elements²¹¹.

For operational purposes, the MA proposes a typology of four general types of services, namely: those that cover material or *provisioning* services; those that cover the way ecosystems *regulate* other environmental media or processes; those related to the *cultural* or spiritual needs of people; and finally the *supporting* services that underpin the other three types²¹². A brief reference to these categories can be found in Appendix V.

²⁰³ Helliwell (1969), pp. 41–49.

²⁰⁴ De Groot, Wilson, and Boumans (2002), pp. 393–408; Costanza et al. (1997); Burkhard et al. (2012), pp. 17–29.

²⁰⁵ “Millennium Ecosystem Assessment, 2005. Ecosystems and Human Well-Being: Synthesis. World Resources Institute.”

²⁰⁶ Costanza (2008), pp. 350–52.

²⁰⁷ Wallace (2008), pp. 353–54.

²⁰⁸ Fisher, Turner, and Morling (2009): 643–53.

²⁰⁹ Wallace (2008).

²¹⁰ Fisher, Turner, and Morling (2009), pp. 643–53.

²¹¹ Haines-Young and Potschin (2010), pp.1.

²¹² *Ibid*, pp.7.

From a broader sociological perspective, different ecosystem services involve different interactions between the corresponding *service* and the different spheres of society such as science, education, aesthetic, law, moral, politics, economy, religion and so forth.

Therefore, I believe that it is important to note that the lack of understanding and knowledge of the existing ecosystem services is also directly connected to a lack of understanding of the interactions between ecosystems and the different spheres of society²¹³.

It is a common observational reduction to only address as ecosystems services those that easily appear as commodities for the existing markets –for the economic sphere-. That is, to think of ecosystems services just as simple in-put services for certain industries that are clearly willing to pay in order to secure access to some resource such as water (i.e. aquaculture industry located down the stream of a water basin). In other words, under this reductive approach, the economic discourse would become the prevalent discourse and the observations of other social spheres would appear to be overlooked.

In this sense, it seems important to realize that many ecosystems services have strong connections with other spheres of society. For instance, some ecosystem services will have a closer connection with culture and eventually, politics. For some societies, protecting iconic landscapes can be considered important for a country's heritage, and protecting cultural spaces or constructions can be considered important from a wider cultural perspective, such as for example the protection of famous buildings like the Notre Dame Cathedral or the Taj Mahal.²¹⁴

Then again, it is also argued that some ecosystems services are related to moral and ethical practices and values. In this sense, for instance, the maintenance and continuation of certain social practices that are integrated to the conservation of local ecosystems may also be deemed as involving a moral commitment to future generations.

From a religious perspective, a responsible attitude towards nature is also supported by the teachings of the large majority of the world's faiths²¹⁵. This religious perspective can be a very significant force of social internalization of conservation practices as it is shown in many examples (e.g., sacred sites for local people's religion that also represent significant contributions to biodiversity, as is the case in Tikal National Park, Guatemala)²¹⁶.

So, we can see how each ecosystem service could be considered in a different but unique light from a different sphere, and then again, each ecosystem service will be connected in different ways with other ecosystem services.

I should emphasize, however, that not only each sphere will observe

²¹³ Watson et al. (2014), pp. 67–73.

²¹⁴ IUCN (2008).

²¹⁵ Dudley, Higgins-Zogib, and Mansourian (2006).

²¹⁶ IUCN (2008).

differently each of these ecosystem services but also, and very importantly, each sphere will observe them differently from a time dimension perspective²¹⁷. The time horizons of ecological science or art will dramatically differ from the time horizon of a financial assessment of a given ecosystems service²¹⁸.

The question for us, in the context of this thesis, is whether the legal system is prepared to handle this unfolding social and ecological complexity, as well as the encompassing uncertainties and risks; that is, whether the instruments available in the law are capable of facilitating the interaction of those different societal perspectives in order to facilitate a more reflexive and comprehensive approach to the creation and operation of a system of protected areas.

3.6. Protected Areas. Performance, Trends and Unfavourable Projections

3.6.1. Performance and Trends

According to data of April 2014, the official global portfolio of nationally designated terrestrial protected areas numbered 155,584 and covered 18.4 million km², or 12.5% of the terrestrial realm.

This is still short of the current CBD target of 17%, target that was increased from 10% since the 2000–2010 strategic plan, but which according to many observers and scientists was only a political compromise and is considered still too low²¹⁹.

However, even considering this modest target, a mere quantitative assessment can be deceiving, because the real shortfall is much larger if we consider the *ecological importance, representativeness, connectedness, management and financing* of protected areas.

In this respect Watson et al assert that:

“At broad ecological scales, coverage markedly varies between major terrestrial biomes and ecoregions²²⁰. Using the latest available data²²¹, we found that only 300 terrestrial ecoregions (36%) have more than 17% coverage, with 237 regions (29%) having less than 5% coverage and 68 (8%) having less than 1% coverage... When finer-scale analyses are conducted to assess whether protected areas are being placed in areas important for conserving species, the same patterns of variability occur. Among key biodiversity areas (KBAs)²²², only 28% of Important Bird Areas (sites identified as crucial for bird biodiversity) and 22% of Alliance for Zero Extinction sites (sites that hold more than 95% of the global population of an

²¹⁷ See Chapter 5, Section 5.9.

²¹⁸ Adams (2014) pp. 549–51; Costanza et al. (1997); Hein, Miller, and De Groot (2013).

²¹⁹ Noss (2012).

²²⁰ Original footnote: Jenkins, C. N. & Joppa, L. Expansion of the global terrestrial protected area system. *Biol. Conserv.* 142, 2166–2174 (2009).

²²¹ Original footnote: UNEP-WCMC. World Database on Protected Areas <http://wdpa.org>

²²² Original footnote: GüVen Eken et al., “Key Biodiversity Areas as Site Conservation Targets,” *BioScience* 54, no. 12 (2004): 1110.

*endangered species) are adequately covered by existing protected areas*²²³. A recent global analysis of all threatened birds, amphibians and mammals (n = 4,118) found that 17% are not found in a single protected area and 85% do not have sufficiently large populations in protected areas to give them a reasonable chance of long-term survival²²⁴. In comparison, a decade ago 20% of globally threatened terrestrial birds, mammals and amphibians were not found in a single protected area and 89% were inadequately represented²²⁵.

The traditional understanding has been that these problems were the result of weak implementation, and especially of weak planning²²⁶. In fact, as has been already discussed in the previous chapter, this is the general diagnosis for the limited achievements of the CBD in general. However, new analysis is showing that the new additions and extensions of terrestrial protected areas of the last decades have still not implemented the criteria of *ecological importance, representativeness and connectedness*²²⁷. Concretely speaking governments continue to select lands with low value, higher elevations, steeper slopes, low human density and lack of ecological importance, representativeness and connectedness. It seems that '*achieving representation has almost come to a stop, and this is likely to have serious ramifications when it comes to threats such as climate change*'²²⁸.

In addition to the problems described, the protected area systems face serious problems in the areas of *management and financing*.

The available information and research on the issue of *management* is very limited, which once again points towards the issue of the lack of information and knowledge. But the limited available information indicates that there is a serious problem with effective management: an assessment concludes that only 20% to 50% of the protected areas assessed are effectively managed²²⁹. This issue is more serious than it appears to be since the limited existing data points to scenarios where, as in South Asia, '*trajectories of habitat conversion rates inside protected areas are sometimes indistinguishable from those of unprotected lands*'²³⁰. This issue even affects renowned protected areas such as Australia's Great Barrier Reef Marine Park, or Ecuador's Galapagos National Park, and others²³¹.

As to the issue of *financing*, it appears that this has become a horizontal problem both in developed and developing countries, but it has a more intense effect in the latter countries. A lack of resources affects human resources training and availability, effective law enforcement, boundaries demarcation, infrastructure and natural resources management²³², among many other factors. But, even more importantly, it affects ecosystems data collection,

²²³ Original footnote: Butchart et al., "Protecting Important Sites for Biodiversity Contributes to Meeting Global Conservation Targets."

²²⁴ Original footnote: Oscar Venter et al., "Targeting Global Protected Area Expansion for Imperiled Biodiversity," *PLoS Biology* 12, no. 6 (June 2014): 1–7.

²²⁵ Watson et al. (2014), pp. 67–73.

²²⁶ Pressey (1994), pp. 662–68.

²²⁷ Watson et al. (2009), pp. 1028–36.

²²⁸ Watson et al. (2014).

²²⁹ Leverington et al. (2010), pp. 685–98.

²³⁰ Watson et al. (2014), pp.69.

²³¹ Ibid, pp.69.

²³² Leverington et al. (2010).

ecological research, social environment research and risk management in general. In this context, it is worth mentioning that a system of protected areas requires significant resources to monitor and manage its interactions with surrounding activities. By way of example, extractive activities have a significant impact on protected areas and they are poorly monitored and managed. A clear example is *mining*, that according to recent global studies is said to be directly impacting –through activities *inside* protected areas- more than 6% of all the protected area lands of the world²³³.

All this being said, now we face even larger challenges since according to various sources, there is now '*significant evidence that some governments are sliding back on their commitment to support protected areas through disproportionate funding cuts, reductions in professional staff and by ignoring their own policies. ... If this is representative of a global trend, many protected areas will be left seriously exposed, especially in the context of pre-existing levels of underfunding and rising threats*'²³⁴.

Although this trend is more common in developing countries, inadequate management and financing of protected areas is also becoming a significant trend in some of the wealthiest countries, such as Australia, the United States and Canada, where major reductions in staffing levels and funding have been recently observed²³⁵.

But arguably '*a more intransigent form of protected-area failure is government changes, through policy, that open up sites to resource extraction, or partial or full degazettement*'²³⁶. This governmental practice has been labelled protected area downgrading, downsizing and degazettement (or 'cancelling') (PADDD), where '*downgrading is the legal authorization of an increase in the number, magnitude or extent of human activities within a protected area; downsizing is the decrease in size of a protected area through a legal boundary change; and degazettement is the loss of legal protection for an entire protected area. A recent global analysis of 543 instances of PADDD indicated that all three forms are increasing*'²³⁷.

²³³ Durán, Rauch, and Gaston (2013), pp. 272–78.

²³⁴ Watson et al. (2014), pp.70.

²³⁵ Ibid, pp.70.

²³⁶ Ibid, pp.70.

²³⁷ Ibid, pp.70. *The authors further report: 'Most instances of PADDD have occurred in developing countries, where demographic changes and demand for land have put pressure on ecosystems, and where governments seek revenue from natural resources to meet development needs. It is not uncommon for the ministries responsible for mining or logging to issue leases on land or water that are already designated as protected. For example, in Uganda, active oil exploration and development is occurring inside protected areas, including the western portion of Murchison Falls National Park and inside three wildlife reserves that contain threatened species such as lions and Rothschild's giraffe (Giraffa camelopardalis rothschildi). Examples of downsizing include the World Heritage Sites the Selous Game Reserve in Tanzania, which was reduced to allow for uranium mining, and the Virgin Komi Forests in Russia where significant boundary changes to reserves such as the Yugyd Va National Park were made to allow mining. These are not isolated cases; a review of oil and gas concessions and protected areas in sub-Saharan Africa found that concessions overlapped park boundaries in 17.3% of International Union for Conservation of Nature (IUCN) category I-II sites and in more than a quarter of world heritage sites. Full degazettement is a more unusual form of PADDD, but is also on the increase ...: the Arabian Oryx Sanctuary in Oman was removed from the World Heritage List*

3.6.2. Unfavourable Projections and Findings of the GBO4

Most recently, in June 2014 during the 5th Meeting of the Fifth Meeting of the Working Group on the Review of the Implementation (WGRI 5) of the CBD many countries provided updates on the progress of their NBSAPs.

In particular and in connection with the PoWPA, several countries made statements related to different aspects of the implementation of this programme, some of which referred to the reiterated importance of the 'clearing house mechanism' (CHM) highlighting the need of partnerships on marine and other protected areas (i.e. Canada), others called for the development of an interactive tools to assist countries to meet the numerous targets identified (i.e. Mexico), or others encouraged the Secretariat to collaborate with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services,

On a very relevant remark, Thailand and Belgium emphasized the role of private protected areas (PPAs) in rapid response to sudden threats to ecosystems; and numerous delegates called for capacity building and sharing of experiences and several African countries supported the involvement of indigenous and local communities (ILCs) to support the implementation of ecosystem conservation and restoration.

Also, the SBSTTA recommended that COP 12 would call upon parties and invite other governments, when developing or updating and implementing their national or regional invasive alien species (IAS) strategies, to consider, on a voluntary basis, *inter alia*: continuing efforts on the management of IAS, with special emphasis, and giving priority to, protected areas and key biodiversity areas²³⁸.

Now, the conclusions and recommendations of the GBO4, have already been discussed in the previous chapter 2²³⁹.

As mentioned, the Aichi target directly related to the *protected area system* is Target 11. However, it should also be noted that this target is naturally and logically connected to all the other targets, and especially and most directly to Target 5 on Habitat Loss, Target 10 on Ecosystems Vulnerable to Climate Change, Target 14 on Ecosystems Services and Target 15 on Ecosystems Restoration. Additionally, Target 7 on Sustainable Agriculture, Aquaculture and Forestry also deserves special attention as these activities normally surround protected areas, and as we have seen, they are considered to be a central driver in land use change trends.

In order to avoid repeating our assessment, which has already been

after the government reduced the size of the reserve by 90% to allow for oil and gas extraction. Developed countries are not immune to PADD, as witnessed in Australia in recent years with the opening up of parks to allow industrial logging, livestock grazing, mining, recreational hunting and fishing. In the United Kingdom, a proposed high-speed rail link will damage or destroy ten Sites of Special Scientific Interest, government-recognized protected areas and nine NGO-run Wildlife Trust reserves'.

²³⁸ Earth Negotiations Bulletin, (June 16, 2014), pp.17.

²³⁹ Secretariat of the CBD, "GBO 4." See Appendix 3 herein for GBO4 with respect to each Aichi Target.

extensive in the previous section on *Performance and Trends*, I will just emphasize certain relevant aspects of the conclusions of the GBO4:

The conclusions relating to habitat loss (Target 5) are not promising but instead rather alarming, not only because habitats continue to be fragmented and degraded but also because data is scarce and countries are not even providing information on the actions they are considering towards reducing fragmentation and degradation²⁴⁰.

The conclusions regarding ecosystems services (Target 14), indicate that *'habitats important for ecosystem services, for instance wetlands and forests, continue to be lost and degraded'*²⁴¹, and that the reports of the countries show that *'few have set targets explicitly addressing this global target'*. Furthermore, the GBO4 declares that *'In the national reports there was little mention of the needs of women, indigenous and local communities and the poor and vulnerable being taken into account'*²⁴². As a result, the GBO4 concludes overall *'trends appear moving in the wrong direction'*.

The conclusions regarding ecosystems restoration and resilience (Target 15) follow a similar trajectory since *'despite restoration and conservation efforts, there is still a net loss of forests, a major global carbon stock, suggesting no overall progress on this component of the target'*²⁴³.

Regarding ecosystems vulnerable to climate change the news are not promising either, since few national biodiversity strategies and action plans include any measures at all to tackle the multiple pressures on these sensitive ecosystems. Therefore, GBO4 also declares that is unrealistic to believe that this target will be met on time²⁴⁴.

The conclusions relating to sustainable agriculture, aquaculture and forestry (Target 7) are also a matter of concern. Most of the national biodiversity strategies and action plans presented by the countries do not include quantitative goals, and unsustainable practices continue to be responsible for substantial environmental degradation including biodiversity loss to an extent that would most probably prevent the achievement of the target by 2020²⁴⁵.

Regarding target 11 on protected areas, as mentioned, the goal of 17% of protection for terrestrial areas and 10% of protection for marine areas, was from the beginning a very modest objective that represented a political compromise. The GBO4 declares that the terrestrial target, at the current pace, should be met on time. The opposite conclusion is reached regarding the marine target. But most importantly, as discussed in the previous section on Performance and Trends, the achievement of a quantitative goal of this kind without proper information on ecological importance, representativeness, connectedness, management and financing, does not really involve a positive result when all the available data points towards the very weakness of the

²⁴⁰ Ibid, pp.51.

²⁴¹ Ibid, pp.97.

²⁴² Ibid, pp.97.

²⁴³ Ibid, pp.101.

²⁴⁴ Ibid, pp.77.

²⁴⁵ Ibid, pp.63.

corresponding protected area systems currently in place.

Therefore, from our perspective two assessments seem necessary and urgent at this point:

First, it seems necessary to assess and understand the reasons for the lack of information about different aspects that appear to be relevant for the achievement and evaluation of the aforementioned targets.

If ecological uncertainty is in fact the most critical aspect of the ecological contingencies we face, the overall priority of the regulatory and implementation efforts should be focused on the accumulation and processing of information in order to facilitate the development of new knowledge and better regulatory strategies and management.

Second, it seems necessary to assess and understand the reasons for the lack of involvement and consideration of the local communities and indigenous groups, as well as the lack of consideration of the needs of women, the poor and vulnerable population, and the lack of consideration of minorities in general.

Now, from a broader socio-legal perspective, as anticipated few times already, the conclusions of the GBO4 should urge us to ask why our regulatory instruments are not triggering the necessary communication processes between different stakeholders and spheres of society? Why the ecosystems that are subject to the protected areas system seem to be separated from general social processes? Why communities and indigenous groups seem to be separated from day-to-day dynamics of ecosystems management and information exchange? Why the regulatory instruments in place do not facilitate the social dynamics that would make possible the accumulation and processing of information and the generation of knowledge?

3.7. The Chilean Experience

Chile's unique ecosystems, which range from the driest desert in the world to the southernmost temperate rainforests, have a high level of endemism and are considered an international priority for conservation²⁴⁶.

In this section I will review the regulatory model followed by Chile for the implementation of the protected area system. I believe that this will serve as reference for many countries that apply traditional regulatory approaches.

3.7.1. The General Legal Framework

The current basic structure of conservation law in Chile is as follows:

(a) General Principles

The general principles of conservation law are established in the Constitution of the Republic of Chile of 1980, and in the Environmental Framework Law No 19.300 ("Law 19.300"). These two legal bodies establish

²⁴⁶ Biodiversity Support Program et al. 1995.

the obligation of the State to undertake all necessary activities to preserve biodiversity and the natural environment.

Furthermore, Articles 34 and 35 of Law 19.300 establish that the State shall manage a '*National System of Protected Areas*' as well as shall promote and support the development of *private protected areas*.

Law 19.300 also establishes, in its article 2, a broad definition of biodiversity that is similar to that contained in Article 2 of the CBD.

In 2010, a modification of Law 19.300 (through Law 20.417) substantially modified the legal framework of environmental law in Chile through the creation of a *Ministry of the Environment* to be in charge of '*designing and executing the environmental policies, plans and programmes, as well as in charge of the protection and conservation of biodiversity...*' among other things.

This Law 20.417 also established the future creation of a new public agency that shall be in charge of *biodiversity conservation and protected areas management*. In 2014 the executive power submitted a new draft law to the Congress of Chile for the '*creation of the Biodiversity Conservation and Protected Areas Agency and the creation of the national system of protected areas*'²⁴⁷. This law draft also intends to create a framework to regulate *private protected areas* in Chile. However, this draft is still going through the legislative process at the Congress of Chile.

Therefore, at present, there is no framework law for the *national system of protected areas*. As a result, the Chilean legal system on protected areas is composed of various different, fragmented and scattered regulations. Furthermore, *private protected areas* lack any regulation and support notwithstanding their acknowledged relevance for an integrated system of in-situ conservation.

In 2014 the Ministry of the Environment created a *National Committee of Protected Areas* that is integrated by 11 public agencies with jurisdiction over biodiversity and protected areas²⁴⁸, with the special purpose of providing technical support for all matters relating to protected areas. One of the main goals of this committee is the implementation of the *National Action Plan for Protected Areas of 2015-2030* as part of the *National Strategy on Biodiversity* in order to comply with the Protected Areas Work Programme (PoWPA) and Strategic Plan 2011-2020.

(b) International Conventions and Treaties

The main international instruments that provide a legal basis for the Chilean system of protected areas include:

- i. The Washington Convention (the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, 1940);
- ii. The CBD, 1992;

²⁴⁷ Law Draft of June 18, 2014, Bulletin No9.404-12.

²⁴⁸ Resolution No83, of the Ministry of the Environment of Chile, of February 3, 2014.

- iii. Convention on Wetlands of International Importance, especially as Waterfowl Habitat, 1971;
- iv. Protocol for the Conservation and Administration of Marine and Coastal Protected Areas of the South Pacific, 1992;
- v. Convention concerning the Protection of the World Cultural and Natural Heritage, 1972.

As already discussed in Chapter 2, the wide scope and comprehensive approach of the CBD makes it a real umbrella or framework convention, and this also applies within the regulatory scheme of Chilean law.

(c) The System of Protected Areas

The Chilean 'System of Protected Areas' is not a clearly delimited area of law but, as said earlier, a conjunction of scattered and fragmented regulations and administrative agencies.

For legal purposes the definition of 'protected area' can be found in Article 2 of the CBD, which has been previously cited²⁴⁹.

First of all, a distinction must be made between *public protected areas* and *private protected areas*, even though the latter do not have their own regulatory framework and are only the result of informal private efforts.

Regarding *public protected areas*, and from a very broad perspective, it has been said that Chile has 31 different categories of special management or protected areas²⁵⁰. However, a stricter analysis leads to the conclusion that if we follow the notion of protected area defined in the CBD only 8 categories can be said to form the National System of Protected Areas in Chile. These categories are:

- (i) National Park
- (ii) National Reserve
- (iii) Natural Monument
- (iv) Virgin Regions Reserves
- (v) Natural Sanctuary
- (vi) Marine Park
- (vii) Marine Reserve
- (viii) Coastal Protected Areas

A summary of the current protected areas, their numbers and surfaces can be seen in the following table²⁵¹:

²⁴⁹ There is also an administrative definition included in Article 2 (a) of Supreme Decree No95 of 2005 that contains the Environmental Impact Assessment Regulations. However, this definition only applies for the purpose of determining what areas will be considered 'protected areas' for the purpose of the 'Environmental Impact Assessment System. The National Commission of the Environment has further issued a communication 'Oficio No43.710 of 2004', in order to list the areas to be considered for this purpose.

²⁵⁰ Ministry of the Environment of Chile (2011), pp.7.

²⁵¹ Ministry of the Environment of Chile (2015), pp.32.

N°	CATEGORY	SURFACE (Hectares)
9	Costal Protected Areas	98.475,07
2	Marine Parks	15.001.563,05
5	Marine Reserves	7.810.57
16	Natural Monuments	29.821,46
36	National Parks	6.882.366,69
23	Forestry Reserves	4.659.683,2
26	National Reserves	751.304,73
44	Nature Sanctuaries	478.710,52
161	TOTAL	29.909.735,29

However, as will be explained below when reviewing the *Problems of the Regulatory Framework*, regulations and definitions for these different categories of protected areas are brief, insufficient, broad and vague²⁵².

(d) Various Regulatory Instruments

A more refined analysis of the system of protected areas of Chile would lead us to conclude that the legal instruments thereby utilized can be classified into three different categories:

(i) Administrative norms that:

- a. Establish or declare the corresponding public protected area;
- b. Impose standards, restrictions and prohibitions over public protected areas (i.e. flora, fauna, water, air, soil, noise);
- c. Establish approval and assessment procedures (i.e. impact assessment, health issues, etc);

(ii) Property rights, in the form of:

- a. Public or State property rights for public protected areas (*bienes fiscales*, which are subject to the general regime of private property²⁵³)
- b. Private property rights for private protected areas (private lands, under Art 8 of the CBD)

(iii) Liability rules, in the form of:

- a. General civil liability (Civil Code);
- b. Special environmental liability (Law 19.300)

From this general analysis it may be concluded that, in the case of public protected areas, the most relevant and defining legal instruments that give shape to the system are *administrative norms* and the *property norms*. It should be noted that the corresponding administrative norms (i.e. the declaration of protected area) are only applicable when the State holds or acquires property rights over the corresponding lands²⁵⁴.

²⁵² Praus, Palma, and Dominguez (2011), pp.39.

²⁵³ Article 26 of DL N°1939.

²⁵⁴ It should be noted that 'natural sanctuaries' may be established on private lands through the initiative of the private owner.

3.7.2. The National Strategy of Biodiversity and the Action Plan for 2004-2015

In compliance with the rules of the CBD, Chile issued both a *National Strategy of Biodiversity* in 2003, and a *National Action Plan* in 2005.

The National Strategy of Biodiversity (NSB) was issued on the basis of various *regional biodiversity strategies* (RBS), with the objective of strengthening and improving the coordination of the public agencies for the creation of a protected areas system, including public and private areas, terrestrial and aquatic, through a new legal and institutional framework, developing new territorial management instruments for different areas' categories²⁵⁵.

The NSB establishes several '*lines of action*', being the first and most important the establishment of a *national network of protected areas*. The NSB has declared that this network should allow a more effective protection of biodiversity if managed in coordination with all relevant *actors* on the basis of available scientific and technical information and on the basis of the RBS.

It is said that this line of action is closely related to: the promotion of public-private partnerships, expansion of biodiversity research, the generation of financial mechanisms, participatory procedures, non-formal education, and others²⁵⁶.

The *Action Plan for 2004-2015* intends to execute and implement the NBS starting with *strategic axis No1* relating to the creation of the national network of protected areas. This also entails the definition of conservation gaps for the development of new protected areas in accordance with the RBS.

3.7.3. The National Policy on Protected Areas

In 2005 the National Environmental Commission approved the '*National Policy on Protected Areas*' with the participation and support of 15 public agencies involved directly or indirectly with the system of protected areas.

Among the various aspects included in this national policy the following deserves special notice: '*... regarding the increasing complexity of the management of the various protected areas, the following factors should be considered: increased pressure from human activities, potential involvement of various stakeholders, need of diverse governance schemes...*'²⁵⁷.

3.7.4. The OECD Environmental Performance Report of 2005

²⁵⁵ National Environmental Commission (2003).

²⁵⁶ Praus, Palma and Dominguez (2011), pp.82.

²⁵⁷ Comisión Nacional del Medio Ambiente (2005).

The OECD report of 2005 is the most important external assessment carried out over the environmental performance of Chile in recent years, and it placed special emphasis on the chapter on conservation of biodiversity. According to this report: the conservation of ecosystems in Chile has not been given enough emphasis as the various regulatory regimes and administrative structures of the different protected areas appear to give only *secondary importance* to the corresponding conservation goals. Furthermore, the report explains that the available *knowledge* in Chile about the state and functioning of the different ecosystems appears to be insufficient and, also, that the different relevant policies do not recognize the *value* of vital assets to different sectors of the economy. Additionally, it emphasizes that the absence of a *national territorial planning* implies a high vulnerability for all those lands that are still outside the coverage of some form of regulatory protection²⁵⁸.

3.7.5. Assessment. Environment Status Report of 2015

Even though more than 18% of the territory is protected under the public system of protected areas, the system itself suffers from serious problems of ecological importance, representativeness, connectedness, management and financing²⁵⁹.

In Chile, despite an increase in the establishment of protected areas, a significant number of ecosystems are below the 10% target, and some are not represented at all. Similarly, protected area surface is unevenly distributed, with 84% located in the southern regions of Aysén and Magallanes and only 1% in Coquimbo, Maule and the Metropolitan Region. The coastline protection is below 1.8%. Most flora formations do not reach the 17% of representation as established by Aichi Target 11 of the CBD²⁶⁰.

The temperate forests of Chile are classified as a biological “hotspot” as a result of their high species diversity and high endemism. However, they are being rapidly destroyed, with significant negative impacts on biodiversity. Between 1975 and 2000, there was a reduction in natural forest of the coastal range of south-central area of Chile of 67% in the study area, which is equivalent to an annual forest loss rate of 4.5% per year using a compound-interest-rate formula. Forest fragmentation was associated with a decrease in forest patch size, which was associated with a rapid increase in the density of small patches (<100 ha), and a decrease in area of interior forest and in connectivity among patches. Since the 1970s, native forest loss was largely caused by an expansion of commercial plantations, which was associated with substantial changes in the spatial configuration of the native forests. By 2000, most native forest fragments were surrounded by highly connected exotic-species plantations.²⁶¹

“Forest fragmentation threatens biodiversity in one of the last remaining temperate rainforests that occur in South America. ... Drivers identified ... suggest that deforestation is associated with observed local

²⁵⁸ Evaluación de Desempeño Ambiental para Chile (2005).

²⁵⁹ Pauchard (2002). Lara et al. (1996), pp. 335–62.

²⁶⁰ Ministry of the Environment of Chile (2015).

²⁶¹ Echeverría et al. (2006), pp. 481–94.

*socio-economic activities such as clearance of forest for pasture and crops and forest logging for fuelwood.”*²⁶²

It is also generally understood that the Chilean mediterranean climate and grassland ecosystems likely will experience the greatest proportional change in biodiversity because of the substantial influence of all drivers of biodiversity change.²⁶³

3.7.6. Problems and Limitations of the Regulatory Framework

As already mentioned, the Chilean system of protected areas lacks a general regulatory framework. Different categories of protected areas have separate and mostly vague and scattered regulations to support them. The fact is that different protected areas are subject to overlapping protection categories as well as to unclear management criteria, and many of them even face legal issues related to property titles²⁶⁴ and pressure from third party rights (i.e. water rights, mining rights, indigenous rights)²⁶⁵.

Furthermore, the various scattered regulations establish separate administrative powers for different regulatory agencies creating contradiction and overlapping administrative powers.

As mentioned, the main protected areas, from the perspective of surface coverage, are *national parks* and *forest reserves*.

For *national parks*, the only applicable normative definition is the one contained in the Washington Convention which in article 1 establishes that they are: '*Areas established for the protection and preservation of superlative scenery, flora and fauna of national significance which the general public may enjoy and from which it may benefit when placed under public control*'.

For *forest reserves*, there is no definition but only general normative references in the Forest Law of 1931 that establishes that '*for the purpose of regularizing the commerce of timber, and in order to guarantee the subsistence of certain species of trees and to preserve the scenic beauty...*'

Other than these general references, the only other relevant norms are those contained in Article 21 of DL No1939 on the Acquisition, Administration and Transfer of State Assets, which establishes that the President of the Republic through the Ministry of National Assets shall be entitled to declare or appoint certain public assets (*bienes fiscales*) as *national parks* or *forest reserves*²⁶⁶.

According to the Chilean legal system, national assets include two categories: (i) public use assets; (ii) public assets or *bienes fiscales*²⁶⁷.

²⁶² Echeverria et al. (2008), pp. 439–49.

²⁶³ Sala et al. (2000).

²⁶⁴ Titles are also constantly subject to claims from third parties, especially through a regime of DLNo2695 of 1979 for the 'regularization of small real estate'.

²⁶⁵ Praus, Palma, and Dominguez (2011).

²⁶⁶ In accordance with Article 21 of DL N°1939.

²⁶⁷ Article 589 of the Chilean Civil Code.

Public use assets are those whose use belongs to the public in general, such as streets, highways, bridges, squares, etc. In turn, *bienes fiscales* are those whose use does not belong to the general public and that are subject to the general civil law rules applicable to property²⁶⁸.

As mentioned before, the acquisition, management and transfer of *bienes fiscales* are subject to the executive power of the President of the Republic through the Ministry of National Assets, and therefore, whatever the status appointed for a *bien fiscal* (i.e. *national park, or natural reserve*), it can be reversed or de-categorized by an administrative act (i.e. supreme decree) of the same executive power. This has occurred in numerous occasions where different protected areas have been modified or cancelled by *supreme decree* of the Ministry of National Assets²⁶⁹.

Most importantly for our purposes is that, in practice, those public protected areas operate as *bienes fiscales* –and therefore as totally different and separate from *public use assets*- in the sense that the public can only enter or visit those areas in accordance with applicable regulations, after paying an entrance fee. This means that these public protected areas are not broadly connected with the different sectors of society (i.e. with the different stakeholders), but only have interaction with visitors as such.

Therefore, if we assess this framework from the perspective of the different Aichi targets, and the principles and measures of the CBD we will clearly see its weaknesses and limitations²⁷⁰. This is because *public protected areas* do not seem to be socially integrated into processes of communication, information development, knowledge sharing, and therefore, they do not seem to directly contribute to the development of societal practices for the conservation of biodiversity or for the development of sustainable economic and business practices²⁷¹.

A similar observation can be made with respect to *private protected areas* for which *property rights* play a sole and central role as there are no especial legal instruments, regulations or incentives applicable to private conservation in Chile²⁷².

As will be discussed in Chapter 9, *property rights* do not only appear to be central in the obvious sense of determining 'access and control'²⁷³ over the 'object of property', but also in the sense that they also define the "legitimate

²⁶⁸ Article 26 of DL N°1939. According to a generally quoted doctrine they 'constitute the private patrimony of the State, and belong to the State operating as a private law legal entity', see Alessandri (1937), pp.41. This understanding is also shared by Vergara (1999), pp.75.

²⁶⁹ Praus, Palma and Dominguez (2011), pp.122. In many occasions the cancellation or modification of the protected area status (total or partial) has occurred as a result of urban expansion and pressure, or as a result of factual degradation or conflicts with third parties. Naturally, the Ministry of National Assets must balance the achievement of various public policy goals and not always will consider the conservation of biodiversity as a priority objective.

²⁷⁰ See Section 2.4 of Chapter 2, and Section 4.4. of Chapter 4.

²⁷¹ See specially Aichi Targets numbers 1, 4, 6, 7, 8 10, 18, 19, 20.

²⁷² Corcuera, Sepulveda, and Geisse (2002). Economic and fiscal incentives to conservation have appeared to be insufficient to achieve the goals of the CBD; for U.S.A. Farrier (1995), pp. 346.

²⁷³ Waldron (1985), pp. 318.

*contours of social relationships*²⁷⁴ around it. Therefore, as will be argued, the *form* of traditional property rights²⁷⁵ also determines the patterns and possibilities of social cooperation for the conservation of the corresponding ecosystems.

Now, as anticipated and in order to better understand the limitations of the described regulatory framework, I will further assess it in light of a general understanding of the *limits of regulatory law* and of the so-called *regulatory trilemma*.

²⁷⁴ Singer (2008), pp. 8.

²⁷⁵ See Chapter 9.

CHAPTER 4

THE LIMITS OF REGULATORY LAW

AND

THE REGULATORY TRILEMMA

OF

ECOSYSTEMS CONSERVATION

4.1. Introduction

As described in the previous chapters, despite decades of worldwide experimentation with various strategies of biodiversity conservation, the unprecedented threat posed to its sustainability has continued to grow.

However, as discussed, the current international and local regulatory frameworks only appear to utilize traditional legal instruments without a comprehensive review or assessment of the overall regulatory model that is being applied to implement the CBD.

A proper critical assessment of the regulatory model that is currently implemented would need to take into account all the relevant social and ecological complexities.

In Chapter 1, I have already briefly touched on the debate that has taken place in the last three decades about the limits and failures of the *regulatory law approach*. As explained, it is widely accepted that this traditional regulatory approach is experiencing a regulatory failure²⁷⁶, a *regulatory trilemma*²⁷⁷ in different areas of law.

In this chapter, I will attempt to grasp and explain in more detail those limits and the resulting regulatory trilemma of ecosystems conservation. For this purpose, I will place especial emphasis on the legal mechanisms used at the local level (i.e. in Chile) to implement the system of protected areas for in-situ conservation.

However, before doing so, I will provide a general sociological context that will allow us to better understand the limits of *regulatory law*.

4.2. A Sociological Context: Social Differentiation and Forms of Law

There is a continued sociological tradition that links the evolution of societal structures to different types of law and to different legal rationalities (Durkheim, Weber, Luhmann, Habermas)²⁷⁸.

According to Luhmann, the main forms of social differentiation are: *segmentary* differentiation (differentiation in parts with similar social relevance, as in tribal societies), *stratificatory* differentiation (class or hierarchical differentiation, as in feudal societies), and *functional* differentiation (social spheres that have separate functions, as in modern society)²⁷⁹.

It is generally considered that for these forms of social differentiation we can distinguish different forms or types of state as well as different types

²⁷⁶ Wiethölter (1986a), pp. 231; Willke (1986), pp. 280; Teubner (1986b), pp. 305; Habermas (1986a), pp. 218; Luhmann (1986b), pp. 123.

²⁷⁷ Teubner (1986a), pp.4.

²⁷⁸ Willke (1986), pp.285.

²⁷⁹ Luhmann (1984b), pp.191.

of law and legal rationalities²⁸⁰. Accordingly, the successive stages of societal evolution, up to the liberal state, could be understood as follows²⁸¹:

Form of Social Differentiation	Type of State	Type of Law	Type of Rationality
Segmentary	- - -	Archaic Law/ Religious Law	Magical
Stratificatory	Repressive State	Pre-Modern law/ Natural Law/ Customary law	Material
Functional	Liberal State	Modern Law/ Positive Law	Formal

As to the immediately subsequent stage -after the liberal state-, the most general reference is to the *welfare state*, but through recent decades there is also a reference to the 'post-liberal state', which in turn can be said to have 2 stages: the welfare state and the post-regulatory state or post-modern state²⁸². It is with respect to this latter stage that different understandings and proposals have been developed, such as *procedural law*, *responsive law* and *reflexive law*²⁸³.

Therefore, the subsequent stages could be tentatively described as follows:

Form of Social Differentiation	Type of State	Type of Law	Type of Rationality
Functional	Welfare State	Regulatory Law/ Interventionist Law	Material
Functional	Post-Modern State	Post-Regulatory Law/ Post-Modern	Reflexive, Relational

²⁸⁰ Willke (1986), pp.285.

²⁸¹ Ibid. See also Luhmann (2004), pp.170, 220, 240, 250.

²⁸² Teubner (1986b), pp.299.

²⁸³ See Chapter 8.

		Law/ Reflexive Law	
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Regarding these categorizations it is necessary to notice that the evolutionary principle at play is additive and not substitutive, which means that in post-modern societies we may find all forms of differentiation and all types of law and legal rationality. The evolutionary changes only describe the primacy of certain forms.

It is also important to notice that from a sociological perspective the different evolutionary stages are considered to unfold in direct relation to an increase in social complexity.

The transition from pre-modern law to **modern law** is said to derive fundamentally from the social complexity that results from the process of *functional differentiation*. In very broad sociological terms it is understood²⁸⁴ that functional differentiation²⁸⁵ is the result of the process of rationalization of different spheres of society, as analysed by Max Weber. In general terms this means that certain spheres of society such as those of the economy, politics, law, religion, morality, science, media, education and others, are increasingly becoming more specialized and autonomous²⁸⁶.

Under this understanding, as Willke states: '*The reasons for substituting positive law for traditional, religious or natural law lie of course in the necessity to increase the contingency and complexity of legal rules in the evolutionary context of the growing contingency and complexity of the emerging, primarily functionally differentiated society*'²⁸⁷.

In other words, under this sociological understanding, traditional customary patterns and references to natural law became insufficient to handle the social complexity of the early modern societies. In light of this complexity, what historically had appeared as reasonable and acceptable became unreasonable and arbitrary, and the legal system had to find a new form of stabilization.

Therefore, the prevailing *substantive rationality* –of natural law- of the pre-modern society, had to be replaced by *formal rationality* which through **conditional programmes**²⁸⁸ would facilitate at the same time an increase in regulatory complexity as well as the stabilization of normative expectations. In other words, in the face of growing social complexity, the substantive criteria of natural law appeared to be incapable of providing generalized and predictable solutions, and formal rationality, instead, was considered appropriate to achieve this purpose.

This transition from a traditional or pre-modern society to modern

²⁸⁴ Willke (1986).

²⁸⁵ See Chapter 5.

²⁸⁶ As will be discussed in the next Chapter, Niklas Luhmann provides a more sophisticated account of this process through the theory of self-referential autopoietic systems.

²⁸⁷ Willke (1986), pp.285

²⁸⁸ See Section 6.7. of Chapter 6.

society can also be seen from the temporal perspective²⁸⁹, as a gradual change from a past oriented perspective to a *future oriented perspective*. The prevailing normative criteria of traditional pre-modern law had to be found in past practices and past opinions, and the prevailing normative criteria of modern society had to be found in new legislation that would tackle new problems derived from new complex social phenomena.

It should also be noted that this transition from pre-modern law to modern law also involved an internal differentiation within the legal system of the functions of legislation (*law creation*) and jurisdiction (*law application*). In other words, one of the distinctive features of modern law is the differentiation of the judicial sub-system within the legal system, which involves the separation of legislation and jurisdiction²⁹⁰. This took place through the establishment of the principle of legality and has been considered to be essential for the legal system to fulfil its function of stabilization of normative expectations (i.e. avoiding arbitrariness)^{291 292}.

The following stage of legal evolution refers to the unfolding of the first form of post-liberal state, the *welfare state* and its *regulatory or interventionist law*. This was the result of a further increase in complexity that derived from a further expansion and acceleration of social differentiation. In this context, regulatory law intended to tackle, among others, complex issues related to labour, social security, financial markets, consumer protection, health and safety, environmental protection and various other social issues.

This is, therefore, what triggered the use of *substantive or material rationality*, in the form of *purposive programmes*, a process that has also been characterized as a *materialization of law*²⁹³.

However, the use of purposive programmes created further complexities for state action and legal authority since through them the consideration of consequences was built into the operation of law and this caused a proliferation of vague legal terms²⁹⁴.

This creation of legal uncertainty also influenced a change in the relationship between the legislative and judicial functions. The clear distinction between *law creation* and *law application*, achieved by modern law, was blurred by the arising of broad discretionary judicial practices.

But as I will explain in the following sections, the problems and limits of regulatory law go far beyond the creation of *legal uncertainty*. The larger problem is that all the various attempts to guide or steer society through traditional means of formal and material rationality have confronted the limits of regulatory law, that have been expressed in what Teubner has called the '*regulatory trilemma*'.

²⁸⁹ See Section 5.9. of Chapter 5.

²⁹⁰ Luhmann (2004), pp.277.

²⁹¹ Ibid. Luhmann's view of the relationship between legislation and jurisdiction is more complex though. See Section 6.8. of Chapter 6.

²⁹² In the same sense see also Ferrajoli (2007), pp. 323–52.

²⁹³ Weber (1978), pp. 319, 811, 885; Wiethölter (1986a), pp. 221–49.

²⁹⁴ Luhmann (2004), pp.198-201.

I will now explain the *limits of regulatory law* in general to thereafter discuss the *regulatory trilemma* of ecosystems conservation in particular.

4.3. The Limits of Regulatory Law

We may say, in general terms, that the traditional *regulatory law approach* does not appear to take complexity seriously enough.

From a sociological perspective this means that the *regulatory law approach* fails to take into account the relationship between law and the various spheres of society as a relationship of autonomous and self-referential systems.

It is from this general understanding that we can derive specific insights about the *limitations of the regulatory approach*. In this sense, I believe that the following are the main limitations of the regulatory law approach in the area of environmental and conservation law ²⁹⁵:

(i) It assumes that there is *sufficient knowledge* -about the permanently increasing social and ecological complexity^{296 297} - to decide and implement direct regulatory measures. This assumption can be found even in the proposals of those considering new regulatory strategies²⁹⁸, economic incentive mechanisms²⁹⁹ or environmental agreements³⁰⁰. In other words, they do not take ecosystems and social uncertainty³⁰¹ seriously enough since they generally assume the availability and/or the possibility to generate the knowledge to make and implement decisions;

(ii) It assumes that the law is in a position *to access that knowledge*; and that it has the capacity *to process such knowledge* without distorting it³⁰²;

(iii) It assumes that the law, through traditional administrative rules - command and control- (material rationality), through market mechanisms (formal rationality), or through contractual or consensus related mechanisms (procedural rationality), can *regulate areas of society through 'linear*

²⁹⁵ It should be noted that our reference here to the regulatory approach includes a reference to: traditional command and control instruments, market mechanisms designed by the administrative authority, and contractual and consensus mechanisms designed by the authority to achieve specific regulatory goals. These three forms of regulation are sometimes called: the first generation, the second generation and the third generation approaches to environmental regulation. In this sense, a reflexive law approach should be understood as a fourth generation approach: Teubner, Farmer, and Murphy (1994); Orts (1995), pp. 1227; Gaines (2003), pp. 1. It should be noticed that Erik Orts follows Teubner in the sense of contrasting reflexive law to formal and material rationality. As I will explain in Chapter 7 I take distance from this specific approach and understand that formal and material elements should also be assessed and considered in an overall understanding of the reflexivity of law or, in other words, that formal and material elements of law also have differing degrees of reflexive capacity.

²⁹⁶ Teubner, Farmer, and Murphy (1994), pp.4.

²⁹⁷ Hagenah, (1999), pp. 13–18.

²⁹⁸ Esty (2001), pp.193 (explaining how information is critical for any kind of environmental regulation); Latin (1991) (explaining how failures derive from partial information).

²⁹⁹ Ackerman and Stewart (1985); Anderson and Leal (1992), pp. 297; Dieter and Pierce (1991).

³⁰⁰ Orts and Deketelaere (2001); Ridgley (1996), pp. 639.

³⁰¹ Ladeur (1994), pp.302; Flournoy (1991), pp. 327.

³⁰² Ladeur (1994), pp. 303.

causality, which means that law's communications can 'steer society' and that the 'legal messages' can be properly internalized by other discourses of society and by the regulated entities³⁰³. In other words, it assumes that the regulatory instruments in place can be properly received, observed and understood by the regulated entities and by other sectors of society; and

(iv) It assumes that the time horizon of public policies and legal instruments will be *coordinated and synchronised with the time horizon of other spheres of society*.

In the specific case of ecosystems conservation, as already evidenced in Chapters 2 and 3, similar limitations can be found. The regulatory model in place at the local level in different countries (e.g. Chile) shows that the legal system is still following a traditional regulatory approach.

The specific instruments used to establish and manage the *system of protected areas* at the local level appear to be fundamentally traditional regulatory instruments with especial emphasis on the use of *traditional property rights*.

In order to assess in detail how these limitations unfold in this area I will now proceed to review the *regulatory trilemma* of ecosystems conservation.

4.4. The Regulatory Trilemma of Ecosystems Conservation

The limits of the regulatory approach lead to different forms of regulatory failure that have been captured through the idea of the *regulatory trilemma*, a term coined by Gunther Teubner to explain those different forms of failure.

According to Teubner, the regulatory trilemma exists in three forms: first as a problem of mutual indifference between law and other social spheres; second, as a problem of social disintegration through law; and third, as a problem of legal disintegration through society³⁰⁴.

I will review these three variants of the trilemma separately, in light of the previously assessed local framework of ecosystems conservation.

For each form of the trilemma I will make, when appropriate, further distinctions in order to further clarify the specific sub-forms through which the trilemma appears to unfold in the area of ecosystems conservation.

4.4.1. The Problem of Indifference

The 'problem of mutual indifference' expresses a situation where observation, communication and information do not flow in a linear form between the legal system and society³⁰⁵.

³⁰³ Teubner (1986b), pp. 312.

³⁰⁴ Teubner (1987), pp. 22.

³⁰⁵ Teubner (1987), pp. 1-48, pp.21, 22.

The problem of indifference occurs in two forms: the first form, which we will call *legal indifference*, is expressed as an incapacity of the legal structures to internalize the observations of other spheres or sub-systems of society (e.g. from science about ecosystem services or bio-chemicals) or, in other words, as an incapacity of the legal structures to internalize social and ecological complexity. A second form, which I will call *social indifference*, is expressed in the incapacity of the social spheres (e.g. science) to internalize the legal concepts applied by law (e.g. public restrictions on risk taking activities, liability rules, etc).

(a) Legal Indifference

In the area of conservation law *legal indifference* manifests itself in different manners, such as through the inadequacy of legal forms, the formalization of legal concepts, the fragmentation of regulatory instruments, and the fragmentation of administrative functions.

(i) Legal Form Inadequacy

Legal form inadequacy exists when the legal structures or legal concepts used in a certain area of law are not suitable or adequate to internalize the social or ecological complexity of the regulated sector.

In general, *legal form inadequacy* implies an oversimplification or a distortion of the social or ecological dynamics of the regulated sector.

In the case of ecosystems conservation, we could assess the adequacy of the legal structures, for instance, by considering whether they are able to reflect the complex views of the *new ecology* or, in other words, whether the legal structures are able to adjust to the transition from a *static-equilibrium view* to a *dynamic-non-equilibrium view*³⁰⁶ of ecosystems.

Particularly, with regard to the protected area system, we could assess the adequacy of the legal structures in place by considering how and to what extent they are capable of adjusting to the transition from a *pristine approach* that privileges 'strict protection' towards an *integrated approach* that intends to take into account the different forms of interaction between protected areas and the surrounding activities and stakeholders.

This would also allow us to assess whether the legal structures in place at the local level (i.e. in Chile), duly implement the *ecosystems approach*, adopted by the CBD, the IUCN and the Millennium Assessment, among others. First of all, it would be necessary to assess how *ecosystems* as such are being observed by the legal system, and this would lead us to assess how science and its models are being considered by the legal system³⁰⁷. Therefore, here we are now referring to the observations of science and, then, we are also referring to how these observations are being observed by the legal system. Consequently, in this regard we would first have to acknowledge the limitations of science as an observing system, which are expressed in its

³⁰⁶ See Section 3.5.1. of Chapter 3.

³⁰⁷ Even though, as I have already argued in Section 2.4.1. of Chapter 2, this already entails recognizing a privileged position to science.

limitations to develop models to explain social and ecological complexity³⁰⁸, and then again, we would have to acknowledge the limitations of law to observe the observations of science.

All this makes rather improbable that the legal system will be able to capture the complexity of ecosystems as well as the complexity of their interconnections with different spheres of society.

But narrowing down our assessment to how a concrete *protected areas system* is capable of observing the corresponding ecosystems' complexity, the normal reference is to the consideration of proper '*geographic information systems*' or GIS, that include models of the several layers and diverse components and relationships of those components in an ecosystem. The immediate question will then be whether the legal system can conceptualize and express such complexity in traditional legal terms. In this sense, it should be recognized that the observing capacity of the legal system appears to be rather limited.

As a result, the internalization of those complex models becomes problematic, and the forms finally used by the legal system appear to be inadequate to regulate the corresponding social and ecological phenomena.

It is in this context that I claim that the current legal framework in place (e.g. Chile) is not capable of grasping such complexity.

This appears already from my assessment of the implementation issues of the CBD analysed in Section 4 of Chapter 2, and from my assessment of the limitations and challenges faced by the Chilean Experience described in Section 3.6. and 3.7.5 of Chapter 3.

If we assess the corresponding regulatory framework from the perspective of the principles and measures of the CBD, and particularly from the perspective of the Aichi targets, we will clearly see its weaknesses and limitations³⁰⁹.

Generally, I argue that, the legal form of *traditional property rights* does not appear to be an adequate regulatory mechanism³¹⁰ to tackle the social and ecological complexity of this regulated area and that, in that sense, it does not appear to be a proper mechanism to implement the *objectives, measures and principles* of the CBD.

In other words, I argue that *traditional property rights* are a regulatory

³⁰⁸ Luhmann (2007), pp.801; Weinberg (1972), pp. 209–22; Paterson (2003), pp. 525–45.

³⁰⁹ See specially Chapters 2 and 3, with particular emphasis on the Aichi Targets numbers 1, 4, 6, 7, 8 10, 18, 19, 20.

³¹⁰ Here I fundamentally refer to 'ownership', as this has been the main regulatory mechanism used in the case studied in Chapter 3 (i.e. the Chilean framework) which also appears to be an essential part of the regulatory framework of ecosystems conservation in different countries. However, as will be explained in Chapter 9, traditional property rights are a system that also includes other rights such as *easements* or *servitudes*. To the extent that these easements or servitudes are used for conservation (e.g. in countries such as the U.S.A.), and to the extent that they appear to predominantly transform the conservation interests (and the observations of other spheres of society) into limitations, restrictions or obligations, I will argue that they are not reflexive enough to tackle the regulatory trilemma of ecosystems conservation.

form that is *indifferent* to broader social complexity, as these property rights do not facilitate proper interaction, communication and cooperation among all social spheres of society with regard to the conservation of ecosystems. Rather, traditional property rights, paradoxically, operate separating land from the surrounding ecosystem and social communities, blocking or at least reducing the possibilities of cooperation and communication³¹¹.

In the case of the system of public protected areas of Chile, this basically operates through the designation of *public assets* as protected areas, and through the application of administrative law rules for their management. As explained, under Chilean law, public assets or *bienes fiscales* are those assets whose use does not belong to the general public and that are subject to the general rules of private property³¹². Most importantly for our purposes is that those public protected areas do not seem to be socially integrated into processes of social communication, knowledge development, knowledge sharing, and therefore, they do not seem to directly contribute to the development of societal practices oriented towards the conservation of biodiversity or towards the development of sustainable economic and business practices. This means that these public protected areas are not broadly connected with the different spheres of society (e.g. with the different stakeholders), but only have interaction with visitors as such (e.g. through the payment of entrance fees).

In the case of private protected areas, the situation is further intensified because traditional property rights appear to be the sole mechanism used and administrative rules and public policy play no role in this respect.

In the case of public protected areas, these regulatory weaknesses could eventually be ameliorated through public policy. The eventual establishment of new administrative rules that would facilitate both new management practices and new cooperative practices would eventually reduce the impact of the limitations of the traditional property rights approach. In fact, this is what the *National Strategy of Biodiversity* intends to accomplish, through the implementation of appropriate measures to achieve the various Aichi Targets. But I believe this will only be possible if these new implementation efforts take seriously the implementation failures described in Chapter 2 and 3, and also the *limitations of the regulatory approach* described in this present Chapter.

A similar approach could be implemented in the case of private protected areas but in this case the implementation of management and cooperative practices would be of *voluntary nature* and, therefore, the proper incentives should be in place. Then again, this approach would also need to take into account the failures described in Chapter 2 and 3, and also the

³¹¹ Joseph Sax has expressed: '*the set-aside of wilderness areas can be seen as a sort of "museumization" of nature, a confession that modern society is engaged in a systematic destruction of the natural world. Of course, that is the very antithesis of the idea that we should use our land and water sustainably, to minimize the loss of biodiversity and to maintain and, where feasible, restore functioning natural services*'. In Sax (2011), pp.9. It should be noted that Joseph Sax is speaking from the perspective of the legal practices of the U.S.A. where ownership and easements are used for purposes of conservation. Therefore, his critique reaches and covers easements as well.

³¹² See Section 3.7.6. of Chapter 3.

limitations of the regulatory approach described in this present chapter.

The basic proposal of this thesis is that the implementation of a reflexive law strategy through the creation of a new property right –the conservation property right-, will both contribute to a better implementation of the National Strategy of Conservation in public protected areas³¹³, and will substantially modify and facilitate the social practices for the implementation of private protected areas.

(ii) Legal Formalization. Conventional Normality Standards

The legal system '*formalizes*' external '*material*' concepts in order to facilitate its operations on the basis of its code and programmes.

In order to reduce complexity, the legal system itself, or the managerial procedures created by administrative agencies to supervise or enforce regulations, normally establish simplified lists of requirements, check-lists or silver-bullet criteria to distinguish cases and complex scenarios.

In many occasions, legal formal rationality makes use of conceptual frameworks of other discourses or sub-systems, such as scientific modelling, to facilitate this formal internalization or complexity reduction into the legal system.

It is important to note that legal formal rationality can also operate within '*indeterminate concepts*' such as '*significant impact*', in the sense that these concepts become reduced to certain formulas that stabilize their meaning. This can resemble the manner in which broad legal concepts such as '*negligence*' or '*reasonable care*' are applied by using '*standards of conventional normality*'. The adoption of '*standards of conventional normality*' serve to accept risks by balancing public benefit (economic development and innovation) against possible damage. This takes place through the definition of thresholds, standards, limits or '*stop rules*'^{314 315 316}.

This process of formalization also applies to the system of protected areas, for instance, in the selection or definition of: (i) boundaries and buffer zones of protected areas; (ii) management plans; and (iii) ecosystems components of a given protected area.

In the Chilean case, the definition of protected areas boundaries has not followed an *ecosystemic approach* but generally only a pragmatic approach as to the availability of *public assets* for protected area creation. In other words, the boundaries of protected areas has been formally defined by the boundaries of the corresponding normative criteria of property rights over public assets.

Furthermore, there are no integration mechanisms between protected

³¹³ Moreover, it should be already noted that, as will be explained in Chapter 9, the conservation property right could also be used by the State itself to achieve conservation goals in private lands.

³¹⁴ Lateur (1994), pp.304.

³¹⁵ Rasmussen (1991), pp.247.

³¹⁶ Ibid.

areas and buffer zones as the forms used by the legal system do not make possible such integrated approach.

(iii) Legal Fragmentation

International (i.e. CBD) and national (i.e. Chile) legal instruments define environment and ecosystems in broad terms but the instruments used to implement the regulatory system do not appear to apply a systemic or interconnected approach to the 'ecological field'³¹⁷.

The national laws of Chile provide a fragmented approach to different elements of the environment. There are separate and un-coordinated bodies of law for diverse matters: water standards, water waste management, air standards, solid waste, hazardous waste, soil standards, noise pollution, light pollution, agricultural regulations, agrochemical standards, agricultural disease control, animal disease control, urban sanitary matters, industrial sanitary matters, food sanitary matters, services sanitary matters, forestry, re-forestation, fishing, aquaculture, maritime concessions, coastal areas regulations, public infrastructure regulations, state owned real estate rules, indigenous law, and others.

Each regulatory field operates with its own principles, and no connecting principles for ecosystem conservation are considered in each regulatory field. Furthermore, none of these regulatory fields takes into account the complex web of relationships of 'ecosystem services' that ecosystems render locally, regionally and globally.

This is the kind of fragmentary analysis that also takes place within the *environmental impact assessment* system. The *ecosystem approach* is left outside, as a peripheral concept that only belongs to a special group of norms related to *biodiversity* and to the *protected area system*, but is not applied throughout the environmental legal system and the related areas of law.

The *ecosystems approach* is only eventually considered as a general criteria for the creation or internal management of protected areas, but not as a concept to be considered by the legal system to understand the interconnected application of its own legal structures. Therefore, different public agencies and different areas of law will observe the corresponding ecosystems from a separate and fragmented perspective³¹⁸.

The creation of protected areas has traditionally considered certain relevant features of an ecosystem as the main reason to set up the corresponding area. However, in general, no *ecosystem approach* has been historically used in Chile to define the form, extension, location and management regime of protected areas. It is only through the recent instruments and policies (i.e. the National Biodiversity Strategy) that there appears to be an effort to apply or implement the ecosystems approach.

³¹⁷ Praus, Palma, and Dominguez (2011), pp. 39; Pauchard and Villarroel (2002), pp.323; Lara et al. (1996), pp. 335–62. On the sociological expression of the complexities entailed see Luhmann (1989), pp.133.

³¹⁸ See also in this sense, Praus, Palma, and Dominguez (2011), pp.39.

The management of protected areas also follows a fragmented approach. Even if protected areas would have been originally selected by applying the ecosystem approach, the regulatory structure and the management of protected areas until today disregards the dynamic ecosystem's interplay with buffer zones and with the surrounding social activities³¹⁹.

(iv) Administrative Fragmentation

In Chile the administrative agencies that have jurisdiction over various categories of protected areas, are diverse and with multiple functions. This is the result of the above-referred legal fragmentation of different components of the environment.

In several cases the same protected area category is subject to the authority or jurisdiction of several public agencies³²⁰ generating thereby regulatory contradictions and normative unpredictability.

(b) Social Indifference

The second form of indifference is what we have called *social indifference*.

Social indifference expresses itself by the fact that the regulated social sectors are not in a position to internalize the legal communications received from the conservation legal system.

Sociological theories on law from Max Weber³²¹ to Niklas Luhmann tell us that the corporate real world perceives legal rules as extremely 'vague messages'³²² or 'noise'³²³.

Social indifference involves a limited social reflexivity of different spheres or subsystems of society with respect to the normative communications of the legal system.

As will be discussed later, this *observing indifference* can be explained through the concept of self-reference of observing systems in the context of system theory.

Under this understanding, legal commands (i.e. restrictions related to protected areas, or to forestry and agricultural practices) that would require significant change of social practices or additional training would be disregarded or simply left in paper.

The same applies to business projects (e.g. mining and energy projects) that involve impacts over "protected areas". In this case, the corporate world will normally assess the legal rules and standards of the environmental impact

³¹⁹ An expression of this can be seen in the case of temperate forests of Chile, see Echeverria et al. (2006), pp. 481–94.

³²⁰ Praus, Palma, and Dominguez (2011), pp.119.

³²¹ Weber (1978), pp.319.

³²² Teubner, Farmer, and Murphy (1994), pp.33.

³²³ Von Foerster (1981), pp.15, 17.

assessment as 'comparative costs' that can be "set off" through 'compensation measures' (i.e. payments of mining easements, payments of penalties³²⁴). In general, business projects would not internalize the considerations of the *environment* or the *ecosystems approach* within its 'original project structure'. The *environment* would remain as an external constraint. The project, thereby, is not integrated into the environment. Moreover, the environment is not seen as an 'ecosystem', but as a group or cluster of components, each of which require some kind of treatment, mitigation or restoration in light of specific rules and specific elements of the project (e.g. within the environmental impact assessment system).

This *observing indifference* can also be seen in the application of *liability rules*. It appears that liability rules instead of promoting an increased awareness of the 'duty of care' create a counter-effect in the corporate world that in order to prevent the proof of negligence blocks research and/or the sharing of information and knowledge regarding environmental risks³²⁵.

It is noteworthy that *observing indifference* in various social spheres may also depend on the adequacy or inadequacy of the forms of law used by the legal system. In this sense, *legal indifference* (i.e. legal form inadequacy) and *social indifference* could be two extremes of an inter-related problem of reciprocal observation (ref. mutual observation)³²⁶.

4.4.2. Disintegration of Society by Law

This form of the regulatory trilemma can also be described as an excessive 'juridification' of the social spheres³²⁷.

This has been analysed by Jürgen Habermas under the heading of '*colonization of the life-world*' in connection with the juridification process in the welfare states³²⁸.

In the parlance of systems theory, the underlying cause for post-modern risks is found within the 'rationality maximization' engaged in by globally active functional systems, which cloaks an enormous potential for endangering people, nature and society³²⁹.

A case of this kind, in the area of biodiversity conservation, can be found in the use of traditional property rights to create protected areas that in many cases appear to cause both the relocation –or displacement- of people from their original habitat and the dislocation of the corresponding social web of relations. This is specially the case when ecosystems have been originally inhabited by communities or indirectly used for their traditional activities³³⁰. This applies equally to public and private protected areas.

³²⁴ It should be noted that in Chile, subject to certain prior approvals it is legally possible to conduct mining activities in protected areas.

³²⁵ Brüggemeier (1994), pp.76; Ladeur (1994), pp.305; William (2010).

³²⁶ See Chapter 8.

³²⁷ Teubner (1987), pp. 24.

³²⁸ Habermas (1985a), pp. 374; Habermas (1986a), pp. 203–20.

³²⁹ Teubner and Fischer-Lescano (2006), pp.1007.

³³⁰ Agrawal and Redford (2009), pp.1-10.

In this sense, it has been said that the creation of protected areas has led to the displacement of tens of millions of people that formerly lived, hunted, fished and farmed in areas now protected. This critique emphasizes that there has been no proper consideration of the social impacts of conservation, including issues as diverse as poverty alleviation, local economic growth, social equity, traditional knowledge protection and disease eradication³³¹.

4.4.3. Legal Disintegration through Society

This form of the trilemma occurs when law is itself exposed to the disintegrating demands of politics, economics and the other spheres of society. The excessive demands of the political system or of the regulated social spheres may risk the self-reproductive capacities of law³³².

This has also been known as *instrumentalization of law*, and also as *materialization of law*, that may happen through direct and explicit means (i.e. economic transformation of legal concepts)³³³ or through indirect and invisible dynamics that gradually change the selectivity process of law (i.e. the use of institutions for purposes that do not fit their original design).

The instrumentalization of law by other social discourses takes place when some specific discourse imposes its own internal distinctions as prevailing criteria within certain legal instruments or concepts. It is common to see certain economic concepts take over certain concepts of law in securities law, energy regulations or in contract and tort law³³⁴.

In the area of ecosystems conservation we see a direct relation between *legal indifference* in the form of *legal inadequacy* and a case of a potential *instrumentalization* of a legal mechanisms by the economy. We here refer again to the use of *traditional property rights* to orient or change the 'selectivity process of law' towards economic rationality. This change in the selectivity process of law prevents the unfolding of social practices required to generate cooperation, communication and knowledge sharing around and in connection with the corresponding ecosystems³³⁵.

Therefore, we can conclude that the use of *traditional property rights* appears to be linked to the different forms of the regulatory trilemma of ecosystems conservation.

Now, in the next chapter, I will review the main concepts of systems theory, in order to set the basis for an analysis of *law as a social system*, which

³³¹ Sanderson (2002), pp.162; Veit, and Benson (2004); Dowie (2005).

³³² Teubner (1987), pp.25; Teubner (1986b), pp.299.

³³³ For instance, through the reconceptualization of normative concepts under economic rationality, see for instance Posner (2003).

³³⁴ This is different from, and must be contrasted with, a process in which law takes broad consideration of different criteria of various discourses, including the economic criteria (i.e. reflexive consideration of various perspectives). See Chapters 7 and 8.

³³⁵ In Chapter 9 I will argue that the *form* of traditional property rights, and particularly of *ownership*, contains an internal tension that reduces its reflexivity to the various social spheres that are different from the economy. As will be explained, this limited reflexive capacity is not modified simply by disciplining property through obligations and limitations as some authors seem to believe (Priest (2006): 385–459; Radin (1987)).

will in turn make possible the analysis of the ideas of reflexivity and reflexive law.

CHAPTER 5

SOCIAL SYSTEM THEORY

'[T]he meaning producing force of communication, with its ability to distinguish good and evil, destroys the original unity of man and nature, makes man god-like and leads to the loss of Paradise. The origin of alienation lies in the very first communication'³³⁶.

³³⁶ Teubner (2006a), pp.336.

5.1. Introduction

As mentioned in Chapter 1, the different features of modern society and particularly its complexities, contingencies and uncertainties, have lead us to select *social systems theory* as the theoretical framework for this thesis.

Social systems theory has developed a complex arrangement of concepts and understandings that facilitate the assessment of complex social phenomena combining at the same time social and temporal perspectives. This appears to be a very unique theoretical feature, especially relevant to the ecological challenges of our contemporary society.

This section intends to summarily explain the most relevant aspects of Niklas Luhmann's systems theory, with special emphasis on the ideas of meaning, observation, communication, differentiation, normative closure and cognitive openness.

However, before referring to these basic aspects, few comments are required. Luhmann's theory is known for its complexity and abstraction. But, according to Luhmann, such complexity and abstraction derive from the complexity of contemporary society itself. Here it is important to notice that Luhmann believes that the task of the social theorist is to observe complexity for what it is and not to forcefully simplify it or reduce it.

However, as King and Thornhill remark, Luhmann wants to avoid the idea that one could capture the essence or truth of modern society in one theoretical account. And so, no theory and not even systems theory should be said to give the only true account of society³³⁷. In Luhmann's thought there is always the possibility of a new distinction being made and of society actually being different or changing.

5.2. Society in General and Autopoietic Systems

The theory of autopoietic systems was originally developed in the field of biology by Humberto Maturana and Francisco Varela in order to explain the distinguishing features of organic life³³⁸. Their basic conclusion was that living systems are autopoietic because they reproduce themselves by recursively producing their elements through their own elements. This marked a contrast between autopoietic and allopoietic systems, since in the case of the latter systems their elements are produced by something outside the system. It is because autopoietic systems produce their own elements by their own elements that autopoietic systems are *operatively closed*: no operations enter the system from the outside. However, as we will see, the *operative closure* of a system, does not exclude its *cognitive openness*³³⁹.

³³⁷ Thornhill (2007): 33–53.

³³⁸ Maturana (1982).

³³⁹ Luhmann (2004), pp.79.

Luhmann has applied these insights to sociology, asserting that social systems are autopoietic because they too produce their own elements through their own elements. In the words of Luhmann: *'An autopoietic system therefore constitutes the elements of which it consists through the elements of which it consists'*³⁴⁰.

According to Luhmann there are three different categories of autopoietic systems: living, psychic and social systems. The three categories of systems relate to the different media in which they perform their operations. Living systems exist and perform their operations directly upon the medium of the physical world. The psychic systems perform their operations in the medium of consciousness, through thoughts. And social systems perform their operation in the social world made up of communications.

Within the category of social systems, there are three types of systems: interactions, organizations, and society³⁴¹. These differ in terms of the way in which they constitute themselves, and the way in which they form their boundaries³⁴².

For Luhmann, *society 'is the encompassing social system which includes all communication, reproduces all communication and constitutes meaningful horizons for future communications'*³⁴³. Society, as will be explained, is differentiated into several spheres of specialized communication or functional subsystems.

In turn, *interaction systems* presuppose the presence of participants and their reciprocal perception. They constitute themselves and define their boundaries through the communication of these participants. *Organizations*, on the other hand, are systems that consist of decisions and that themselves produce the decisions of which they consist through the decisions of which they consist³⁴⁴.

Social systems and psychic systems (individuals) are environment to each other and therefore –as will be explained- interact through structural coupling, through the general medium of *meaning* which is the common medium of both 'communications' and 'thoughts', their respective constitutive elements.

In a society that is differentiated in various spheres or sub-systems, as we will see, the psychic system *"does not belong to any -social system- in particular, but depends on their interdependence"*³⁴⁵, and in turn, social systems are dependent on psychic systems operating in their environments.

This interdependence, is explained by Luhmann as follows:

'Thus the closure of recursive communicative relationships does not

³⁴⁰ Luhmann (1988a), Teubner (1988a), pp.12; Luhmann (1986a).

³⁴¹ Luhmann (2007), pp.643, 655.

³⁴² Ibid.

³⁴³ Luhmann (1982), pp. 131–38.

³⁴⁴ Luhmann (2007), pp.643, 655.

³⁴⁵ Luhmann (1986c), pp.313–25.

*liberate the system from the environment. It is and remains dependent on sensors that convey environment. These sensors are human beings in the full sense of their interpenetration: as psychic and as bodily systems*³⁴⁶

In our normal discourse we can say that individuals play different roles and have different status in different systems of society, but in fact, according to Luhmann, that takes place only through communication. Society is built by the communication in which those individuals engage, communications that once the corresponding utterance of information is executed become independent from the consciousness or psychic system of the individual.

This does not involve a denial of the importance and value of individuals, but a separation of communication and consciousness. In other words, this involves understanding that communication and consciousness have interdependent but distinct existences '*as autonomous worlds of meaning*'³⁴⁷.

Luhmann's rejection to see individuals at the center of a social theory has attracted criticism. But he believes that any sociological theory that focuses on the individual will be inadequate for sociological analysis because consciousness cannot be observed³⁴⁸. In turn it is clear that the only way in which such effort should be conducted is by observing the different ways in which those individuals communicate in society, that is, by '*practicing socio-communicative observation*'³⁴⁹.

Another very important reason why Luhmann rejects placing individuals at the center of social theory relates to the idea of *operative closure* of social systems. Luhmann opposes the somehow ordinary belief that society or societal processes can be controlled or regulated simply by controlling people or people's thoughts. This relates to what in social theory has been historically called the rationalization, objectivation or reification of spheres of society, that in Luhmann's theory is expressed in the self-referentiality of social systems that derives from their operative closure. According to this, social systems cannot be intervened from the outside on a traditional linear manner and their interaction with other systems can only take place through structural coupling, as will be further discussed later.

Social systems, and particularly social subsystems operate through their own rationality and unfold as specialized spheres of communication, thereby generating their own observations of their environment. In this sense, it should be noticed that Luhmann does not consider the existence of a general social environment for all subsystems, but a different environment for each sub-system. Modern society, according to Luhmann, '*is differentiated into the political subsystem and its environment, the economic subsystem and its environment, the scientific system and its environment, the education system and its environment and so on*'³⁵⁰.

³⁴⁶ Ibid.

³⁴⁷ Teubner (2001), pp. 29–47.

³⁴⁸ Luhmann (1990d), pp.64–85.

³⁴⁹ Ibid.

³⁵⁰ Luhmann (1982), pp.132.

In this sense, and from the perspective of communication, it is important to notice that Luhmann does not consider the existence of a general medium of communication underlying specialized communications of all sub-systems. This is a point regarding which Gunther Teubner appears to have a somehow different approach, and this issue will be especially relevant for our understanding of structural coupling and reflexivity³⁵¹.

5.3. The Society of Communication

As already mentioned, in Luhmann's theory the constitutive element of a social system is 'communication'. Anything that is not a communication belongs to the external 'environment' of society (including the natural environment). Therefore, the unity of society is understood as the unity of its constituting elements and its mode of operation: 'communication'.

The internal structure of communication is made of three components: *information, utterance* and *understanding*. This is a triple structure that includes: the observing system, the observed system and information-communication³⁵². Communication is a meaning selection process, composed of three different selections: the selection of information, the selection of a form and the selection of an understanding³⁵³.

Understanding this conception and its structure is essential to explain why Luhmann broke with a very long tradition in sociology that included Weber, Parsons and most recently Habermas, that had put the *theory of action* at the very center of all sociological theorizing³⁵⁴.

But this shift from action theory to communication should not lead to a misunderstanding about a hypothetical role of communication in social integration. As Luhmann says: *'one can conceive of communication neither as a system-integrating performance nor as the production of consensus'*³⁵⁵. Because one of the most relevant features of communication is that sensitizes the system to *'chance, disturbances, and "noise" of all kinds. In communication, one can make understandable what is unexpected, unwelcome, and disappointing'*³⁵⁶. Furthermore, communication does not mean that one correctly knows the reasons for something, but rather, that the system can even *'force disturbances into the form of meaning'*. Therefore, *'consensus is not what corrects this unrest, for the danger error, mistakes, and stagnation pose to consensus is too great. Instead, if communication continues, a double phenomenon of redundancy and difference emerges, and in this lies the content of communication's principle of unrest'*³⁵⁷. Consequently, as will be further discussed below, through communication *'the system establishes and augments its sensitivity, and thus it exposes itself to*

³⁵¹ See Chapter 8, especially section 8.4.

³⁵² Stichweh (2000), pp. 5–13.

³⁵³ Luhmann (1984b), pp.137.

³⁵⁴ Ibid, pp.172-3.

³⁵⁵ Ibid.

³⁵⁶ Ibid.

³⁵⁷ Ibid.

*evolution by lasting sensitivity and irritability*³⁵⁸.

Now then, in order to understand the role and importance of communication in systems theory, we must understand the theoretical implications of the transition from *action* to *communication*.

As already discussed, one of the earliest distinctions in Luhmann's theory was the one between psychic and social systems. However, this distinction is not easily compatible with action theory³⁵⁹. Action is related to the actor and his intentions or motives. One can introduce the distinction between action and social action, as has been done since Weber but this does not allow for the distinction between psychic and social systems, because it would only allow for an analytical distinction between actions –in the domain of psychic systems- and social actions –in the domain of social systems-, as Parsons proposed. But there are no '*analytical systems*' in Luhmann's theory who insists in introducing the distinction of psychic and social systems as referring to concrete '*real*' systems³⁶⁰.

Another important distinction made by Luhmann, for which there are no antecedents in sociological theory³⁶¹, which also significantly relate to this transition from action to communication, is the one between *action* and *experience* -as two ways of processing selections-, the latter –experience-being information about states of the world that has not been caused by actors. Stichweh explains that:

*“What we learn from this distinction is that there has always been one difficulty for any sociological action theory. No matter which social entity is considered the constitutive element of social systems, it has to be denominated by a more general term than either 'action' or 'experience'. This disqualifies the concept of action as the constitutive element, as action cannot function as a generic term for the distinction between action and experience”*³⁶².

Communication is a much better candidate because it seems to be more plausible that the processes of selection are communication processes. This also allows bringing back into sociological inquiry two critical aspects of social processes that are outside the scope of action theory, which are the *antecedents* and the *consequences* -or social impact- of the action.

Another aspect that explains this transition can be found in the fact that through the communicative approach *action* is not excluded but is only *thematized* as the *utterance component*, and by this means *information value* is being attributed to it. So Luhmann says:

“Sociality is not a special case of action, action is constituted in social systems by means of communication and attribution as a reduction of

³⁵⁸ Ibid.

³⁵⁹ Stichweh (2000), pp.9

³⁶⁰ Ibid.

³⁶¹ Ibid, pp.9.

³⁶² Ibid, pp.10.

complexity, as an indispensable self-simplification of the system”³⁶³.

Therefore, actions become a *construction* of system-specific observations that attribute meaning to them in a contingent manner. In other words, action loses its position as an ontological a priori departure point of sociology and becomes one more piece in the communication process.

Another aspect that explains this conceptual transition and its relevance, relates to the formal property of the concept of communication as *bidirectional* in the sense that communications can be *read forward and backwards*. One reads it forward when one looks at communication as a sequence in an ongoing process in time; and one reads it backwards when one looks at it from the act of ‘understanding’ which projects the difference between utterance and information. In this respect any communicative event is a *time event* and retrospective since it depends on the projection of differences on past events³⁶⁴.

An additional aspect that explains and provides a further background for understanding the relevance of the theoretical transition from action to communication, is the shift from a cybernetic systems theory -of selective system/environment relations- to an *autopoietic systems theory model*³⁶⁵. Since autopoietic systems produce their elements through the interaction of their own elements, it is necessary to clearly and precisely *define the ‘elements’* that will recursively produce themselves. However, it is not at all simple to imagine a description of society as an autopoietic system on the basis of actions as its constitutive elements³⁶⁶. As Stichweh remarks:

*“Recursive closure of a system is more easily established for a communication system than for an action system. Actions are very much individualized. Each single action introduces a discontinuity into the social process. Either something finishes or something new begins. An action is isolated from the antecedents and consequences; therefore it is very difficult to imagine recursive closure and the production of something from its own products for an action system. It is wholly different with communications, where it is much simpler to imagine a continuous flow of communications, recursively returning to its somehow modified starting point and thereby closing in on itself”*³⁶⁷.

Finally, there are also contemporary society features that explain the transition from action to communication, and they relate to what has been known as the *‘information society’*³⁶⁸ - and the *‘network society’*³⁶⁹. These two global social phenomena evidently operate through continuous flows of communication that can be understood in bidirectional ways and through the differentiated *understandings* of the various observing systems.

³⁶³ Luhmann (1984), pp.137.

³⁶⁴ Stichweh (2000), pp.11.

³⁶⁵ Varela, Maturana, and Uribe (1974): 187–96.

³⁶⁶ Stichweh (2000), pp.11.

³⁶⁷ Ibid, pp.9.

³⁶⁸ Shapiro and Varian, (1998); Luhmann (2007), pp.863;

³⁶⁹ Viellechner (2009), pp. 515–36; Ladeur (1997); Kjaer (2009), pp.483.

5.4. Form and Meaning

5.4.1. Form

Luhmann bases his understanding of the way in which systems ‘observe’ from George Spencer Brown’s theory on formal calculus³⁷⁰.

Spencer Brown explains the manner in which any ‘cognitive’ act or operation starts with the drawing of a *distinction*. The drawing of a distinction entails the setting of an internal boundary in a *whole*. The *whole*, as unmarked state, allows for no observation of it. Only by drawing a distinction we are able to observe it.

A distinction *indicates* a state –distinguished from the ‘*non-indicated*’-. What is not indicated is the ‘the unmarked state’ which remains indeterminate. The *form* is the result of the distinction and comprises both the indicated and the non-indicated sides.

A distinction also establishes an observer. The establishment of an observer supposes: (i) that the distinction be drawn; (ii) that one side of the distinction be indicated; (iii) that the distinction be re-introduced into the indicated side (re-entry).

For Luhmann the drawing of distinctions is the basis of any and all communications, and therefore the basis of society.

In the context of communication, form is also required to connect different communications, and therefore to connect past and future communications; in other words, form gives the criteria for identity and continuity³⁷¹.

Therefore, Luhmann sees the making of distinctions as an essential operation that constitutes the basis of communications and the basis of society, for ‘*[w]ithout distinction, one would encounter the world only as an unmarked state*’³⁷², where nothing would have been selected or indicated and nothing would be communicable.

Therefore, if for example a selection is on what is law, then ‘law’ is the marked space and non-law is the unmarked space, and the latter can refer to anything else, any communications from other spheres or subsystems of society. Any matter related to the law by that sole fact immediately selects that marked space. A communication cannot be selected simultaneously as law and non-law, but the form can change if we use another distinction, in which case all law and non-law are indicated as the marked space.

Once the world, as an ‘unmarked state’³⁷³, is severed through a distinction, a boundary is drawn between the marked and the unmarked; and only then further distinctions may be drawn within the space of the marked side or the unmarked space. These latter distinctions will reproduce the

³⁷⁰ Spencer-Brown (1994).

³⁷¹ Luhmann (2000b), pp.28.

³⁷² Ibid, pp.31.

³⁷³ Ibid, pp.29.

original difference between marked and unmarked space.

For example, a decision that makes a distinction between private and public law reproduces the difference between law and non-law³⁷⁴.

Then Luhmann adds that *'Whoever observes forms observes other observers'*³⁷⁵. Here we must distinguish between the observer that draws the distinction and the observer that observes the form used by the first observer. As will be explained, this is the basic distinction of first and second order observation. Regarding the first order observation- that draws the distinction- Luhmann says: *"the act of observing, along with the difference of the observation that constitutes it, escapes observation..."*³⁷⁶. The first order observer only sees the indicated side. Therefore, only the observer of the form –second order observer- can see how the observer is observing (both sides of the form), and the fact that it is the same observer that is making that distinction.

First and second order observation are indispensable for the existence of any society consisting of communications.

It must be noticed that: *'only one side of a distinction can be indicated at any given time; indicating both sides at once dissolves the distinction.'*³⁷⁷.

It is the formation and operation of form-coded subsystems -that allows for both observation and the capacity to be observed- that makes society possible.

These subsystems differentiate themselves by establishing a boundary between internal and external, between what it is and it is not, and each subsystem conceives the world as comprising both the system and its environment.

Each subsystem, through the operation of distinction-indication-re-entry, establishes a boundary with the environment. In other words, through the re-entry of the distinction into the marked side, the system can observe itself as separated from the environment. This creates the basis for the distinction between self-referential and hereto-referential observations. And so, Luhmann says: *"The being-in-the-world of the communication system emerges from a continual coupling of self-reference and hetero-reference."*³⁷⁸

The internal establishment of this difference system/environment is what serves as a reference for the unity of the system.

5.4.2. Meaning

Meaning is the medium through which both consciousness and social systems operate, through which their distinctions and observations take place.

³⁷⁴ Ibid, pp.65.

³⁷⁵ Ibid, pp.67.

³⁷⁶ Ibid, pp.57.

³⁷⁷ Ibid, pp.65.

³⁷⁸ Ibid, pp.56.

Meaning is the horizon of possibilities for those distinctions and observations. Meaning appears as *'the surplus of references to other possibilities of experience and action'*³⁷⁹.

Explaining meaning as a horizon of possibilities, Luhmann says:

*'Meaning is the continual actualization of potentialities.... everything actual has meaning only within the horizon of possibilities ...one of the possibilities that could be connected up can and must be selected as the next actuality, as soon as what is actual at the moment has faded away, transpired, and given up, its actuality out of its own instability.... understanding happens only if one projects the experience of meaning or of meaningful action onto other systems.... and only if one also takes into consideration that the other systems... themselves make meaningful distinctions... Observation is the basic operation of understanding'*³⁸⁰.

For Luhmann, meaning is the unity of the distinction actuality/potentiality³⁸¹. According to Luhmann, this phenomenological distinction³⁸² unfolds in three relatively autonomous dimensions: the factual dimension, the social dimension and the temporal dimension. The factual dimension operates through the distinction this/other; the social dimension through the distinction ego/alter; and the temporal dimension through the distinction past/future. These different dimensions are combined and interconnected through various meaning selections.

Meaning entails the *contingency* of the selections, both because those selections are possible but not necessary, and also because any selections made already entail the negative potential of all the alternatives that were not selected but remain potential.

Social systems observe themselves and the environment through the medium of meaning. Therefore, systems that operate in the medium of meaning can distinguish self-reference from hetero-reference³⁸³. In this case, meaning includes all that can be processed by the subsystems of society³⁸⁴.

Society is what establishes social meaning, through its observations, and therefore, just like Husserl in his phenomenology excluded the *'real world'* in favour of *'cognitive representations'*, Luhmann excludes the *'real environment'* in favour of the observations of the subsystems of society. Meaning is a product that is produced by the operations of the system, not a *'quality of the world due to a creation, foundation or origin'*³⁸⁵. Therefore, there is also no *ideality* separated from the factual operations of communication. In other words, systems theory does not depart from a pre-

³⁷⁹ Luhmann (1984b), pp.60.

³⁸⁰ Luhmann (1984b), pp.73.

³⁸¹ Ibid, pp.74, 82.

³⁸² Paul (2001), pp. 371–94.

³⁸³ Luhmann (2007), pp.28.

³⁸⁴ Luhmann (2007), pp.33.

³⁸⁵ Ibid, pp.28, my translation.

existing world of things, substances, ideas, or from a concept of the world of *universitas rerum*.

Instead, it is the *memory function* that can stabilize selectivity and reduce the possibilities of selection. Meaning's production takes place at the very moment the operations of the system take place, not before, not after. However, it is the *memory function* of the system that allows for the availability of the results of past selections as a *present state* making possible both remembering and forgetting.

It is on the basis of this memory function that the repeated use of meaning results in the fixing of it through *condensation* and *confirmation*. In Luhmann's words, '*on the one hand, such repeated uses of meaning must condense the used description in order to make sure that the meaning is recognized as the same even in a new context. On the other hand, such repeated uses of meaning must confirm the reused meaning and demonstrate that the meaning can also apply in a different context*'³⁸⁶.

In turn, it is that selective condensation and confirmation that stabilize selectivity and give rise to *structures*. According to Luhmann, these condensed structures '*comprehend the open complexity of the possibility that every element could be connected with every other one, in a narrower model of relations that are 'valid', customary, predictable, repeatable, or whatever is preferred. Through this selection, they can instruct further selections, by reducing the constellations that can possibly be surveyed at any moment*'³⁸⁷.

In the same way and at the same time this process creates *redundancies*³⁸⁸. Redundancies³⁸⁹ are the informational correlate of structures and they refer to what is already established as information within the system, as opposed to *variety* that refers to what appears as still unknown. So, Luhmann explains that '*the formation of structures is also interpreted as the creation of redundancies*'³⁹⁰.

It is further on the basis of the memory function that condensation and generalizations operate as *time-binding*³⁹¹ mechanisms giving rise to expectations. Expectations are the temporal-dimension aspect of meaning³⁹². Luhmann expresses this as follows:

'Symbolic generalizations condense the referential structure of every meaning into expectations ... by the intervening selection of a narrower repertoire of possibilities ... Accordingly, symbolic generalizations ... are contained and refabricated within a network of expectations ... The absorption of uncertainty runs its course by stabilizing expectations ...

³⁸⁶ Luhmann (2004), pp.144.

³⁸⁷ Luhmann (1984b), pp.44.

³⁸⁸ Ibid, pp.60.

³⁸⁹ See also Section 6.9. on Legal Argumentation in Chapter 6.

³⁹⁰ Luhmann (1984b), pp.285.

³⁹¹ According to Luhmann, the idea of 'time-binding' derives from Alfred Korzybski and primarily indicates the linguistic performance of keeping the same meaning available. See Luhmann (1984b), pp.222.

³⁹² Luhmann (2004), pp.142.

*Explaining away disappointments provides precise results that can be fitted into a cognitive picture of the world ... and it re-establishes the security of expectations.*³⁹³

5.4.3. Double Contingency

In a world where increasing meaning possibilities and contingencies unfold, the critical question is *how is social order possible*. *Double contingency* intends to answer this question as a general framework to explain how meaning is constituted and continually processed in systems' interactions, whether they are psychic or social systems.

In fact, in Luhmann's theory, double contingency not only presents an answer to this question but also reformulates the question in an even more demanding and critical form. This is because, in contrast with other theories, Luhmann presents the subjects –and the systems- as non-transparent to one another³⁹⁴.

Luhmann takes the idea of double contingency from Talcott Parsons³⁹⁵ but reformulates it³⁹⁶. Even though Luhmann accepts the general problematic presented by Parsons, he believes that the solution given by Parsons, by recourse to social consensus or to a '*shared symbolic system*', is inadequate³⁹⁷. Such a solution only transfers to the past, in an infinite regression, the question about order and consensus.

According to Luhmann: '*The radicalization of the problem of double contingency ... articulates the question 'how is social order possible?' in a way that presents this possibility as improbable*³⁹⁸.

The problem of double contingency exists when '*systems are experienced and treated in a specific way, namely, as an endlessly open possibility of meaning determination that eludes access from the outside*³⁹⁹.

In Luhmann's social theory, double contingency relates to the closure (lack of transparency) of systems and describes a situation in which a system (A) must execute selections of meaning that depend on the selections of meaning by system (B), and vice versa. This phenomenon portrays the *improbability of communication*, and according to Luhmann it is through social differentiation and structural coupling that systems intend to reduce complexity and facilitate coordination.

³⁹³ Luhmann (1984b) pp.96.

³⁹⁴ Axel Paul asserts: '*The surprising turn that distinguishes Luhmann's theory from the widespread theories of inter-subjectivity, however, lies in the fact that, from Husserl's failure to proceed beyond thinking inter-subjectivity as 'inter-objectivity', he concludes that the social must be allowed to arise, even though the subjects are not transparent to one another*'. Paul (2001), pp. 386.

³⁹⁵ Parsons, Shils, and Smelser (1965).

³⁹⁶ Pignuoli (2013), pp.14.

³⁹⁷ Luhmann (1984b), pp.105.

³⁹⁸ Ibid, pp.106.

³⁹⁹ Ibid, pp.106.

According to Luhmann, double contingency is transformed into ordered interaction through the recursive repetition of communication, that is, through *time*. This is a critical point in which Luhmann takes distance from Parsons, who failed to engage with the dimension of time.

It is through this repetition in time that certain observation-schemas or '*selective coordinations*'⁴⁰⁰ of meaning selections or '*selective alignments of meaning selections*'⁴⁰¹ -that link *expectations of expectations*- become stabilized, making possible the reduction of complexity that derives from double contingency. It is this recursive process of observations of observations that '*leads then to a condensation of units of meaning*' which in turn leads to '*abstraction of denotation for what seems identical in the different observations*'. And so '*one speaks here, in the language of mathematics, of 'eigenvalues' of the system*'⁴⁰².

It is exactly through this process of complexity reduction that the various differentiated subsystems come to exist, through the unfolding of their codes and programmes⁴⁰³.

Then again, it is through the stabilization of limited points of structural coupling⁴⁰⁴ and through evolution, that systems come to be contingently coordinated.

5.5. Observation

5.5.1. First Order and Second Order Observation

The distinction between first order and second order observation is critical to understand systems' interactions and social complexity.

This distinction is usually explained through the theory of form. In this context, first-order observation is the making of a distinction⁴⁰⁵. Luhmann states that '*in this kind of observation, the distinction between distinction and indication is not thematized. The gaze remains fixed on the object. The observer and his observing activity remain unobserved*'⁴⁰⁶.

However, '*with the occurrence of second order observation... whether or not the observer is the same . . . the observation indicates that the observation occurs as observation*'⁴⁰⁷. A system can only come to see how meaning is attributed to events, by observing observation. Only in this way the observer can see the distinction made, the indication selected and the observer who did the selection. It is, therefore, through second-order observation that

⁴⁰⁰ Ibid, pp.138.

⁴⁰¹ This translation is presented by Emiliios Christodoulidis. His reference is to Luhmann, *Soziale Systeme*, pp.192. Christodoulidis (1998), pp.107.

⁴⁰² Luhmann (2002), pp.140.

⁴⁰³ See Section 5.6. of this Chapter.

⁴⁰⁴ See Section 5.8. of this Chapter.

⁴⁰⁵ Luhmann (2000b), pp.61.

⁴⁰⁶ Ibid.

⁴⁰⁷ Ibid.

the ‘*observer encounters the distinction between distinction and indication*’⁴⁰⁸.

However, it is important to notice that second order observation is also at the same time first order observation, as Luhmann says: ...‘*the second order, considered now as first-order observer, can now observe neither his own observing nor himself as observer*’⁴⁰⁹. Then Luhmann adds interestingly that: “*A third-order observer can point this out and draw the autological conclusion that all this applies to himself as well*”⁴¹⁰.

Here we can see how the contingency of observation is ingrained, because any given observation can be observed differently in the following moment by the same system.

Through second order observation we can also notice a unique opportunity that any given system has to observe the observations that other systems are making of itself. In the case of law, for instance, this will allow law to observe how science, morals, or other systems observe law and how those descriptions interact with the self-descriptions of law.

For Luhmann, these different orders or levels of observation are essential to understand how different systems create different descriptions and different levels of descriptions, and how those descriptions from different systems may overlap circularly.

5.5.2. Self-Reference and Hetero-Reference

Even though all observations are always an internal operation of the system, all observations of a social system use the distinction self-reference/hetero-reference. A reference is an indication according to a distinction⁴¹¹.

This means that because the system operates on the founding distinction system/environment, any observation must refer to either the system or the environment. When the observation refers to the system or to its elements we are in the presence of self-reference, and when the observation refers to the environment or environmental events, we are in the presence of hetero-reference.

There are three forms of self-reference: basal self-reference, reflexivity and reflection.

There is ***basal self-reference*** when the basic distinction is between element and relation. In the basal self-reference the indicated self is intended as an element –not as a system- and therefore it allows connecting one communication with the next.

There is ***reflexivity***, for Luhmann, when there is processual self-reference and the basic distinction is between before and after. That is, there is reflexivity ‘*whenever a process functions as a self to which the*

⁴⁰⁸ Ibid, pp.61.

⁴⁰⁹ Ibid.

⁴¹⁰ Ibid.

⁴¹¹ Luhmann (1984b), pp.443.

*operation of reference belonging to it refers. Thus within the course of a communicative process one can communicate about that communicative process*⁴¹².

Therefore, reflexivity is a second-order self-referential observation that is referred to a communicative process.

There is a *process* when there is a combination of communications that are connected through expectations of reactions and reactions to expectations. Therefore, *'processes emerge by intensifying selection'* and in this sense *'processual reflexivity is always selection of selection'*⁴¹³.

It is through reflexivity that the process is re-introduced into the process using the process's means. Therefore, these *'reflexive mechanisms permit the process to control its own non-occurrence'*⁴¹⁴.

It is through reflexivity that selective condensation and confirmation take place, thereby stabilizing selectivity and giving rise to *structures* and *redundancies*.

Luhmann also significantly says: *'Reflexive processes can be used as processes that change structure, and their development imposes itself if a great need for controlled structural change exists'*⁴¹⁵.

From the perspective of complexity, it is through reflexivity that double contingency is processed and reduced (in complexity) in accordance with the internal structures –and redundancies- of the system.

This is possible because reflexivity can refer to system's communications that contain hetero-references to the environment (i.e. to other system's observations). In this way, reflexivity can be recursively linked to hetero-referential observations. This is where the *'continual coupling of self-reference and hetero-reference'*⁴¹⁶ takes place. And at the level of observation, as will be explained, this is also where closure and openness of the system are interconnected.

Finally, there is **reflection** when the basic distinction is between system and environment. It is an operation by which the system, as the self, indicates itself in contrast to its environment. It is *'on the level of reflection that the systems determines its own identity by contrast with everything else'*⁴¹⁷.

For Luhmann reflexion is a narrow category in which the conceptual domains of self-reference and system-reference overlap. The guiding difference is a semantics that represents the system/environment distinction.

It is in this respect that Luhmann separates reflexion from another

⁴¹² Ibid, pp.443.

⁴¹³ Ibid, pp.451.

⁴¹⁴ Ibid.

⁴¹⁵ Ibid, pp.452.

⁴¹⁶ Luhmann (2000b), 56.

⁴¹⁷ Luhmann (1984b), pp.456.

form of self-reference called *self-descriptions*. We will refer to this form of self-reference in detail in Chapter 6, section 6.3. However, as a brief introduction, let's mention here a brief remark from Luhmann: '*Typically, self-descriptions create a meta-unification, an overestimation of coherence in observing the system, and in this respect they can mislead external observers*'⁴¹⁸. Therefore, conceptually, self-descriptions appear as not completely symmetrical to the system –as it is the case of reflexion-.

5.5.3. Observation and Paradox

Observing systems exist and operate through a founding paradox. Let's first explain the paradox in simple terms and then let's apply it to social systems.

The paradox unfolds at the founding of a system when the system distinguishes itself from its environment, and then executes an observation, because in that very moment applies the same distinction to itself. This is the re-entry of this distinction into the indicated (marked) side of the system (the internal side). Because the system operates as if the environment was a reality out there, and it cannot see that is the result of its own distinction, when the system executes any operation, inevitably applies the founding distinction to itself.

This paradox is also expressed at the level of second order observation. Here the paradox takes place when the second order observation is executed over the first order observations of the same system, because this means that second order observation applies the same distinction (applied by the first order observation) to the indicated side resulting from the first order observation, creating an internal contradiction. So, any time a system wants to give an account of its own selections a paradox will take place.

In the case of the legal system (that uses the form legal/illegal), this takes place when its first order observation observes itself as producing legal decisions, but through a second order observation (using again the form of legal/illegal, but being able to see the whole form), it may decide that some elements of the 'legal system' are illegal (applying the distinction to the indicated –legal- side). But the legal system hides this paradox, in order to legitimize itself, through deparadoxification mechanisms. This is achieved through self-descriptions that justify the validity of its own decisions (i.e. through positive law, or recourse to 'reason', 'consensus', 'utility', etc). This deparadoxification operates through the use of new distinctions: lawful/unlawful, constitutional/unconstitutional, reasonable/un-reasonable, just/unjust or even right or wrong.

Regarding this, Teubner remarks that: "*Deparadoxification means to invent new distinctions which do not deny the paradox but displace it temporarily and thus relieve it of its paralysing power*"⁴¹⁹.

⁴¹⁸ Ibid.

⁴¹⁹ Teubner (2001) pp.32

5.6. Functional Differentiation

According to Luhmann, and in historical terms, modern society experienced a process of functional differentiation during the 18th century when *'European society re-organized new central problems of identity and order ... along the lines of functional differentiation'*⁴²⁰.

Therefore, according to Luhmann, subsystems did not come to exist in a purposive or rational manner, but historically through the process of meaning selection –information selection- and communication of those selections in a recursive way, so that those communications were used – accepted- by other subsystems of society.

This social differentiation or system unfolding can be explained as a process of complexity reduction that occurs through the recursive repetition of communications. It is through this repetition in time that certain observation-schemas or *'selective coordinations'* of meaning selections⁴²¹ -that link *expectations of expectations-* have become condensed or stabilized.

This linking of *expectations of expectations* is in fact the linking of observations of different spheres of society, which interact and coordinate with the operations of the other spheres. This process, in time, generates alignments and stabilizations relating to the binary code and function of each system.

And so Luhmann says: *'I propose to characterize modern society as a functionally differentiated social system. The evolution of this highly improbable social order required replacing stratification with functional differentiation as the main principle of forming subsystems within the overall system of society. In stratified societies the human individual was placed in only one system.This is no longer possible in a society differentiated with respect to functions such as politics, economy, intimate relations, religion, sciences and education.'*

The formation of each system repeats the system/environment distinction within society, and so every system is a new representation of the unity of the whole society from the perspective of its own particular functional distinction or *binary code*, that is, from its own partial rationality.

Hence, it is through their particular functional distinction or codes that each subsystem is able to make the distinction between system and environment, achieving its self-referential closure and autonomy.

But as said before, each observer cannot see the distinction or binary code that is using to observe, they can only see the indicated or marked side. They could, however, observe the whole distinction –including the un-marked side- through second order observation. But subsystems operate in the understanding that the *'external world'* -the environment- is real, and they

⁴²⁰ Luhmann (1982), pp.136.

⁴²¹ Luhmann (1984b), pp.138.

conceal the paradox of their own distinction through self-descriptions.

It is through these self-descriptions that the subsystems internally construct their own *identities* –as generalized and stabilized meanings- ‘whatever the observers of this process might think of it’⁴²² but these *identities* are different from the corresponding *binary code* and the *function* that derives from it.

The legal system for instance, may have a self-description that it is a system in charge of doing justice in society; and politics may have a self-description of a system that secures a democratic government.

However, Luhmann emphasizes that these self-descriptions are separate and distinct from the function that each system fulfills through its operations.

Here again, the difference between self-description and function can be grasped by sociology, as a second order observer (science).

For Luhmann, *identities* must be treated only ‘as selective choices’⁴²³. This internal description serves only as an ‘internal identity’ and it could be negated by other systems. Science, for instance, may self-describe its own identity as the system that generates ‘truth’, but the legal system or the religious system may negate that description through its own descriptions of legal truth or religious truth.

The sociological analysis conducted by Luhmann, focuses on how autonomous areas of communication unfold based on their particular distinction or binary codes in order to fulfill certain social functions. This is the way in which Luhmann understands the process of functional differentiation in contemporary society.

Therefore, this concept differs from Durkheim’s idea of the division of labour⁴²⁴, Weber’s theory of rationalization and value spheres⁴²⁵, Parsons’s action systems⁴²⁶, and Habermas’s approach to strategic action systems.

Social differentiation is not the organization of labor, or of social action, neither is the rationalization of value spheres, nor the arising of specific fields of strategic action. Functional differentiation organizes meaning within society through the self-production of communication processes based on meaning distinctions. Therefore, each system has a specific function in the context of the organization of meaning within society.

Consequently, for Luhmann different systems, through their communications, fulfill separate functions⁴²⁷: politics provides the means for making collectively binding decisions; law stabilizes normative expectations; science distinguishes between what is scientifically true and what is not;

⁴²² Luhmann (2000b), pp.248.

⁴²³ Ibid.

⁴²⁴ Durkheim (2014).

⁴²⁵ Weber (1978).

⁴²⁶ Parsons (1991).

⁴²⁷ King and Thornhill (2003).

religion's function is to manage the inevitability of contingency; the economy manages scarcity via payments.

As these *functionally differentiated subsystems* become separate spheres of communication, with their own practices, and their self-referential autonomy, other subsystems cannot take over their functions.

But this does not mean that the function systems operate in symmetric balance as the expansive rationalities of some systems can endanger the autonomy of other subsystems, and various kinds of collisions can take place within society⁴²⁸.

Overall, a socially differentiated world has all the possibilities and contingencies of the different subsystems, but even more, the interaction between rationalities further increases complexity and contingencies.

5.7. Symbolically Generalized Media, Binary Codes and Programmes

In order to explain how binary codes of subsystems come to exist, Luhmann draws from Talcott's Parson's theory of *symbolically generalized media*⁴²⁹. Luhmann calls them *symbolically generalized media of communication*, that in his view are the general media used throughout society to organize meaning. In the case of each subsystem they are the *medium* through which each system selects and organizes its communications. For instance, the economy uses the medium of money; law uses the medium of legality; politics the medium of power; science the medium of truth; and religion the medium of faith.

According to Luhmann, each individual subsystem applies and develops its corresponding *medium* in the *form*⁴³⁰ of a *binary code* that becomes the basic distinction on which the observations of the system take place. The binary code represents '*the form with which the system distinguishes itself from the environment and organizes its own operative closure*⁴³¹.

Binary codes have a *positive value* and a *negative value*⁴³². For instance, the binary code of law is legal/illegal, the binary code of politics is government/opposition, the binary code of morality is right/wrong, etc. In binary codes, both sides are formally equivalent and this facilitates the organization of the information. The meaning of any selection derives from situating it in the difference of the binary code: something is legal in the very sense of being opposed to illegal; otherwise the selection would not be able to collect precise meaning.

⁴²⁸ Luhmann (1984a), pp.59.

⁴²⁹ Luhmann (1976a).

⁴³⁰ For a distinction between medium and form see Luhmann (1990b), pp. 216, 217. The medium appears as diffuse substrata of elements, and form as a special selection of some of those elements.

⁴³¹ Luhmann (2005), pp.78.

⁴³² Luhmann (2000b), pp.65, 66.

So, through the application of the binary code the system ‘*recognizes such operations as its own and rejects all others*’⁴³³. Law, for instance, selects everything that can be described as a *relevant matter* for the legal system, and this involves at the same time being in charge of deciding or determining, for those matters, the *difference* between legal and illegal.

Programmes, on the other hand, classify and organize information to support the application of the binary code. Programmes are the content criteria and filters for the application of the binary code. A critical difference between codes and programs is that programmes can be adjusted or modified or even replaced but the code remains the same throughout the existence of the system.

In this manner, the binary code, complemented by the programs, becomes the basic form of organizing meaning for the subsystems, and therefore the basis of their self-referential autonomy.

It is through the application of the binary code that systems reduce complexity. In this way, it can be said that binary codes facilitate the unfolding of meaning stabilizations or generalizations, which in turn may facilitate structural couplings. It is based on these generalizations that other subsystems can better observe and create expectations on the operations of a system⁴³⁴.

But it must be emphasized that observations are only observed by the other systems in accordance with their own codes. As a consequence, for instance, the systems of morality or science may select some meaning as the truth about something, but the legal system may not accept those observations.

Furthermore, each meaning is independently selected, and the selection of one meaning does not secure or ascertain the following selection. In Luhmann’s words, ‘*the binary code lays the foundation for [the] connection between closure and openness by construing the world as contingent*’⁴³⁵.

Regarding this contingency and the complexity that gives rise to it, Luhmann emphasizes the binary code always continues being binary, and so ‘*[a] threefold code, perhaps of the type true/false/environment or legal/illegal suffering, is never a possibility*’⁴³⁶. But this does not mean that social systems exclude all complexity from observation, because it is exactly in that regard that programmes are required, to facilitate the selection of the *correct side* of the distinction.

In this regard, King and Thornhill express: ‘*Programmes do not determine the nature of the coding; rather, it is the code which generates the programmes and gives them their appearance of continuity and rationality. While the code itself may be described as rigid and invariant, programmes*

⁴³³ Luhmann (2005), pp.78.

⁴³⁴ Ibid.

⁴³⁵ Luhmann (1992a), pp. 145.

⁴³⁶ Luhmann (1989), pp.41.

*provide a flexibility, a plasticity ...*⁴³⁷.

5.8. Closure, Openness and Structural Coupling

As mentioned earlier, if a system is conceived as an autopoietic system, this means that it is an *operatively closed* system. This signifies that at the level of the operations of the system there is no contact with the environment⁴³⁸, which also entails that other systems situated in the environment cannot intervene in the operation process of the autopoietic system⁴³⁹.

Therefore, even though all the observations of a social system use the distinction self-reference/hetero-reference, all observations are always an internal operation of the system using its own binary code and programmes, and they have no correspondence with the environment. Consequently, observing systems do not have any capacity to be in *contact with the environment*⁴⁴⁰.

In concrete terms, this means that each system can only observe self-referentially in accordance with their own binary code, and therefore, any meaning selected is always a meaning selected in accordance with that code and the corresponding programmes. Consequently, only law can decide what is a legal matter and whether such matter is legal or illegal.

If we look at this closure from the perspective of the interrelations between systems, then the consequence is that systems are not able to *communicate directly* with other systems⁴⁴¹, because each system uses its own criteria of validity, its own codes for selecting meaning.

However, it is very important to remember that autopoietic systems, in their first order observations, cannot observe their own operative closure. As a result, they operate under the illusion that they are directly observing the environment, that they have contact with it.

Only with second order observation the system can see *how* the observer is observing, but since this second order observation observes the observer, it cannot fully renounce to or abandon the first order observations made by the observer because these observations are a fact for the first order observer. Even though the second order observer can see how the first order observer self-referentially believes to observe the environment – and how this is an illusion-, *'at the level of the first order observation, that is never fully abandoned, reality and illusion cannot be distinguished'*⁴⁴².

The *operative closure* brings as a consequence that the system is

⁴³⁷ King and Thornhill (2003), pp.25.

⁴³⁸ Luhmann (2007), pp.66.

⁴³⁹ Ibid, pp.66.

⁴⁴⁰ Ibid, pp.66.

⁴⁴¹ See also Section 8.4. of Chapter 8.

⁴⁴² Luhmann (2007), pp.67.

determined towards *self-organization*, and it is this closure and *self-organization* that make possible for the system to handle the external complexity of a fragmented social environment –of other social subsystems and consciousness or psychic systems- and of the natural environment.

The relevant question here is how does a social system establish or configure its relationships with the psychic systems and with other social systems.

As a starting point we must first notice that *closure* does not mean *thermodynamic closure*, but only operative closure. At the same time that social systems are operatively closed, they are *informationally or cognitively open*, because they interact with the other subsystems and with psychic systems through *structural coupling*⁴⁴³.

So, the answer from Luhmann to the question about how social systems interact with other systems is: *structural coupling*⁴⁴⁴.

In Luhmann's theory this concept of structural coupling explains how, even though systems are self-organized, they develop in a direction that is tolerated by the environment⁴⁴⁵. From the perspective of meaning and evolution, this concept originally explains how two or more systems can co-evolve around particular meaning selections.

In Luhmann's words, there is structural coupling '*if a system presupposes certain features of its environment on an ongoing basis and relies on them structurally*⁴⁴⁶. Through this concept Luhmann wanted to retain '*the idea of highly selective connections between systems and environments*⁴⁴⁷, without having to rely on the limiting ideas of direct input-output relationships between systems and the corresponding idea of linear causality. This is possible because '*the forms of structural coupling reduce and so facilitate influences of the environment on the system*⁴⁴⁸. Reduction is '*a necessary condition for the ability to resonate; reduction of complexity is a necessary condition for building complexity*⁴⁴⁹.

Therefore, it is through structural coupling that a system can connect to complex environments through *irritations* without needing to absorb or reconstruct that complexity. This is how the autonomy of autopoiesis and the autonomy of the construction of its own internal complexity are secured⁴⁵⁰. This is because structural coupling only covers an extremely reduced part of the environment⁴⁵¹. Anything that is not included in such coupling cannot irritate or steer the other systems, and can only be considered *operational couplings*. Operational couplings only link operations to operations from

⁴⁴³ Luhman (1984b), pp.221; Luhmann (2004), pp. 381.

⁴⁴⁴ Luhmann (2007), pp.72.

⁴⁴⁵ Ibid, pp.87.

⁴⁴⁶ Luhmann (2004), pp.382.

⁴⁴⁷ Luhmann (1992c), pp.1432.

⁴⁴⁸ Luhmann (2004), pp.382.

⁴⁴⁹ Ibid.

⁴⁵⁰ Luhmann (2007), pp.78.

⁴⁵¹ Ibid.

moment to moment and so they only last for the duration of each event⁴⁵².

The complexity of the environment is not transparent to the observing system, and this is also because the observing system does not have the required internal complexity (Ashby's 'requisite variety') to process such complexity⁴⁵³.

Therefore, according to Luhmann '*As far as the system itself is concerned, structural couplings can only trigger irritations, surprises, and disturbances. The terms 'structural coupling' and 'irritation' are mutually inclusive*'⁴⁵⁴.

According to Luhmann, these irritations correspond to the side of structural coupling that is internal to the system, and they arise from the internal encounters of operations connected to *stabilized structures and expectations*⁴⁵⁵. Consequently, these irritations do not come from the environment but they are a construction of the system itself as self-irritations. The system, then, has the possibility to find in itself the cause of the irritation and *learn* from it, or it can attribute the irritation to the environment and treat it as a random influence, or it can find the origin of the irritation in the environment in order to use it or discard it. These possibilities are within the system through its distinction between self-reference/hetero-reference; and they can be combined so that, for instance, the system can change the perspective and *learn* from causes coming from the environment.

In this context Luhmann also refers to *lasting or enduring irritations* of a certain kind, such as those of an agricultural society from climate conditions, that guide the structural developments in a specific direction, given that the system is exposed the very determined focuses of irritation and, therefore, handle similar problems continuously. However, this only takes place within the range of *possibilities of self-irritation* thereby channeled and accumulated.

Now, on the other hand, each system develops *general indications* (such as names or concepts of person, etc) that help the system to make reference to the environment's complexity in a more ordered manner in accordance with the internal possibilities of the system. In case these indications create relations between two systems that facilitate their co-evolution –to the extent that none of the systems could exist without them- we can talk of *interpenetration*. There is *penetration* when a system '*makes its own complexity ... available for constructing another system*'. And there is interpenetration when '*this occurs reciprocally, that is, when both systems enable each other by introducing their already-constituted complexity into each other*'⁴⁵⁶.

Structural coupling applies both to the relationship between social systems and psychic systems, and to the relationship between social systems.

⁴⁵² Luhmann (2004), pp.381.

⁴⁵³ Luhmann (2007), pp.74.

⁴⁵⁴ Luhmann (1984b), pp.381.

⁴⁵⁵ Luhmann (2007), pp.87.

⁴⁵⁶ Luhmann (1984b), pp.213.

Luhmann says that '*...all communication is structurally coupled to consciousness. Without consciousness communication is impossible*'⁴⁵⁷. He further explains that communication in each operation is totally referred to consciousness because only consciousness has sense perception, and without such perception communication would be impossible⁴⁵⁸.

Not only that, but also consciousness facilitates the connected processing of utterance and understanding in communication, because at both sides the participation of consciousness is necessary. However, consciousness is neither the *subject* of communication nor the *carrier* of communication. Consciousness does not execute the operation of communication; and communication works exactly because it does not need to process or thematize the heterogeneous contents of consciousness. And this is why Luhmann emphasizes that we must leave the classic metaphor that communication is the *transfer* of the semantic contents of one psychic system to another.

Luhmann insists: '*It is not the human being who can communicate; only communication can communicate*'⁴⁵⁹; there is no communication between psychic systems and there is no communication between psychic systems and social systems⁴⁶⁰.

The structural coupling between social systems and psychic systems takes place through *language*.

Regarding the signs of language, Luhmann explains how systems theory takes distance from both the structuralist approach of Saussure, and the pragmatic or denoting approach of Pierce, Austin and Searle⁴⁶¹.

He rejects the Saussurean approach to language and believes that language does not constitute an autonomous structure or system. Language depends on the autopoiesis and the corresponding closure of both consciousness and communication. According to Luhmann, the possibility to think linguistically and the possibility to communicate linguistically, both depend on the autopoiesis and closure of the psychic systems and the social systems⁴⁶².

Further, he rejects the pragmatic or denoting approach, because '*communication cannot be reduced to 'speech acts'. It includes information and understanding as well*'⁴⁶³.

According to Luhmann, only a shift from an analysis based on linguistic theory to an analysis based on communication theory opens the way

⁴⁵⁷ Luhmann (2007), pp.87.

⁴⁵⁸ Regarding this point Luhmann also explains that the reverse influence is also true and relevant. He says that perception can also be guided by communication. The autopoiesis of consciousness can also be *irritated* –influenced- by communication.

⁴⁵⁹ Luhmann (2007), pp.76.

⁴⁶⁰ Ibid, pp.77-78.

⁴⁶¹ Luhmann (2004), pp.75.

⁴⁶² Luhmann (2007), pp.78.

⁴⁶³ Luhmann (2004), pp.75.

for comprehensive sociology (and sociology of law). This puts the controversy between structuralists and speech act theorists in perspective because, as mentioned in the previous paragraph, these theories only cover part of the phenomenon. Moreover, they miss *'the circular relationship between structure and operation, which means that structures can only be established and varied by operations that, in turn, are specified by structures'*⁴⁶⁴.

For Luhmann, and from an evolutionary perspective, language is a mechanism with high possibilities of specification capable of flexible adjustment to complex environments. Language is prepared for irritations from both consciousness and communication, without this involving the need for changes in vocabulary or grammatical rules. Structural coupling between these two sides –social systems and psychic systems- operates permanently and imperceptibly, and it is through evolution that both psychic systems and social systems are attuned to operate in a coordinated manner. In this regard, the lack of transparency between both sides is –as a consequence of their respective closures- a necessary condition for their structural coupling, because otherwise the excess of complexity available would prevent the coordination of their operations. It is through this reciprocal reduction of complexity derived from their respective closure that they can couple and coordinate their operations.

It is also through this structural coupling that both psychic systems and social systems can *'personalize' external references*. Social systems operate with the distinction information/utterance and through this it can create descriptions of *'subjects'* and *'objects'*. In this regard Luhmann explains that using the categories of Spencer Brown one can say that the recursive use of these external references condensates persons and objects, leaving them fixed as identical for future references. In this way the corresponding *semantics* are developed⁴⁶⁵.

While *language*, as a general mechanism for structural coupling remains rather stable in time, there is a second mechanism for structural coupling that is rather unstable and has certain capacity to facilitate learning. This second mechanism is called *schemata*, also sometimes called *cognitive maps* or *frames*, which are meaning combinations that serve social systems or psychic systems to give form to a memory that forgets most operations but that preserves some of them in order to reutilize them in the future. These include, for instance, *causal attribution schemes*, and *standard forms of denomination*. These also include *time schemes* that use the past/future distinction; and also *preference codes* that make special application of binary codes. All these *schemata* are used to facilitate communication and reduce complexity.

Luhmann says that it is also important –though easily forgotten- to notice that *binary codes* also facilitate the structural coupling through language, and therefore they also open the binary option to consciousness, and consequently facilitates the structural coupling of different autopoietic systems.

⁴⁶⁴ Ibid.

⁴⁶⁵ Luhmann (2007), pp.78.

Now, in a very central remark, Luhmann adds that, the structural coupling between psychic systems and social systems through language has an important consequence for the manner in which social systems interact with the external world. Nothing from the external physical world can come directly into social systems but must always pass before through the perception filter of the psychic systems; and it is then, after that filter and after the structural coupling between psychic systems and the social systems, that those elements from the external world can be observed. This also means that the mentioned psychic systems' filtering also fulfills the function of reducing complexity for social systems.

5.9. The Temporal Dimension –including Time-Speed-

Luhmann understands time as one of the dimensions of meaning. For meaning systems time is *'the interpretation of reality in light of the difference between past and future'*⁴⁶⁶. His central idea is that *'the relevance of time . . . depends upon the capacity to mediate relations between past and future in a present. All temporal structures relate to a present.'*⁴⁶⁷

From the perspective of meaning, Luhmann explains that the time horizon is not built from a beginning –in the past- to an end –in the future-. Instead *'the entire past and the entire future function as the temporal horizon-whether it is presented as chronological, and therefore linear, or not'*⁴⁶⁸.

Then, from the same perspective, he says: *'The time span between past and future in which a change becomes irreversible is experienced as the present. The present lasts as long as it takes for something to become irreversible'*⁴⁶⁹.

But then, from a rather operational perspective Luhmann says: *'On closer inspection one sees that two presents are always simultaneously given and that only the difference between them creates the impression of the flow of time. One present appears as punctual: it uses something (a clock hand, a sound, movements, the beating of the waves) to mark that things are always irreversibly changing. The world changes frequently enough for this present to be symbolized as the inexorability of time. The other present endures and thereby symbolizes the reversibility that can be realized within all meaning systems. Self-reference enables one to return to earlier experiences or actions, and it continuously indicates this possibility: a thing is still where one left it; a mistake can be undone. The finality of an action can be forestalled by a present intention, which has not yet become irreversible. Both these presents reciprocally polarize themselves as the difference between events and permanence, between change and duration, and that makes it possible for a past still visible in an irreversible event and a future already visible in a lasting present to become present. Only thus can one continuously know that something past disappears into unrepeatability and something future is just*

⁴⁶⁶ Luhmann (1976b), 130–52; Luhmann (1984b), pp.78.

⁴⁶⁷ Luhmann (1976b), pp.135.

⁴⁶⁸ Luhmann (1984b), pp.78.

⁴⁶⁹ Ibid, pp.78.

over the horizon⁴⁷⁰.

Therefore, Luhmann distinguishes between what we would call, on the one hand, *present as change* and, on the other, *present as duration*. *Present as change* appears as the time used by the system to operate from moment to moment, in each operation, which is a time that the system cannot observe as a first order observer because it is the time through which operations take place. But then we can see the *present as duration* (-present as a flowing duration in a continuum-), as a present that requires second order observation to be observed.

Therefore, Luhmann believes that we need ‘a clear distinction between movement, process or experience of change on the one hand and the ... constitution of time as a generalized dimension of meaningful reality on the other’⁴⁷¹.

Consequently, the *present as duration* will differ from one system to other. Each system, through its own meaning selections and internal descriptions will define the corresponding irreversibilities of change and, therefore, their own present durations. Additionally, second order observation, and third order observations, may have different understandings about such present as duration –which means to have different understandings about the irreversibilities of change (-which appears to be the only way in which Luhmann considers that systems can control time-)-. All this can be clearly seen, for instance, within the legal system where the validity of legal acts can be described differently throughout different moments in time.

This description of the present will also influence the way in which the past and the future are observed, because they will be observed from the present. In other words, since the time horizon is defined from the present, the past and the future will also be determined in accordance with the description of the present. As long as change is not irreversible ‘self-reference makes it possible to return to earlier experiences or actions and continuously indicates this possibility [of change]’⁴⁷². In the same sense, as long as the change is not irreversible, the system can look into the possibilities of the future, or create new possibilities, new differences, to tackle problems for which the present or the past do not seem to provide alternatives. We have already referred to the relevance of this in contemporary society. As long as the system observes surrounding complexity and contingencies, and does not find answers in the present or past possibilities available, it will be inclined to look for new differences in the future, or in the present future as Luhmann says. Once, the contingencies and uncertainties present indeterminate risks, the system might become seriously inclined towards tackling the future through new possibilities of the future. In our view, this is exactly what is causing the paradigm change from *past-oriented social perspectives* of a pre-existing order, to a *future-oriented social perspective* of an unfolding contingent future.

However, Luhmann also briefly touches on an additional aspect of

⁴⁷⁰ Ibid, pp.78.

⁴⁷¹ Luhmann (1976a), pp.135

⁴⁷² Luhmann (1984b), pp.78.

time that appears to be normally overlooked, which is that of the *speed* of social operations.

Luhmann expresses that:

'In the temporal dimension the advantage of speed surely plays a role. The themes that are preferred are those to which one can quickly contribute something. Chains of selections that can operate faster suppress those that require one to deliberate how one is going to react. This includes the fact that whoever can operationalize something first enjoys an advantage. In the fact and social dimensions, this depends primarily on connectivity. This means that the next event that will be chosen is the one that already makes clear what its succeeding event will be. As with the much-disputed evolution of life, differences in speed and the formation of sequences seem to be what makes it possible for structures to emerge in situations where that is improbable'⁴⁷³.

The idea of speed, or what we could call *time-speed*, can be better understood once we look at the way in which different systems interact through the simultaneity of their processes. The operations of different systems take place autonomously and simultaneously, and they have no point-to-point contact, which means that they take place in different moments but in simultaneously independent flowing processes. As a result of this *'whenever anything determinate occurs, something else also happens, so that no single operation can ever gain complete control over its circumstances'*⁴⁷⁴, and this means *'the uncontrollability of all occurrence'*⁴⁷⁵.

It appears to be very important to notice how the interactions between systems are subject to renewed variability and contingency when looked at from the perspective of *time-speed*.

Luhmann does not develop this point, but from the general theory and his different references to speed, it is plausible to say that different systems operate –at the first order level- at speeds that differ depending on their own operational processes. This relates to the first concept of present that he proposes, called here *present as change*, because the sequential changes that take place from one operation to the other have their own speed. In simpler terms this could be explained as different number of operations per chronological time, but not necessarily. This seems to be clear when comparing systems such as the economic system and the religious system or the art system. In the law, the time that legal procedures require to be executed and completed comes defined by the way in which a given legal system determines and describes those procedures in connection with the capacity of operation of the corresponding institutions or organizations (i.e. administrative agencies, or courts). This time-speed can be contrasted with the time-speed of the operations in the economy, for instance, in the financial markets. The religious system and the art systems, in turn, have engrained a different time-speed in their operations.

Now, as mentioned in Chapter 1, it also appears to be the case that

⁴⁷³ Ibid, pp.78.

⁴⁷⁴ Ibid, pp.42.

⁴⁷⁵ Luhmann (1998b), pp.109.

some systems –like the economic system or science system- are experiencing a process of acceleration. If we look at this phenomena, from the perspective of the structural coupling between social systems, then we may be able to see how these changes in time-speed have an influence in the structural coupling between systems; or, in other words, how the *time-speed* of different systems may vary at different speed paces or patterns, and may eventually be reciprocally influenced. This raises a very relevant question about whether the binary codes, the programmes and the different self-descriptions and semantic structures built in different systems are capable of handling such change in the time-speed, when such change is somehow 'imposed' by other systems. The closure of the system should prevent such imposition, but a *lasting irritation* of structural coupling may influence or steer the system to give preference to operations and self-descriptions that are capable of handling the new time-speed required by the environment. In such case, those other structures that were originally developed through a slower time-speed (i.e. art contemplation, religious meditation, legal assessment of principled matters) could be discontinued or not given preference in the structural coupling. Concretely speaking, in the structural coupling between the law and the economy, the legal institutions capable of handling increased time-speeds, such as the institutions of property and contracts, will be preferred over other legal institutions that have slower time-speeds of operation (administrative discretionary procedures without specified timeframes).

In this regard, I would argue that one of the forms in which the *expansion of rationalities* –and corresponding *collision*- takes place is through the imposition -in the weak sense of lasting irritation through structural coupling- of a certain *time-speed* –by one system unto another system- that is not consistent with the time-speed of the latter or with the time speed of certain relevant operations of the latter. This could be especially referred to as the expansion of rationalities through the temporal dimension –as opposed to the social dimension-. I would also call it *colonization through time*.

Again, with respect to the process of structural coupling, we may also ask whether, second order observations of the corresponding systems could play a role in adjusting their self-descriptions in order to cope with the corresponding *time-speed* changes. Additionally, we may also ask whether the change in time-speed will have an influence in the corresponding time horizon -of the *time as duration*- and, therefore, whether this will influence the definitions of irreversibility or non-irreversibility. It may well be the case that a faster time-speed may require from other systems to reduce the corresponding timeframe of irreversibility in order to more quickly define what must be left in the past. In the legal system, this is shown in the areas of commercial law, where the needs of the markets have required or imposed *status of limitations* that are much shorter for documentary credits or for commercial obligations in general.

Furthermore, there is an additional perspective that needs to be especially considered in this regard, which is normally referred to as the *increasing speed of ecological changes*; this obviously refers to the physical environment that is part of the environment of meaning systems. In this regard, Luhmann refers to the structural coupling between social systems and the physical environment (–again, through the perceptions of the psychic systems-) as an ecological hyper-cycle. At this stage he says that in modern

society the structural coupling between social systems and the physical environment are subject to *variation pressure*, which when accompanied with a *change in speed* triggers the question of whether society is prepared for a sufficiently fast learning process⁴⁷⁶.

Finally, but very importantly, an account of the temporal dimension should also consider the structural coupling between psychic systems and social systems. Here as a starting point we may remember how Luhmann emphasizes that the structural coupling between psychic systems and social systems has the bidirectional potential of reciprocal influences where *communication* can also influence how *perception* takes place. We may also recall that psychic systems appear as the ineludible gate through which information –about perceptions- of the physical environment can enter the communication systems. In general, throughout this context, we can see that psychic systems interact with different subsystems - for various aspects of daily life- at different moments and through different operations –operations of both the psychic and the communication systems-. Here again, the simultaneity of processes also applies, and no point-to-point contact between psychic systems and social systems can exist. Therefore, the structural coupling of psychic systems with legal communications, political communications, economic communications, etc, will take place separately. But in each structural coupling where the psychic system intervenes, the different temporal dimensions of each social system may have an influence on the operations of the psychic system. This can be exemplified by the general belief that the time-speed of the economy of society influences the forms of life –way of thinking- of the psychic systems. This brings up very relevant questions that cannot be answered here, such as whether the structure and operations of the psychic system are capable of handling such change in the time-speed of the temporal dimension. We may also ask whether the surrounding change in time-speed may influence the internal structures of the psychic systems to the extent that some internal processes that require an original slow pace of processing are gradually deactivated or discontinued (i.e. contemplation, poetry appreciation). Again, we could also ask whether, second order observations of the corresponding psychic systems may play a role in adjusting their self-descriptions in order to cope with the corresponding *time-speed* changes. Additionally, we could ask whether the change in time-speed of certain subsystems will have an influence in the capacities of the psychic systems to feed other subsystems that run with different time-speeds – with slower time-speeds-. This could have relevant consequences involving evolutionary tendencies towards the expansion of certain systems to the detriment of others. This could again be seen as a kind of *colonization through time*.

5.10. Contingency and Risks

Luhmann conceives *contingency*, in accordance with modal logic, as something that is neither impossible nor necessary. Therefore, contingency for Luhmann is '*just what it is (or was or will be) though it could also be otherwise*'⁴⁷⁷. Contingency can also be understood positively as the

⁴⁷⁶ Luhmann (2007), pp. 88.

⁴⁷⁷ Luhmann (1984b), pp. 165.

simultaneous inclusion of possibility and uncertainty.

Contingency at the same time indicates one possibility but directs the attention towards other possibilities. According to Luhmann, contingency has '*its core meaning in dependency and draws the attention primarily to the fact that the cause on which something depends performs itself a selection from other possibilities*'⁴⁷⁸.

In a world of self-referential systems that make selections based on meaning, every selection always involves that the other possibilities are left aside, but not permanently because those possibilities can still be selected in the following operations. In other words, their selection is contingent.

Through the increasing complexity of society, due to its process of social differentiation, the horizon of possibilities expands consistently. This appears very clearly in the observations of the natural environment by the different social systems, where *ecological communication* faces these complexities and contingencies derived from social differentiation.

Contingency is never eliminated, and risks are always present: '*all communication becomes a risk of having overlooked something that will subsequently seem relevant; or of having made a decision that subsequently seems wrong or in some other way objectionable*'⁴⁷⁹. The same applies to non-communication that can be '*construed as the omission of a decision*'⁴⁸⁰ thereafter considered necessary by the same system or by other systems.

Therefore, collisions, conflicts and misunderstandings between systems can happen and indeed permanently happen, and according to Luhmann there is no other form than a continued trial and error mechanism of structural coupling and irritation for the systems to co-evolve. There is not super-system, or background language or mediating system that can solve those disagreements, and systems will continue their recursivity as closed systems constructing their own observations.

Then, in addition to the understanding of contingency from the perspective of the social dimension of meaning, we must add the *temporal dimension of meaning*. As described in detail in the last section, this temporal dimension further increases contingencies and makes communication coordination even more improbable between systems. The temporal dimension, as said, is also critical in connection with psychic systems and with the physical environment.

In what respects to the temporal dimension, we should also remember the paradigm change towards a *future-oriented social perspective* -of an unfolding contingent future-. This paradigm change appears to be the direct result of the increasing complexities and contingencies of modern society that push for the search of new differences –or solutions- in the future.

⁴⁷⁸ Luhmann (1976a), pp.508-509

⁴⁷⁹ Luhmann (2005), pp.189.

⁴⁸⁰ Ibid.

CHAPTER 6
LAW AS A SOCIAL SYSTEM

6.1. Introduction

The current chapter intends to provide a brief description of Luhmann's theory of law, with special emphasis on those aspects of the theory that will be important to understand the discussion about reflexivity and reflexive law in the following chapters.

According to Luhmann, legal theories have been traditionally the by-product of legal education and legal practice⁴⁸¹. But these legal theories '*do not, however, match up to the expectations raised by the notion of theory in the scientific field*'⁴⁸².

In this context, we must understand that '*legal theories which are produced by legal practice and legal education are, together with the applied law texts, the form in which law presents itself as the result of its self-interpretation. They are, in this sense, products of the legal system observing itself*'⁴⁸³. In other words, they are self-observations from the internal perspective of the legal system⁴⁸⁴.

On the other hand, sociology has traditionally been '*concerned with, depending on its theoretical orientation, social behaviour, institutions, social systems- that is, with something that it is what it is, and which, at best, calls for a prognosis or an explanation*'⁴⁸⁵.

But then, in this landscape, we are left with very distant approaches that do not seem to be able to talk to each other, in which '*sociologists observe the law from the outside and lawyers observe the law from the inside*'⁴⁸⁶.

And so Luhmann asks if there is any way to bridge this gap, any '*common denominator*'⁴⁸⁷.

In order to do this, Luhmann explains that in contrast to traditional legal theory approaches, a sociological approach would firstly be concerned with defining the object of inquiry because '*whenever one is operating with questions of epistemology, that is, whether one is more committed to a realist, an idealist, or a constructivist theory, the rule about definitions (and distinctions) will apply*'⁴⁸⁸.

And here Luhmann applies the basic epistemological understanding according to which '*everything that is said is said by an observer*'⁴⁸⁹. And therefore, if we are going to refer to the observations made internally by the legal system we will be referring to an object consisting of observations of an

⁴⁸¹ Luhmann (2004), pp.53.

⁴⁸² Ibid, pp.54.

⁴⁸³ Ibid, pp.54.

⁴⁸⁴ Ibid, pp.55.

⁴⁸⁵ Ibid, pp.57.

⁴⁸⁶ Ibid, pp.59.

⁴⁸⁷ Ibid, pp.58.

⁴⁸⁸ Ibid, pp.57.

⁴⁸⁹ Ibid, pp.58. This is a quotation of Maturana and Varela (1980), pp.8.

observer; but at the same time we as subject-observers will be observing the observations of that observer. Therefore, the subject-observer will have to organize its observations as second-order observations of an object that defines its own observations⁴⁹⁰.

And so Luhmann expressly states that *'In proposing the concept of an observing system, systems theory opens the way to a fairly general constructivist epistemology. This allows not only for assessing systems that specialize in cognition, but also for observing systems of all sorts that use self-produced observations'*⁴⁹¹.

But this constructive epistemology is not equivalent to a radical constructivism of solipsistic systems because, as seen, operative closure is combined with cognitive openness so that all observing systems interact with the other subsystems of society in a manner that *'the integration of such diverse, multi-contextual constructs has to be organized through a theory of second order observations'*⁴⁹².

It is in this context that Luhmann puts forward his approach as an attempt to bridge the mentioned gap between legal theory and sociology, by combining both internal self-description and external observation as complementary perspectives for the development of a socio-legal theory of law. In Luhmann's words, through the external description we can *'take full advantage of its being an external description which is not bound ... to respect ...the premises of the understanding of its object...'*, but at the same time such an external description *'should not lose sight of its object'* and of its self-observing nature, which means that *'to acknowledge the fact that there are self-observations and self-descriptions of the object is the condition for a scientifically appropriate, realistic, and venture to say, empirically adequate description. Otherwise one would simply and inappropriately deny that there are self-observations and self-descriptions in the legal system'*⁴⁹³.

6.2. Socio-Legal Description of Law

From a methodological perspective, Luhmann clearly defines his theoretical work as a scientific endeavor. Therefore, he sees his theory of law as a sociological theory of law, which means that the theory intends to be a factual description of law, from the scientific perspective. In his words, the *'sociology of law is addressed to science and not to the legal system'*. Therefore, the analyses of the theory *'strictly avoid[s] normative implications'*. Consequently, the propositions of the theory *'remain throughout on the level of facts as they can be ascertained by sociology'*⁴⁹⁴.

As a result, relevant concepts such as those of *norm*, *validity* and *function*, do not contain any normative connotations under Luhmann's theory. In this way, the term *norm* refers to *'a certain form of factual expectation'*. In the same way, he explains that a *'law is valid if it is signed with a symbol of validity'*. Further, and as will be seen, the *function of the legal system* is only a

⁴⁹⁰ Ibid, pp.58.

⁴⁹¹ Ibid, pp.59.

⁴⁹² Ibid, pp.59.

⁴⁹³ Ibid, pp.60.

⁴⁹⁴ Ibid, pp.71.

reference, from the perspective of society, to a problem of society for which the legal system provides a solution⁴⁹⁵.

In the same sense, Luhmann says that *'law has no binding force. It consists purely of communication and structural deposits of communication, which convey such meanings'*⁴⁹⁶.

Luhmann insists that *'the distinction between norms and facts is only made by the legal system'*. If legal theory departs from this distinction then legal theory is determined by the descriptions of the legal system itself and not by science. Luhmann says: *'Merely by elaborating on this distinction legal theory defers to the legal system and is subsumed by it'*. When a sociological theory refers to the distinction between norms and facts, it merely refers to the fact that the legal system uses this distinction. But in Luhmann's theory, this distinction is not used for theory construction⁴⁹⁷.

6.3. Self-descriptions and Observations about Legal Theory

As mentioned in the introduction of this chapter, an external scientific description of the legal system does justice to its subject only if it describes the legal system as a system that describes itself and constructs theory about itself⁴⁹⁸.

In order to make the concept of self-description more precise, Luhmann distinguishes between *self-observation* and *self-description*. Self-observation is involved in the linking of operations to other operations and structures. Self-description is *'the presentation of the unity of the system in the system'*. Luhmann explains then that *'This is not just the ongoing maintenance of connectivity with the help of selected references but the reflection of the unity of the system in the system, which reflects itself'*⁴⁹⁹.

Therefore, self-description transforms the system into the topic of observation. And then Luhmann adds: *'this is not just any operation of the system, but an operation with the intention of self-description. Hence we can define it with the classic term of reflexion [reflection]. And it is a description which in addition to reflexion reflects that it is part of the system which it describes, and which must respect and accept the system if it wants to be seen as belonging to the system'*⁵⁰⁰.

Therefore, these requirements, namely the presentation or reference to the unity or identity of the system, and the autological inclusion of the description in what is described, distinguish reflexive theories from normal legal theories.

Self-descriptions *'depend on the system and on a context. They do not present what 'there is''*⁵⁰¹ but construct what follows from their

⁴⁹⁵ Ibid, pp.71.

⁴⁹⁶ Ibid, pp.72.

⁴⁹⁷ Ibid, pp.72.

⁴⁹⁸ Ibid, pp.423.

⁴⁹⁹ Ibid, pp.424.

⁵⁰⁰ Ibid, pp.424.

⁵⁰¹ Ibid, pp.425.

presuppositions.

In practice, self-descriptions can be embedded within the legal system through programmes, judicial application, legal dogmatics or legal argumentation.

Self-descriptions need to operate by making a distinction –installing a boundary- between themselves and the described objects. The problem that arises here again is that the distinction is applied to itself thereby generating a paradox. Then, as a result, the self-description requires hiding the paradox thereby generating certain partial invisibility. This also implies that, *'In the case of the legal system this means, above all, that a stop must be placed somewhere in the system where the quest for finding the final reason of law must end'*⁵⁰².

Now, when observing the self-description of the system from the outside, it is possible to confuse first order operations (which is the level described by self-description) and the second order description of those operations (which is the self-description itself). Luhmann says it like this: *'To describe the self-description of the legal system from the outside, it is tempting to use identification with legal norms'*.

In this sense, the external observation of the participant's descriptions could either refer to the participant's first order observations, or to the participant's second order observations.

In any case, a first step should be to make sure that we do not confuse operations of different systems -which can be linked through structural coupling- as if they were all part of one system. This is very clear in the case of theories that appear to eliminate clear boundaries between law and morality, as is the case of Dworkin's legal theory⁵⁰³. A different matter, as we will see in the section on Law and Morality below, is that through the operational and structural coupling of these two systems, some shared but contingent redundancies can be found in a given point in time between the two systems. In any case, as we will see later, the legal system's description of moral principles will always be carried out from the internal perspective of the normative redundancies of the legal system.

All these epistemological distinctions show that the socio-legal approach of systems theory not only distinguishes between the internal view and the external view, as traditional legal theories seem to do in a rather simplistic manner.

Systems theory allows us to distinguish the *reference* of the observation (self-reference or hetero-reference), the *perspective* of the observation (by a particular observing system about to a particular observed system), and the *level* of operations of both the observing system and the observed system (first and second order observations). But not only that, system theory also goes further into understanding the circularity of observation that results in *paradoxical observations*. And then even beyond that, it also goes on into

⁵⁰² Ibid, pp.426.

⁵⁰³ Dworkin (1998); Dworkin (1985); Dworkin (1977).

observing how the systems tackle the paradoxes by *hiding or deparadoxifying* them creating partial invisibilities –again through circular observations.

Therefore, as said earlier, systems theory presents itself as better prepared to grasp social complexity, and this theoretical capacity starts from a more complex understanding of what it means to *observe*.

In the case of *external observations* (hetero-referential observations), the theory firstly allows us to distinguish the different *observing perspectives* from which observations take place depending on the distinctions used (i.e. politics, morality, etc). And secondly, it allows us to distinguish the *level of operations* of the observer and of the observed systems. That is, first or second order level observations of the observer, observing first or second order level observations of the observed system.

In the case of *internal observations* (self-referential observations), the theory firstly allows us to distinguish the perspective from which the observation is taking place (i.e. from the judicial perspective, from the executive administrative perspective, from the legislative perspective, from the day to day private operations of citizens). And secondly, it allows us to distinguish between internal first order observations (which Luhmann calls self-observations) or internal second order observations (which Luhmann has called self-descriptions).

In this broad context of perspectives and levels of objects observed, Luhmann sees different legal theories as fitting into different forms of observation.

For instance, if we consider H.L.A. Hart's approach from a systems theoretical perspective, we could understand that this theory entails an external description (in the form of a second order observation) of a social practice (in the form of a first order operation, as the theory intends to purport it). However, these social practices –or some elements of them (i.e. normative elements)- could be considered to be forms of second-order self-descriptions of the legal system. In such a case, regarding those elements, we would be in the presence of an external second order description of an internal second order self-description. In this context, a systems theoretical approach would try to further understand how such a self-description is being developed. For instance, it would try to determine whether such a self-description is somehow limited by only considering the internal view of certain participants (and particularly the perspective of the 'officials' who 'accept' the criteria of the 'rule of recognition'⁵⁰⁴ when considering the conditions for the existence of the legal system). Furthermore, a system theoretical approach would also be interested in finding out to what extent such self-description is consistent with the first-order operations of the system; and also, and very importantly, it would also be interested in clarifying how that self-description of the legal system is dealing with the founding paradox of the legal system. It is exactly regarding this latter point that Luhmann issues a general critique of traditional legal theories for not recognizing the self-referential and circular nature of the self-production of legal validity. For him, all these legal theories, as self-descriptions of the legal system, at some point hide the paradox (thereby

⁵⁰⁴ Hart (2012), pp.116.

deparadoxifying the paradox) by making reference, for instance, to external hypothesis (i.e. the grundnorm in Hans Kelsen) or by making reference in an infinite regression to external social facts (i.e. the rule of recognition in H.L.A. Hart).

From this broad epistemological context, Luhmann's theory intends to conduct a comprehensive external description of the self-referential and hetero-referential first order and second order operations of the legal system.

However, in order to develop such a comprehensive socio-legal theory of law, Luhmann needs first to define the object of the scientific enquiry and such an endeavor needs to be based on the general theory of knowledge. As we already know, Luhmann departs from the understanding that each observation is founded on a distinction⁵⁰⁵. Under this epistemological approach '*it is evident that different legal theories apply different distinctions, and so provide different 'forms', and thus construct different objects*'⁵⁰⁶.

The socio-legal enquiry, then, should be about what is the founding distinction of law or, in other words, what defines its unity.

Therefore, this is the subject that we will review in the following section as a first step to understand Luhmann's socio-legal theory.

6.4. Law's Unity and Autonomy

Traditional legal theories have intended to understand the *constitution of the unity and autonomy* of law by recourse to *unifying principles or ends*, or by recourse to *structures* such as norms, rules and a hierarchy of the sources of law. However, according to Luhmann these attempts have not achieved a proper description of the unity and autonomy of law, that is, they have not provided a proper *description of the distinction* on which law is constituted.

Furthermore, traditional legal theories -that are especially related to legal practice- do not '*yield distinctions that constitute law but rather distinctions which are produced by legal practice*'⁵⁰⁷. Therefore, these distinctions -such as the distinction between norms and facts- do not allow us to respond to the question of how law constitutes its unity.

Systems theory replaces the traditional explanations about principles or ends or structures for an explanation through *difference*: the first founding difference for any observer is the difference between itself and the other, which in this case is the difference between the legal system and its environment.

In the case of the legal system, according to Luhmann, this difference is established through the distinction legal/illegal, which in this respect is understood as the separation of the legal system and its environment.

Through this difference, as will be explained, not only the unity of law

⁵⁰⁵ Spencer-Brown (1994).

⁵⁰⁶ Ibid, pp.67.

⁵⁰⁷ Ibid, pp.70.

but also the relevance of the environment is reaffirmed. Because as Luhmann emphatically puts it: *'we are by no means making the absurd claim that law exists without society, without people, the special physical and chemical conditions in our planet'*⁵⁰⁸.

Now, according to Luhmann, law consists of –and only of– all communications that use this distinction. Consequently, the unity and autonomy of the legal system is the result of the linking of successive communications that operate with the same distinction. And it is because this linking is based on references to previous communications using the same distinction, that the operations are recursively and self-referentially constructed.

This recursive linking of operations takes place through the symbol of *legal validity* which is an eigenvalue of the system that is itself constituted recursively on the basis of valid law⁵⁰⁹. The symbol of validity *'is attached to the normative expectations of the system'*⁵¹⁰. This takes place when there are *'legally binding decisions'*⁵¹¹. These decisions *'come about through the enactment of statutes or through treaties, through binding court decisions, administrative acts, wills, land registry entries, etc'*⁵¹²; and also through *'the establishment of corporations or exchange of contracts, affecting the legal situation and changing it'*⁵¹³.

The approach based on *difference* also implicitly entails another theoretical shift: a change from a *structure approach* to an *operations approach*. Luhmann says: *'Structures are necessary for a highly selective interlacing of operations, but the identity of law is not given by any stable ideal but exclusively by those operations that produce and reproduce a specific legal meaning'*⁵¹⁴.

This involves taking distance from structural theories of law, such as those of Hans Kelsen and H.L.A. Hart, that make use of 'external references' (i.e. Kelsen's 'grundnorm', and Hart's 'rule of recognition') to identify 'structures' (rules, norms, texts) and 'hierarchical structures' to describe the unity of the legal system. Such accounts make sense only as self-descriptions of the *operations* of the system. Instead, the symbol of legal validity circulates exclusively inside the system, recursively, from operation to operation, from moment to moment, in heterarchical networks of communications⁵¹⁵.

In this regard, according to Luhmann, a unique feature of his theory of

⁵⁰⁸ Ibid, pp.105. Luhmann more clearly says that the *'legal system deals with the environment of the social system as well as with the mental and physical states of human beings, but also with other physical, chemical and biological states...*, Ibid, pp.85

⁵⁰⁹ In modernity, the symbol of validity is attached to legal communications (stabilized normative expectations) in accordance with procedural norms established by valid law itself. See *ibid*, pp.126. In this regard, the concept of 'sources of law' is only a second order instrument, which entails an 'external reference' for applying the distinction between validity and non-validity.

⁵¹⁰ Ibid, pp.128.

⁵¹¹ Ibid, pp.129.

⁵¹² Luhmann (1995a): 285, pp.286.

⁵¹³ Luhmann (2004), pp.129.

⁵¹⁴ Luhmann (2004), pp.78.

⁵¹⁵ Ibid, pp.78, 103, 125, 126, 158.

law is that it conceives the autonomy and unity of the legal system not only by reference to its elements but also by reference to the recursive '*constitution of the elements of which the system consists*'. This, as we may remember, is the essential defining feature of an autopoietic system⁵¹⁶. Therefore, through this unique feature, the autonomy and unity of the legal system are explained by its autopoietic self-referential nature.

The theory, therefore, starts from an unusual point of departure: the acceptance of the circularity of self-reference. As Teubner explains: '*circularity, which was hitherto looked upon as a fundamentally unacceptable mode of thought, is now regarded as a productive and heuristically valuable practice, It is a way of revolutionizing not only legal theory, but our whole way of thinking about society*'⁵¹⁷.

However, as seen in the previous chapter, circularity and self-reference bring about *paradoxes* which pose severe challenges and obstacles to the observer. In the legal system this could manifest itself through fundamental indeterminacy, and so the challenge will be to understand how law deals with those inherent paradoxes.

This also relates to a more general question about how can the law deal with social complexity in general. And this idea of complexity, as seen in Chapter 1, brings us back to the issue of social differentiation and to the issue of how law interacts with other spheres of society.

6.5. Differentiation and the Function of Law

As mentioned earlier, social differentiation can be explained as a process of complexity reduction that takes place through the recursive repetition of communications. It is through this repetition in time that certain observation-schemas have become condensed or stabilized and thereby differentiated.

The differentiated social spheres conduct their observations in accordance with their own differentiated distinctions, and these observations generate diverging expectations with respect to the social and ecological environment.

And so Luhmann explains that '*Social systems in general use expectations as structures that control the process of reproduction of communications by communications*'⁵¹⁸.

As mentioned, the linking of *expectations of expectations* is in fact the linking of observations of different spheres of society.

⁵¹⁶ Luhmann (1988a), pp.14.

⁵¹⁷ Teubner (1993), pp.9. The idea of circularity has become a relevant perspective in the most varied fields of thought. See in general Danilo Zolo, "The Epistemological Status of the Theory of Autopoiesis and Its Application to the Social Sciences.," in Teubner and Febraro (1992), 67–124; also Bloor (2002), pp.31.

⁵¹⁸ Luhmann (1986b), p.117.

In this regard, as mentioned earlier, *expectations* are the temporal-dimension aspect of meaning. Concretely speaking, communication –without time- ‘*is not sufficient in itself*’, but requires ‘*a temporal extension of its meaning*’ which entails *expectations*⁵¹⁹. Here ‘*expectation*’ ‘*does not refer to an actual state of consciousness of a given individual human being but to the temporal aspect of the meaning of communication*’⁵²⁰.

It is in this context that the relevance of *the function of the legal system* can be most properly understood: the stabilization of normative expectations over time. Luhmann emphasizes that by stressing the *temporal* dimension as the basis of the function of law his theory takes distance from older doctrine in sociology that stressed the *social* function of law using concepts like ‘*social control*’ and ‘*integration*’⁵²¹.

Law’s relation to time lies in the function of norms, that is, ‘*in the attempt to anticipate, at least on the level of expectations, a still unknown, genuinely uncertain future*’⁵²². The function of law relates to the *time binding* aspect of communication⁵²³, which entails the stabilizing of *normative expectations*, that is, of expectations that are resistant to possible disappointments.

So, according to Luhmann ‘*Law consists of the exploitation of conflict perspectives for the formation and reproduction of congruently (temporally/objectively/socially) generalized behavioural expectations*’⁵²⁴. Luhmann has further explained that ‘*law deals with the function of stabilization of expectations by regulating how they are generalized in relation to their temporal, factual and social dimensions*’⁵²⁵.

Law allows us ‘*to know which expectations will meet with social approval and which not*’⁵²⁶.

From the social dimension of meaning these generalizations – generalized expectations- are but the result of the processes of condensation and confirmation of meaning⁵²⁷, but from the time dimension they are normatively stabilized through the stabilization of time binding.

So, according to Luhmann all social adjustments of law operate within this framework ‘*in order to maintain time binding and the character of consensus/dissent in a realm of reciprocal compatibility*’⁵²⁸.

⁵¹⁹ Luhmann (2004), pp.142.

⁵²⁰ Ibid, pp.143.

⁵²¹ Ibid, pp.143. Here he refers, among others, to Jurgen Habermas, Talcott Parsons and Roscoe Pound.

⁵²² Ibid, pp.147.

⁵²³ Each communication is *time binding* in so far as it determines the state of the system that the next communication has to assume.

⁵²⁴ Luhmann (1988a), pp.27. Luhmann also defined the function of law as follows: ‘using the possibility of conflict for a generalization of expectations in temporal, social and substantive aspects’, in note 24 of the Self-Reproduction of Law and Its Limits, in Teubner (1986b) pp.121.

⁵²⁵ Luhmann (2004), pp.148.

⁵²⁶ Ibid, pp.148

⁵²⁷ See section on Meaning and Observation in Chapter 5 on Systems Theory.

⁵²⁸ Ibid, pp.147.

Through all this we can see that, for Luhmann, the *function* of the legal system is defined by the problem of society that the legal system solves⁵²⁹, or in other words, by the specific contribution of the legal system to the existence and preservation of society⁵³⁰. This function is *'the essential role that law plays which allows other systems, such as economics, science, politics ... to continue to organize communications, each in their specific ways'*⁵³¹.

It is important to notice that this is the sociological description of the function of law, which may substantially differ from the internal self-description that the legal system may have of its own function (i.e. to do justice, to steer behaviour⁵³²), self-description that is normally used as a mechanism to tackle the founding paradox of the system.

Now, the legal system performs this social function by combining *'the closure of recursive self-reproduction and the openness of their relation to the environment'*⁵³³. This is to say that the legal system performs this function by being at the same time normatively –operationally- closed and cognitively open.

This is why I will now refer to this double feature of law and to the crucial combination of normative and cognitive expectations through which such closure and openness operates.

6.6. Closure and Openness of Law. Normative and Cognitive Expectations

6.6.1. Closure and Openness of Law

The closure of the legal system is expressed in that *'only the legal system can bestow legally normative quality on its elements and thereby constitute them as elements'*⁵³⁴. This means that there is no meta-rule, or meta-reference, or transcendental reference or *a priory*, or reference to any external criteria, authority or will nor reference to any social facts criteria of validity or to any hypothetical norm, or to any nomos or meta-level of spontaneous order, but only to the internal normative criteria established by the law itself.

As Luhmann further explains: *'All elementary units (e.g. legal acts) and the unity of the system as well are achieved by the reduction of complexity. They are performances of the system itself and are never given to it by nature or by other environmental conditions'*⁵³⁵.

And then Luhmann adds: *'It is always a norm which decides whether facts have legal relevance or not. After many centuries of doubts and discussions we are used today to admit that neither natural nor religious nor*

⁵²⁹ Ibid, pp.142.

⁵³⁰ King and Thornhill (2003), pp.52.

⁵³¹ Ibid.

⁵³² Luhmann (2004), pp.151.

⁵³³ Ibid, pp.19.

⁵³⁴ Ibid, pp.19.

⁵³⁵ Luhmann (1986b), pp.112.

*moral conditions have this law making potential but only legal norms. The legal system is a normatively closed system*⁵³⁶.

The closure of the legal system is connected to the difference between the system and the environment, and therefore it is connected to the 'continuous making possible of self, from moment to moment', that is, it is connected to the self-continuation of the system⁵³⁷.

From the temporal perspective, the legal system is closed in the sense that it 'produces its operations by going back to and anticipating its other operations and it can only determine in this way what belongs to the system and what belongs to the environment'⁵³⁸. This is the general time binding feature of all communication⁵³⁹ that in the case of the legal system is supplemented by the *stabilization* of this time binding aspect of self-referential communication⁵⁴⁰.

This is possible because even though all *operations* take place in the present, they connect the present with the past and the future through recursive linkages that condensate and confirm *structures*. These structures 'are only really real when they are used for linking communicative events; norms only when they are quoted explicitly or implicitly...'⁵⁴¹; and it is in this way that the system is confronted with its *memory*⁵⁴². And so Luhmann says that legal communications have, as operations, always a double function as factors of production and as preservers of structure⁵⁴³. This is a circular process whereby the production of structures requires operations and the unfolding of operations requires structures⁵⁴⁴.

But then the legal system is also a *cognitively open system*. Normative closure does not exclude cognitive openness; to the contrary, it is the basis of it. The openness of the legal system is based on the self-referential closure of the system, because it is through such normative self-reference that information is selected. The legal system 'in each of its elements and in their constant reproduction it is dependent on being able to determine whether certain conditions have been met or not'⁵⁴⁵.

In this regard, Luhmann asserts that 'following recent developments in systems theory, we see closure and openness no longer as contradictions but as reciprocal conditions'⁵⁴⁶.

In this sense, Luhmann remarks 'The legal system, basing itself on its normative self-reference, is an information-processing system, and it is able to adapt itself to changing environments if its cognitive structure is sufficiently

⁵³⁶ Ibid, pp.113.

⁵³⁷ Luhmann (1988a), pp.20.

⁵³⁸ Luhmann (2004), pp.81.

⁵³⁹ Ibid, pp.144.

⁵⁴⁰ Ibid, pp.147.

⁵⁴¹ Ibid, pp.82.

⁵⁴² Ibid, pp.82.

⁵⁴³ Ibid, pp.84.

⁵⁴⁴ Ibid, pp.84.

⁵⁴⁵ Luhmann (1988a).

⁵⁴⁶ Luhmann (1986b), pp. 113.

generalized⁵⁴⁷.

Now, these normative and cognitive orientations of the system are used simultaneously in each operation of the legal system: *'the norm quality serves the autopoiesis of the system, its self-continuation in difference to the environment. The cognitive quality serves the coordination of this process with the system's environment'*⁵⁴⁸.

Luhmann further explains: *'All autopoietic systems have to live with an inherent improbability: that of combining closure and openness. Legal systems present a special version of this problem. They have to solve it by combining normative and cognitive, not-learning and learning dispositions'*⁵⁴⁹.

Therefore, *'the differentiation of the legal system is fundamentally based on the distinguishability of normative and cognitive expectations'*⁵⁵⁰.

These normative and cognitive orientations are two different forms of uncertainty absorption⁵⁵¹, two forms of reflection of complexity⁵⁵².

6.6.2. Normative and Cognitive Expectations. Combinatorial Constraints

Normative expectations within the legal system are the normative components of legal meanings. Expectations are fixed as normative *'if when these expectations are created it is decided that they do not need to be changed in the event of being disappointed'*⁵⁵³.

It is very important to remember that these normative expectations belong in the legal system in so far as they operate with or within the internal code of the legal system. In other words, as Luhmann explains, *'there are countless normative expectations without legal quality –just as there are countless truths without scientific quality, or countless goods (for instance, clean air) without economic quality, and just as there is a whole lot of power without political quality'*⁵⁵⁴.

Furthermore, as explained before, normative expectations are integrated into the legal system –and therefore, operate within the binary code of the legal system-, through the recursive application of the operative symbolization of *legal validity*.

On the other hand, *cognitive expectations* within the legal system refer to a factual reference within legal meanings that shall be adjusted –changed-

⁵⁴⁷ Ibid, pp.114

⁵⁴⁸ Ibid, pp.20.

⁵⁴⁹ Luhmann (1986b), pp.122.

⁵⁵⁰ Luhmann (1988a), pp.19.

⁵⁵¹ Luhmann (1988a), pp.20.

⁵⁵² Luhmann (2004), pp.113.

⁵⁵³ Ibid, pp.19.

⁵⁵⁴ Luhmann (2004), pp.151. This very important remark will help us understand or at least focus our attention towards the relations between different normative expectations of different subsystems and how some normative expectations transit towards legalization. This broad remark will also help us understand how power can be disseminated beyond institutional politics.

in the event of being different. Therefore, cognitive also refers to '*adaptive requirements with respect to its environment*'⁵⁵⁵.

The choice between these two orientations arises in the face of experiences that are inconsistent with the pre-existing expectations. In such a case we can either learn and change the expectation or maintain our expectation and treat the experience as deviant.

When normative components and cognitive components of legal meanings are recursively and self-referentially linked, a *concurring or concomitant self-reference*⁵⁵⁶ takes place, in the sense that such self-reference always requires a concurring cognitive hetero-referential operation that '*serves the coordination of this process with the system's environment*'. In other words '*self-reference can never be total self-determination nor can even be total (or even adequate) self-observation*'⁵⁵⁷.

It is from this that Luhmann significantly concludes that '*The Legal system does not determine the content of legal decisions – neither logically nor by some crafty procedures of hermeneutic interpretation*'; it is through the coordination of normative and cognitive operations that this takes place. In other words, this combination excludes the possibility of solipsistic self-determination in the legal system.

Now, if the operations of the legal system combine normative and cognitive expectations, the system may need to '*face up to problems of compatibility of these divergent and perhaps even contradictory attitudes. Such combinatorial constraints may bring about limits to the growth and complexity of the system. Since closure and openness can be combined this is not a hopeless contradiction and not a real impossibility*'⁵⁵⁸.

It is in connection with the understanding of these *combinatorial constraints*, that Luhmann believes that we can find the reasons of the current '*symptoms of overstrain in the legal system*' which according to him appear to be an immune response to environmental –political- pressures and are not primarily problems of legitimacy, justice or enforcement⁵⁵⁹.

But, more broadly, I believe that it is exactly here in connection with these *combinatorial possibilities of normative and cognitive orientations*, that we can see the scope and general form of interaction between law and other subsystems.

Therefore, as will be seen in the following chapters, I believe that it is also through the understanding of the combinatorial mechanisms of the normative and cognitive orientations that we can achieve an understanding of what I will call the *reflexive form of law*.

According to Luhmann, the *mechanisms* to differentiate and combine normative and cognitive orientations (normative and cognitive aspects of

⁵⁵⁵ Luhmann (1986b), pp.122.

⁵⁵⁶ Ibid, pp.122.

⁵⁵⁷ Luhmann (1988a), pp.21.

⁵⁵⁸ Luhmann (1986), pp.117.

⁵⁵⁹ Ibid, pp.117.

meaning) work on two different levels: one general and one specific.

At the *general level* the system uses the fundamental technique of conditioning according to which certain events (decisions, legal effects) are activated only when other events are realized. This *conditional programme* can be described as a norm that defines deviant behavior and the legal consequences that derive from it, which means that the norm does not become invalidated by it. The application of the conditional programme requires cognitive operations because *'it relies on the capacity to handle information and to learn whether certain facts are given or not'*⁵⁶⁰.

Therefore, *'conditional programs are the hard core of the legal system All legal norms are conditional programs and if they are not formulated that way they can be translated into if/then relations'*⁵⁶¹.

In addition to this general mechanism, there are other *specific mechanisms* that combine the cognitive and normative components of the legal system, which are *'more subtle, subcutaneous ways to infuse cognitive controls into normative structures'*⁵⁶².

In this regard, Luhmann firstly refers to the *judicial application of norms* to specific cases: *'Judges are supposed to have particular skills and contextual sensitivities in handling cases. They apply norms according to circumstances, and if necessary generate exceptions to confirm the rule'*⁵⁶³.

Secondly, Luhmann says that *'other learning processes take place at the dogmatic level of legal concepts'*. This is because *'the conceptual framework of legal doctrine adapts to changing conditions and changing plausibilities and it may reflect and control its own change because concepts are not yet normatively binding decisions'*⁵⁶⁴.

And interestingly enough, here Luhmann immediately brings in the *time dimension* and adds: *'The actual problems within this area are more or less problems of time and speed. The unity of the legal system requires an integration of changes on both levels: court decisions and legal dogmatics. New conceptual developments ... have to wait for stimulating cases ... all this takes time – under modern conditions apparently too much time. Sufficient speed can only be achieved by legislation and legislation will change the law again and again without leaving time for court decisions and for dogmatic refinements to settle down. Within the legal system the priority passes on to the legislature. This means to some extent, a new primacy of cognitive over normative considerations. The law has to fit the society around it and we are lucky if it nevertheless remains able to fulfill its own social function'*⁵⁶⁵.

Now, considering the aforementioned *specific mechanisms* that combine cognitive and normative components of the legal system, we should also consider and include here the mechanism of *legal argumentation* to

⁵⁶⁰ Ibid, pp.118.

⁵⁶¹ Ibid, pp.118.

⁵⁶² Ibid, pp.118.

⁵⁶³ Ibid, pp.118.

⁵⁶⁴ Ibid, pp.119.

⁵⁶⁵ Ibid, pp.119.

which I will refer separately later on.

But before that, we also need to refer to the function of formality in the legal system, which is directly related to conditional programming, to the judicial application proceedings, and to the development of self-referential concepts.

6.6.3. *The Function of Formality in Law*

The function of formality in law can be understood from the perspective of the combination of closure and openness in the legal system⁵⁶⁶. But even before this, it is enlightening to understand the process of formalization of law as an evolutionary achievement⁵⁶⁷ –as a decisive variation- of the legal system, that allowed for a transition from *exclusively ad hoc and ad hominem arguments*, to general norms and general proceedings, that made possible the stabilization of normative expectations⁵⁶⁸.

Now, according to Luhmann, the function of formality in the legal system of modern society is strictly linked to the idea of self-referential closure of the system. Legal forms *'serve as symbols of the circular self-reference of the system'*⁵⁶⁹.

Here Luhmann makes an important distinction that appears to be normally overlooked⁵⁷⁰. At the stage of the analysis when he refers to symbols of circular self-reference, he is referring to forms as *rituals or restricted codes*, as forms that are tautologically valid, in the sense that they *'are valid because they are valid'*. They contain no external reference, and any *'references to the world are eliminated and replaced by references to the system itself—a typical characteristic of rituals'*⁵⁷¹. Under this notion, *'form should not be confused either with logical deduction or with conditional programming, because forms are tautologically valid'*⁵⁷².

Then, Luhmann explains that because of the coexisting closure and openness of law *'no developed legal system can rely entirely on forms'*. And he importantly adds that *'Self-reference is not only practiced simply as self-reference. Its symbolization through forms is transformed into a simultaneous practice of self-reference and external reference'*. So here Luhmann is referring to a different idea of form, where he says: *'This does not mean that forms become superfluous but they can now be related to the fact that the connection between closure and openness must be guaranteed. This is ultimately why formalism in law is equated with conditioning and logical*

⁵⁶⁶ Luhmann (1988a), pp.22

⁵⁶⁷ Luhmann (2004), pp.248.

⁵⁶⁸ Ibid, pp.249.

⁵⁶⁹ Luhmann (1988a), pp.22

⁵⁷⁰ For instance, Teubner seems to overlook this distinction in Law as an Autopoietic System (1993), pp.40, referring exactly to these passages from Luhmann.

⁵⁷¹ Luhmann (1988a), pp.22.

⁵⁷² Ibid, pp.22.

*schematization*⁵⁷³.

Therefore, under this idea, conditional programmes include normative self-reference and cognitive hetero-reference (i.e. references to social –moral, political, etc- and ecological facts). These external facts will still be observed through the structures of the legal system and in that sense these observations will still be part of the closed circular self-reference of the legal system. However, those forms will not be empty ritualistic forms (or restricted codes⁵⁷⁴), and therefore they will generate and bring in additional *variety* into the cognitive process of the system.

In this context, what is normally understood as formalization can be understood as the generalization –and stabilization- of meanings (through recursive condensation and confirmation) which transforms variety into redundancy⁵⁷⁵. In this sense, also, a conditional programme may make reference to a great diversity of *facts*, but the recursive operations of the system can transform such potential (i.e. initial) variety into redundancy. This could be expressed as a process of formalization of materiality –and it could also be explained as a process of generalization of particularity-.

What Luhmann interestingly indicates is that different legal forms have a *different potential* to combine variety and redundancy. Luhmann states: '*In the course of the evolution of law it happens from time to time that new legal forms are found which realize a higher potential for combinations*'⁵⁷⁶.

This is why in the next chapter, I will argue that the distinction between *variety and redundancy*, is more appropriate and productive than the Weberian distinction between formal and material rationality to observe how the legal system interacts with society. It will also be on this basis that I will develop the idea of the *reflexive form of law*.

6.7. The Code and Programmes of the Legal System

As explained earlier, it is the application of a binary code that allows the system to recursively refer to itself. In the case of law it is the application of the legal/illegal binary code that makes possible the autonomous self-reference of the legal system⁵⁷⁷.

It should be noted that the binary code of the legal system is normally used or interpreted in two different manners: first, as *law/non-law* to separate the legal system from its environment or more concretely to separate what is legally relevant from what is legally irrelevant; and second, as *legal/illegal* to delineate or separate what is conforming to its normative expectations and

⁵⁷³ Ibid, pp.22.

⁵⁷⁴ Here in note 24 of the 'The Unity of the Legal System' (Luhmann (1988a), Luhmann explains how rituals are conceived as 'restricted codes'.

⁵⁷⁵ Regarding the distinction between *variety and redundancy* see the subsection on Meaning in the previous chapter, and also subsection on *Legal Argumentation* in the present chapter.

⁵⁷⁶ Luhmann (2004), pp.321.

⁵⁷⁷ Ibid, pp.93. pp.102.

what is not⁵⁷⁸.

Luhmann depicts a broad picture of the legal system, beyond the organized practice of courts, officials and parliaments⁵⁷⁹. However, this broad understanding must be put in the context of how the binary code is operationalized through the symbol of *legal validity*, which is transferred from operation to operation recursively, and which '*is necessary, especially for crossing the boundary between legal/illegal*'⁵⁸⁰.

The sole mechanism that defines the boundaries of the legal system is its single binary scheme. This excludes third, fourth or fifth values. Therefore, a communication cannot be identified as legal in any other way. Consequently, '*The law of society is realized through the reference to its binary coding –and not by any generative rule (however hypothetical or categorical, reasonable or factual)*'⁵⁸¹.

The binary coding does not depend on whether first order observers explicitly use the code. Through the use of previous communications of the legal system we observe new communications of the legal system, and therefore the application of the code involves a second order observation operation⁵⁸².

As a result, a first order legal operation may also be subject to legal assessment in a second order process in application of the legal/illegal code. This is the reason why legal decisions can be declared illegal.

This is directly linked to the closure of the legal system because such closure '*is achieved only at the level of the second order and only by a scheme that can be operated at this level alone*'⁵⁸³.

Now, even though the code operates as a way to connect communications of the legal system, the code is not the sole mechanism to orient the operations of the legal system, and is not enough for producing information and legal communications. In other words, the code is not a norm and '*is not a successor of the old concept of principle*'⁵⁸⁴, and does '*not provide any commitment of the system to finality or perfection*'⁵⁸⁵.

Here Luhmann deals with the '*deficiency of a pure coding from two vantage points: the temporal and the factual*'⁵⁸⁶. From the temporal perspective the code remains unchanged and does not allow the adaptation of the system to the environment. This is because, '*the code represents the autopoiesis of the system, which either happens or does not happen. As a result, there is a degree of harshness to the code*'⁵⁸⁷. And from '*the factual perspective the code is a tautology and is, if applied to itself, a paradox. This*

⁵⁷⁸ Ibid, pp.182.

⁵⁷⁹ Ibid, pp.100-101.

⁵⁸⁰ Ibid, pp.128.

⁵⁸¹ Ibid, pp.101.

⁵⁸² Ibid, pp.101.

⁵⁸³ Ibid, pp.101.

⁵⁸⁴ Ibid, pp.190.

⁵⁸⁵ Ibid, pp.193.

⁵⁸⁶ Ibid, pp.190.

⁵⁸⁷ Ibid, pp.190.

means that the code alone is not enough to produce information'.

It is in this respect, and for this reason, that traditional legal theory has tried to resort to a '*higher level of meaning*', that is, to hierarchical ordering (hypothetical or otherwise), or to meta-levels or to meta-procedures, whereby the highest values or the meta-values or procedures would produce differences at the lower levels.

Systems theory provides a different solution that refers to the '*internal distinction of the system between coding and programming*'⁵⁸⁸.

Because of the binary nature of coding, it operates as condition for further conditioning – for further determination of which of the two values applies. It is in this respect that *programming* comes into play, to supplement and operationalize the coding.

Luhmann explains: '*Since the values of legal and illegal are not in themselves criteria for the decision between legal and illegal, there must be further points of view that indicate whether or not and how the values of the code are to be allocated **rightly** or **wrongly**. We shall call these additional semantic elements (in law and in other coded systems) programmes*'⁵⁸⁹.

Programming supplements the code by orienting the semantics of law through the definition of what is the right or correct or appropriate application of the code. Only law's programmes –under the code- can specify what is legally correct.

Here the discussion between Luhmann and Klaus Gunther is illuminating. Gunther asks: '*what can it mean that programmes decide on the proper coordination of facts and code value, if decisions such as this can no longer be programmed and conditioned unequivocally?*'⁵⁹⁰. Luhmann's answer is: '*this decision can be programmed and can be conditioned but not always unequivocally, and that means, achieved by purely logical means. The fact that programmes have to be sensitive to change and must be changeable themselves, does not preclude that they do not fulfil their functions in the interpretation preferred at the time. It is a matter for juridical argumentation to find this interpretation and possibly its modification but not for an association of law with a regulative order of a superior kind. 'Appropriateness' is not a criterion of a superior kind but at best a formula for reasoning which can help to sum up the findings of juridical argumentation*'⁵⁹¹.

Therefore, the two deficiencies of coding relating to temporal invariance and adaptability to social change, are addressed through the recursive unfolding of the programmes that are subject to considerations of correctness, logic and appropriate reasoning, as expressed in legal argumentation.

This also entails that the operation of the code through programmes is

⁵⁸⁸ Ibid, pp.192.

⁵⁸⁹ Ibid, pp.192. Bold added.

⁵⁹⁰ Ibid, pp.194, as quoted by Luhmann.

⁵⁹¹ Ibid, pp.194.

not random, is not arbitrary⁵⁹², but follows a contextual and historical process of unfolding of self-referential communications. So Luhmann says: *'It goes without saying that this cannot happen arbitrarily. Since the medium can only reproduce itself through its forms, there is always a historical context'*⁵⁹³. And *'law's programmes must be suitable'*⁵⁹⁴.

In this context we should also refer to the problem of the *certainty of the law*. The distinction between the code and the programme also allows us to distinguish two variants for the understanding of certainty: first, certainty in the sense that legal matters will be handled exclusively through the binary code of the legal system (for instance, not through political power or economic interests that are not recognized by law), which was a serious problem in old societies and still in developing countries; and second, certainty in the sense that legal cases will be solved by programmes that can be more or less predictable depending on the historical condensation and confirmation of meanings involved.

Conditional Programmes and Purpose-Specific Programmes

According to Luhmann, contrary to the opinion of the followers of the 'social engineering approach', programmes of the legal system are always *conditional programmes*.

Conditional programmes have the 'if ... then ...' structure⁵⁹⁵, through which they spell out the conditions under which the legal and illegal values are allocated.

In a world of complexity, conditional programmes are used to reduce complexity and establish *'order in terms of fixed links'*⁵⁹⁶.

It is important to notice that conditional programmes are applied only using elements that *'can be treated as past at the time of decision'* and *'prevent any future facts, not accounted for at the time of decision, from being relevant'*⁵⁹⁷.

And it is exactly in this respect that we can understand the *purpose-specific programmes* which pursue the achievement of some objective that is specified in the programme itself. In this case, future facts become relevant for the operation and application of the programme which may change or adjust depending on future facts.

So in this sense it is clear why the legal system uses conditional programmes considering the function of law, namely the stabilization of normative (contra-factual) expectations. The law cannot make it contingent on the future whether an expectation to which the law wants to commit now will be legitimate in the future. Society needs to know now or at the moment of the

⁵⁹² Ibid, pp.195.

⁵⁹³ Ibid, pp.195.

⁵⁹⁴ Ibid, pp.195.

⁵⁹⁵ Regarding the meaning of this form, Luhmann refers to Neil MacCormick's *Legal Reasoning and Legal Theory* (Oxford, 1978), 45-53.

⁵⁹⁶ Ibid, pp.197.

⁵⁹⁷ Ibid, pp.198.

decision and this can only be achieved in the form of conditional programmes.

In law we can also find what appear to be purpose-specific programmes but a more thorough assessment shows that they are really only '*nested in conditional programmes*'⁵⁹⁸. Luhmann emphasizes that '*it would be a juridical disaster if measures had to be considered illegal if it turned out that their purpose could not be achieved in the intended way ...*'⁵⁹⁹.

Therefore, in the end what would appear as a purpose-specific programme will operate as a conditional programme through the selection by the judge of the appropriate means to achieve the purpose, which can only be done from the observing perspective of the present future. Any '*third values*' included in purpose-specific programmes that seem to break the binary nature of the legal code, only operate as an intermediary code that facilitates the application of the binary code. And so, at the end and in logical terms, it appears to be a tautology: legal is what legality deems to be legal.

For Luhmann the interplay between other-systems purpose-specific programmes and the legal system's conditional programmes, represent one essential form of interaction between law and society. But for such interplay to be productive, it is necessary that both systems and their types of programming remain separate⁶⁰⁰.

6.8. The Judicial Subsystem and Proceedings

According to Luhmann, the judicial system is a differentiated subsystem of the legal system.

This differentiation is based on the distinction between *legislation* and *jurisdiction* that can be understood as a result or manifestation of the structural coupling between the legal system and the political system, and particularly, as a result of the schema of the *rechtsstaat* (rule of law) that reciprocally connects these two systems around the *principle of legality* (see below '*structural coupling between politics and law*').

This differentiation between *legislation* and *jurisdiction* can be understood as a way to apportion the risk of legal decision-making. According to Luhmann this differentiation just follows the lines through which Aristoteles proposed to separate the *issuance of general norms* and the *application of them* to concrete cases '*without fear or favour*'⁶⁰¹. In modern society, it was Jeremy Bentham who emphasized the distinction between legislation and jurisdiction on the basis of the principle of legality, to avoid the arbitrary decisions of the courts⁶⁰².

This differentiation can be analyzed, at the first order level, as the differentiation of the '*corresponding proceedings, that is, it depends on the evolution of norms of competence and their restrictive conditioning*'⁶⁰³.

⁵⁹⁸ Ibid, pp.196.

⁵⁹⁹ Ibid, pp.200.

⁶⁰⁰ Ibid, pp.203.

⁶⁰¹ Ibid, pp.276. Ref. Aristotles, Rhetorics I 1354b.

⁶⁰² Postema (1986), pp.191.

⁶⁰³ Ibid, pp.277.

The judicial system is in charge of the '*application of law by deciding in individual cases*', with the particularity, in modern society, that it is subject to a prohibition of denial of justice.

Luhmann sees an original circularity between legislation and jurisdiction, a circularity that involves a '*mutual limitation of the ambit of decisions*'. Luhmann further explains: '*The judge applies the law according to the instructions of the legislation. And the legislator would embark into a 'trip into the blue' (Esser) if consideration were not given to the suitability of the new laws to the premises on which decision-making is arranged in the courts.*'⁶⁰⁴.

According to Luhmann, the legal system establishes mechanisms to hide the circularity, through arrangements of an asymmetric relationship between legislation and jurisdiction, for instance through the doctrine of the sources of law, in this way avoiding '*admitting that the court itself creates the law that it applies*'⁶⁰⁵.

The situation becomes more complex when the courts cannot resort to '*non-liquet*' (it is not clear) -because of the prohibition of denial of justice- for cases in which there is no law or no clear law to decide a case.

But for Luhmann it seems clear that because the judicial decision can only be made in the present '*the decision is not determined by the past (including of course, laws which were passed, acts which were committed).* The decision operates within its own construction, which is only possible in the present'⁶⁰⁶.

However, because the legal system cannot know the future, and because it needs to stabilize expectations, it '*fosters the illusion that a decision should and could be determined by the past, at least in the legal system with its capacity to capture the past in its proceedings*'⁶⁰⁷. It could be added to Luhmann's remarks, that this is the way in which the legal system, through self-description, hides its paradox and constructs legitimacy for the operation of the system under the principle of legality.

But what really seems to determine the form of operation of the modern judicial systems is social complexity. Because the '*awareness of complexity arises which eclipses the claim that the problems of the world can be worked out logically or even theoretically*'⁶⁰⁸.

This seems to be the only factor that can explain the prohibition of denial of justice, which did not exist in Roman law or even in medieval law that provided legal protection for a limited number of well-defined actions (actio, writ).

⁶⁰⁴ Ibid, pp.280, 278.

⁶⁰⁵ Ibid, pp.281.

⁶⁰⁶ Ibid, pp.283.

⁶⁰⁷ Ibid.

⁶⁰⁸ Ibid, pp.285.

Because '*non-liquet cannot be excluded simply on logical grounds*'⁶⁰⁹, and the prohibition of denial of justice does not follow either from the binding force of statutes because there will always be 'gaps in law'.

Therefore, the courts are forced to decide unregulated cases and 'hard cases', and have to '*create, postulate and assume such a law, without being in position to guarantee that the programme for the decision making in this case will be valid beyond deciding this particular case*'.

In this context, the development of the modern discourse on principles appears as a by-product of the prohibition of denial of justice. In the same way, the reference to 'moral reasons' on decision making can be explained in this context. Here Luhmann opposing Dworkin says: '*This may lead to some 'defensibility' for decisional rules but it cannot lead, under modern conditions, to the incontestability of their validity*'⁶¹⁰.

Finally, we must consider the critical function of *proceedings* within the judicial system because they regulate –and self-organize– a timeframe that allows the legal system to feed from the factual complexity⁶¹¹ derived from the application of the law. In this way, proceedings also offer opportunities for participation, for contributions and cooperation from the participants, thereby generating legitimacy.

It is in these *proceedings* that we see a process without consensus at the beginning or at the end, in a conflux of different perspectives of different observers capturing communication from diverse approaches of social meaning and from diverse time dimensions; and so here one can see the '*irritability that stems from uncertainty*'; and how this process allows for the '*creative transformation of its premises*'⁶¹².

And here Luhmann importantly declares: '*There is no normative order that has developed a reflexivity that runs on proceedings. It can be found only in law and not, for instance, in morality*'⁶¹³.

Here we find an important reference to *reflexivity* that relates to the stage of application of the law, and which will be very important for our analysis of reflexivity in the next chapter. But Luhmann moves beyond *proceedings* to discuss *legal argumentation*.

In a manner that somehow resembles the late approach of Neil MacCormick that in respect to procedural approaches that make recourse to 'ideal speech situations', or to tests of universalizability and to principles (i.e. Habermas, Alexy, Scanlon), still wonders and questions '*what it is reasonable for anyone*' and believes that '*The procedure of procedurally testing arguments seems to face the risk of leading into an infinite regress*'⁶¹⁴. And so even though MacCormick recognizes that procedural approaches '*enable us to scrutinize claims about what is reasonable in the light of acknowledged*

⁶⁰⁹ Ibid, pp.286.

⁶¹⁰ Ibid, pp.287. The reference to Dworkin is to Taking Rights Seriously.

⁶¹¹ Ibid, pp.286.

⁶¹² Ibid, pp.287.

⁶¹³ Ibid, pp.208.

⁶¹⁴ MacCormick (2005), pp.22.

constraints of rational discourse', this appears to leave a wide space where commonplace principles or topoi *'are still needed as starting points but they are challengeable within the argumentation'*⁶¹⁵.

In a similar manner, Luhmann does not stop at procedures and recognizes a critical function to legal argumentation in the process of the self-referential reproduction of the legal system⁶¹⁶.

6.9. Legal Argumentation

According to Luhmann, legal argumentation is a central aspect of the legal system, because it is by legal argumentation that the *code* and *programmes* of the legal system are applied, through the space and timeframe provided by *proceedings*.

Legal argumentation departs from valid law. Legal validity and argumentation are linked through legal texts, through structural coupling⁶¹⁷. Legal validity is a *'precondition for limiting legal argumentation ... and for preventing legal arguments from being derailed by moral or other prejudices'*⁶¹⁸.

At the level of first order observation, the combination of all texts is conceived as the legal system. Interpretation, whether conceived -as in older doctrines- as a process that leaves the text invariant or conceived as a reconstruction of the text, can be understood as a first-order observation. Legal argumentation, instead, occurs *'when the question arises of how the text can be handled in communication'*⁶¹⁹ and therefore argumentation goes beyond an assumed rationality of the text onto the persuasive powers of grounds or reasons, in the process of communication. Legal argumentation presents interpretations of texts in reference to *decision-making*⁶²⁰. This takes place at the level of second order observation⁶²¹. And so, only at this level can rules be formulated such as: texts are not to be understood verbally but analogously. In this context, faced with various possibilities one has to look for a convincing reason, the ratio, the normative criteria on which the text is based.

Legal argumentation *'is a means for the legal system to convince itself, to refine and continue its own operations in one direction (and not the other)'*⁶²², and it is a *'mode of operation of the system, but a mode of special kind, a mode specialized in self-observation'*⁶²³.

⁶¹⁵ Ibid.

⁶¹⁶ There is in fact a wider resemblance in approaches here, since both MacCormick and Luhmann give great relevance to the silogism (conditional programmes) and to legal argumentation.

⁶¹⁷ Luhmann (2004), pp.305.

⁶¹⁸ Ibid, pp.305.

⁶¹⁹ Ibid, pp.305.

⁶²⁰ Ibid, pp.325.

⁶²¹ Ibid, pp.307. Here Luhmann makes also reference to Neil MacCormick's denomination of 'second order justification', in *Why Cases Have Rationes and What These Are*, in Goldstein (1987), 155-82, at 161.

⁶²² Luhmann (1995a), pp.286.

⁶²³ Ibid.

For Luhmann, argumentation communications ‘*appear when and only when the system arouses itself through difference of opinion as to the attribution of the code values legal or illegal*’⁶²⁴. So, legal argumentation is (i) self-observation; (ii) in the context of disputed or contested opinions; (iii) about the attribution of the code; all in the recursive context of autopoiesis⁶²⁵.

And here Luhmann asks: ‘*But how is this second-order observation then oriented, this observation of observation of texts still bound to texts and dependent on them?*’⁶²⁶

According to Luhmann, ‘*argumentation itself is not a normative process... But what it produces can be distilled as rules or principles, with the effect that legal doctrine itself can be treated, with hindsight, as a ‘sources of law*’⁶²⁷.

This second-order observation of the observation of the legal materials operates, according to Luhmann, through the distinction between *grounds or reasons and errors*.

In this respect, Luhmann explains, referring and concurring again with the ideas of Neil MacCormick⁶²⁸, that the polemic against logic and deduction that has become customary in recent jurisprudence is exaggerated. Because the very distinction between reasons and errors ‘*says something about the role of logic in legal argumentation*’⁶²⁹, and because ‘*it is right to think that error-free arguments do not yet supply good grounds but it cannot be concluded that logic can be dispensed with as a tool for error control*’⁶³⁰. For Luhmann, logic allows proving errors, but it also allows law to present itself and its operations as consistent and continuous over time, regardless of the changes in criteria.

Once the side of *grounds* has been indicated, a sub-distinction between good and bad grounds unfolds. And here Luhmann does not see any principles, or assumptions but only two extremes of a duality in the form of a possible functional complementarity between the *legal texts*, on the one hand, and the ‘*instant case*’, on the other.

The process of legal argumentation ‘*must start from the law in force, in spite of all the freedom of argumentation in new situations, it cannot allow a legal norm to lose its validity just because someone infringes it. By contrast, it can and must act cognitively and, if necessary, revise expectations where fact-finding is concerned*’.

We can grasp this process also in light of the distinction between normative self-reference and cognitive external-reference, which at the level of argumentation (and legal doctrine) is expressed in the distinction between *concepts and interests*.

⁶²⁴ Ibid.

⁶²⁵ Luhmann (2004), pp.315.

⁶²⁶ Luhmann (1995a), pp.288

⁶²⁷ Luhmann (2004), pp.326.

⁶²⁸ MacCormick (1994).

⁶²⁹ Luhmann (2004), pp.308.

⁶³⁰ Luhmann (1995a), pp.289

Here 'one cannot expect the outcome of all this to be what is premised by a theory which understands the practice of courts as an application of fixed rules (even if they are rules of self-/judge-made law). On the contrary, argumentative orientation is constantly shifting because its recursive support shifts from situation to situation'⁶³¹.

The practice of legal argumentation creates a special juridical semantics that confirms that operative closure of the legal system does not only exist at the level of legal validity, but also at the level of argumentation.

Here an autological process takes place whereby argumentation creates grounds and applies them to ground the created grounds, and so, it is forced to self-referential conclusions. And this is what triggers the need of richer, second and third order observations, because 'we know today that these grounds cannot achieve their purpose and that freedom from error is always based on assumptions whose freedom from error cannot be guaranteed within the same system'⁶³².

In order to understand how second and third order observation can play a role in understanding argumentation, we need to start from a distinction between *redundancy and information*, which in systems theory is transformed into *redundancy and variety*. A communication process 'produces information in so far as it produces surprises. It is redundant in so far as this is not the case and, instead, supports itself in processing information on what is already known'⁶³³. Therefore, 'repetition makes information superfluous, which means, quite simply, redundant. To that extent, communication may also be seen as the ongoing conversion of information into redundancy'⁶³⁴.

In this context, argumentation operates as observation of redundancies, and the selection of good grounds or good reasons appears to be the selection of *adequate redundancies*. Those redundancies are but the result of repetition that involve condensation and confirmation, which make possible the definition of identities and generalizations. So, for Luhmann, 'reasons are symbols for redundancy'⁶³⁵, and legal principles may also be considered as *formulae for redundancy*, which are compatible with different degrees of variety⁶³⁶. Redundancies, following the terminology of evolution theory, could also be called 'attractors' which organize the processing of information, case by case without need to refer to the unity of the system. Therefore, 'from the viewpoint of coordination, redundancy is the invisible hand of the system'⁶³⁷.

Here we can distinguish between the intended selections (i.e. visible hand) from unintended reproduction of redundancies of the system in each operation (i.e. invisible hand). According to Luhmann, some scholars use here

⁶³¹ Luhmann (2004), pp.314.

⁶³² Luhmann (1995a), pp.289. Luhmann notices that in order to avoid all these problems, theories of argumentation appear to be shifting more and more towards principles of procedure (e.g. Habermas, Alexy and Wiethölter)

⁶³³ Ibid, 292. This means that this form, at the same time, separates events and structures.

⁶³⁴ Ibid, 292.

⁶³⁵ Luhmann (2004), pp.331.

⁶³⁶ Ibid, pp.314.

⁶³⁷ Ibid, pp.318. Here Luhmann also refers to the opinion of Martin Shapiro, in 'Toward a Theory of Stare Decisis', Journal of Legal Studies 1 (1972) 125-34.

the notion of institution⁶³⁸, which combine established practices and practical reason, and which define practical argumentation as guided by reason. In this sense, for him, these latter theories remain committed to the level of first order observation.

From the perspective of a second order observer who wants to assess the legal system in the way it operates (and not only assess the reasons and the conditions of validity of operations), what matters is to understand how the system achieves consistency beyond intended selections, beyond visible operations. According to Luhmann, the creation of redundancies by the system is the answer to this. *'If justice is given by the consistency of decisions, we can also say: justice is redundancy'*⁶³⁹. This is a systemic concept of justice that cannot be realized case by case, but only from a negative perspective of excluding obvious inconsistencies.

Here we must also consider *variety*, because *'variety provides a measure of complexity, namely the number and multifariousness of events which set off information within the system'*⁶⁴⁰ and because *'variety complements the system and prevents it from getting stuck in the rut of habit'*⁶⁴¹ -of its own redundancy-.

The greater the variety, the larger the diversity of unknown options, the more difficult that it becomes to select the proper option, and the more extended the linkages and the time required to process the information.

The increase in variety involves an increase in the *responsiveness* of the legal system to its social and ecological environment. This increase in responsiveness, taken to an extreme, could imply that the legal system would treat each situation as a new situation. This would involve a great overload of complexity for the system, making it very difficult for law to fulfill its function to stabilize normative expectations.

One challenging scenario of this kind takes place when special considerations of empirical consequences in the future (as *future present*) become a prevalent form of grounding, which brings in an enormous variety that the system can only tackle through general mechanisms or formulae of balancing benefits, interests and consequences, thereby creating further variety and complexity.

It is with respect to this overload of complexity derived from increased variety that argumentation serves to *'restore adequate redundancy. This is the function of grounding'*⁶⁴².

'Argument overwhelmingly reactivates known grounds, but in the practice of distinguishing and overruling occasionally also invents new ones, to achieve a position where the system can, on the basis of a little new information fairly quickly work out what state it is in and what state it is moving into. Using

⁶³⁸ Here Luhmann refers to Neil MacCormick's 'Law as Institutional Fact', Law Quarterly review 90 (1974), 102-29

⁶³⁹ Luhmann (2004), pp.319.

⁶⁴⁰ Luhmann (1995a), pp.292.

⁶⁴¹ Luhmann (2004), pp.332.

⁶⁴² Luhmann (1995a), pp.292.

*argumentation, the system reduces its own surprises to a tolerable amount and allows information only as 'differences added in small numbers to the stream of reassurances'*⁶⁴³

But there are several ways to generate redundancies, and it is possible that one form of redundancy is more compatible with greater variety than others. In other words, *'variety and redundancy are matters that can both increase in relation to each other'*⁶⁴⁴.

Interestingly, and as already quoted, here Luhmann states: *'In the course of the evolution of law it happens from time to time that new legal forms are found which realize a higher potential for combinations'*⁶⁴⁵. This indicates that depending on the legal form, the capacity for combining closure and openness, redundancy and variety, will differ. This will be a central aspect of my argument about reflexivity and the reflexive form of law as will be developed in the next chapter.

6.10. Structural Coupling

As explained in the previous chapter, selective reduction of points of interactions between systems (-achieved by structural coupling-) is a necessary condition to facilitate *resonance*⁶⁴⁶ of the legal system with its environment. And not only that, it is through such reduction of complexity that the legal system becomes able to build its internal legal complexity. Here we already see a clear connection between *structural coupling* and the *variety/redundancy distinction*. Structural coupling appears as the connection of redundancies of different systems⁶⁴⁷.

Now, in this context, we must go back to the idea of *irritations*, which have also been called *disturbances*.

And a critical question arises here as to *'how a system can develop its ability to be irritated'*⁶⁴⁸; or in the terms used by Luhmann when discussing the structural coupling between the legal systems and the economic system, this is a question about which mechanisms can guarantee *'that a high level of mutual irritations in both systems can be absorbed'*⁶⁴⁹.

But here again the answer goes back to the fundamental idea of differentiation, closure and autonomy. The systems can only achieve this state of mutual irritations if they remain separated and autonomous⁶⁵⁰.

Therefore, mutual irritations must take place through mechanisms of structural coupling that are compatible with the autonomy of these systems

⁶⁴³ Ibid, pp.292. Here again referring to Shapiro's 'Toward a Theory of Stare Decisis' (1972), pp.125.

⁶⁴⁴ Luhmann (2004), pp.321.

⁶⁴⁵ Ibid, pp.321.

⁶⁴⁶ Ibid, pp.382.

⁶⁴⁷ The ensuing question would be how such structural coupling is related to the development of variety. My thesis, in the following chapter, will be that this will depend on the degree of reflexivity of the legal forms used.

⁶⁴⁸ Ibid, pp.383.

⁶⁴⁹ Ibid, pp.390.

⁶⁵⁰ Ibid, pp.411.

and their operative closure.

In the case of the structural coupling between the legal system and the economic system, according to Luhmann, these coupling mechanisms are: *property* and contract.

The economic system operates through the generalized symbolic media of money, and therefore it includes all operations transacted through monetary payments. The functional differentiation of the economy was achieved by the circular connection of monetary operations through the application of the binary code payments/non-payments.

Monetary payments take place on the basis of a distinction between property/non-property. This distinction is operationalized through the distinction between owners/non-owners because it is through the owner's consent that law defines an area of communications.

From the perspective of the economic system the legal protection of property entails access to the money economy (in relation with the corresponding asset).

Luhmann explains that, *'property can only be properly understood as a mechanism of structural coupling with regard to its double significance in its position within the legal and economic systems, respectively. ... The coupling turns operations of the economic system into irritations of the legal system and operations of the legal system into irritations of the economic system'*⁶⁵¹.

More broadly expressed, each system presents complexity –and variety– to the other system. The economic system pursues to tackle scarcity through economic efficiency under conditions of complexity created by the legal system, and the legal system pursues the stabilization of expectations under conditions of complexity created by the economic system.

In this context, property still remains as an initial distinction, because property needs to be understood in the dynamic recursive process of economic transactions, over time, and this brings in the concept of *contract*, which allows the legal system to distinguish between before and after different monetary transactions. This also means that *'property, which is to be assumed as the basis in all transactions, must be measurable in money'*⁶⁵².

The development of contract in the legal system can be understood in contrast to usual forms of reciprocity in other areas of society because under contractual arrangements the inequality of the parties is not involved in the assessment of performance. The legal validity of a contract is not affected by considerations of inequality *'which is exactly why the contract is suitable as a mechanism for structural coupling'*⁶⁵³. It is on the basis of this evolutionary achievement that economic rationality becomes possible, because contracts *'stabilize a specific difference over time while being indifferent to everything else, including the consequences of the contract for individuals and business*

⁶⁵¹ Ibid, pp.392.

⁶⁵² Ibid, pp.393.

⁶⁵³ Ibid, pp.395.

*no party to it*⁶⁵⁴.

Now, the fact that structural coupling is a mechanism that '*separates and joins*', can be demonstrated by how the contexts of property and contract are treated differently in the legal and economic systems. In the economic system the value of property comes defined mainly by its –contractual-exchange value. Instead, the legal system distinguishes the legal claims arising from property and legal claims arising from contract.

At the same time that the structural coupling between the legal and economic systems unfolds around the institutions of property and contract, a parallel transformation unfolds in the *political system* where the ideas of freedom of contract and the protection of property defined the possibilities of state intervention, that is, the exercise of power in the relationship State/individual. As Luhmann puts it: '*The structural coupling between the legal system and the economic system became the medium for the medium of political power*⁶⁵⁵. All this will be relevant to the analysis of the form of property and of the general system of property rights which will be described in Chapter 9. This also introduces us to the structural coupling between law and politics.

6.11. Law & Politics

6.11.1. The Political System. A Polycentric Non-Exclusionary Approach

According to Luhmann, in the process of functional differentiation, politics unfolds as a differentiated subsystem of society whose unique function is the *production of collectively binding decisions*. The symbolic generalized medium of politics is *power*, which is then the medium for the implementation of collectively binding decisions.

Politics is organized on a binary coding that operates in two manners: first, as a distinction between *government and governed* to separate politics from its social environment (distinction that can also be posed as government/non-government, to separate those matters that belong to politics from those that are not relevant to politics), and second, as a distinction within the side of government between *government and opposition*⁶⁵⁶.

The political system encompasses all communications related to the production of collectively binding decisions through the exercise of institutional power and through the binary code of government and opposition. This means, that all other communications belonging to other subsystems of society and which do not require or involve such exercise of institutional power through the government and opposition code, are not included within the political system. Therefore, according to Luhmann, most communications taking place in society are not political, in the sense that they do not belong to the subsystem of politics, and they are managed through the internal criteria of the other spheres of society.

⁶⁵⁴ Ibid, pp.395.

⁶⁵⁵ Ibid, pp.402.

⁶⁵⁶ Luhmann (1990c), pp.167.

Political decisions would result from the operational unfolding of the binary code through the interactions between the three subsystems of the political system: the executive (the 'political' subsystem), the legislative (the 'administrative' subsystem) and the public.

In line with Luhmann's insistence that society has evolved towards a polycentric, non-hierarchical and differentiated society in which each subsystem operates with a distinct type of rationality, and in which –therefore– no subsystem can assume a privileged exclusionary position or status of primacy or priority over any other system, his conception of the political system also rejects any claim that the political system would assume any such primacy within society.

The political system would have an important role, however, in case of conflict between or among the different subsystems' observations or communications that may require a solution through a collectively binding decision. Cases of this kind could be found, for instance, in conflicts between the economic system and the legal system with respect to a financial crisis; or in conflicts between the educational and religious systems regarding the content of educational programmes; or in conflicts between the scientific system, the art system and the legal system regarding the importance of ecological intangibles.

In this sense, it has been said that Luhmann's theory appears to see the political system as a rather residual instance both to handle matters that are not duly resolved by other subsystems, and also to solve conflicts between systems to maintain the conditions of systems differentiation⁶⁵⁷. This would seem to point towards an understanding of the political system as a center of higher rationality in society⁶⁵⁸. However, I believe that Luhmann would probably insist that this refers only to those matters that require the medium of power to effect collectively binding decisions, and not to all other decisions or meaning selections that remain under the competence of the various spheres of society. For instance, it may well be that some conflicts or contradictions between some subsystems fall under the sphere of morality, the sphere of law or the sphere of science, and that this in itself would not make them a center of higher rationality in society⁶⁵⁹.

Luhmann's views on the political system have been traditionally contrasted with those of Carl Schmitt who conceived the political system as

⁶⁵⁷ Thornhill (2007): 499–522, pp.510-11.

⁶⁵⁸ Ibid, pp.512.

⁶⁵⁹ In this sense, it would rather seem that different spheres of society also appear to be channels for the distribution of power, and here the question would be whether, within the systemic logic, we can understand that there is more power in society than the institutional political power. This appears to be the position of Teubner when he refers to Foucault's idea of 'capillary power'. Teubner (2012), pp.85. Also see the notion of semantic intrusion proposed by Christian Borch in Borch (2005), pp.155. In my view, it is also important to understand that the second order observations of different systems self-describe and delineate various normative expectations that then interact through structural or operational couplings with law and politics. Those second order observations of normative expectations can be considered as general forms of non-institutional power to the extent that through structural coupling they may influence the arising of redundancies in other systems, including the political and legal systems.

holding a central or sovereign role in society⁶⁶⁰. According to Luhmann it is not possible to 'centre a functionally differentiated society on politics without destroying it'⁶⁶¹ because the imposition of political sovereignty over the various spheres of society would entail a traumatic societal de-differentiation in which a polymorphous society would be sent back onto a state of antiquated monism⁶⁶². For Luhmann the category of political sovereignty is a mere semantic tool through which the political system develops a self-description to facilitate its differentiation as an autonomous sphere of society.

In the context of a political system surrounded by various spheres of society that observe society from their own perspectives, the political system cannot develop cognitive capabilities to adequate all facts and all rationalities in its environment. For this reason all political purpose-specific programmes are always contingent and cannot be seen –regardless of the use of technical tools- as universal or totalizing or exclusionary perspectives or directives. For him any views that inflate the role of politics giving it a special epistemic standing fail to recognize the overall social complexity of modern society.

Therefore, for Luhmann any theories that attempt to emphasize politics as a center of societal control suffer from an epistemological deficiency in the sense that they disregard the fact that differentiation and distinction, and not unity and convergence (i.e. through ideas of human reason, consensus, human interest, national culture, or even racial homogeneity), are the premises of cognition in modern society.

A further important contrast between Luhmann and Schmitt's theories can be found in the idea of *political decisions*, which under Luhmann's theory are always only decisions that result from the operational unfolding of the binary code of the political system, and are never decisions of the will or acts of the sovereign as Schmitt would conceive them. Again and most importantly, political decisions could never represent the total vision of society, and they will always be partial, differentiated and contingently changeable⁶⁶³.

Therefore, Luhmann demystifies political decisions and sees dramatic totalizations of decisions as absurdity. For him, political decisions merely operationalize the self-referential contingency of the political system. Political decisions involve the distinction of the political from the non-political, and in the paradoxical re-entry of the distinction into the political side, it legitimizes itself through simplified, selective and contingent accounts (self-descriptions) of legitimacy⁶⁶⁴.

For Luhmann *legitimacy* is conceived as the ability to secure recognition of decisions. Even though for him legitimacy is a conclusively positive and historically contingent commodity -and therefore he holds an anti-normative concept of legitimacy- he believed that in modern societies

⁶⁶⁰ Schmitt (2007), pp. 10-15

⁶⁶¹ Luhmann Niklas, *Politische Theorie im Wohlfahrtsstaat*, Munich: Olzog, pp. 22-3, quoted by Thornhill (2007), pp. 499–522.

⁶⁶² Thornhill (2007), pp. 503

⁶⁶³ Ibid, pp. 504

⁶⁶⁴ Luhmann Niklas, *Die Politik der Gesellschaft*, 2000, pp.47, as referred by Thornhill, Ibid, pp.504.

*'political power can never be transmitted in a vertical, prerogative or sovereign form but must be transposed into an iterable medium (law), which creates multiple opportunities for compliance throughout society ...'*⁶⁶⁵.

Therefore, political decisions are not independent of or above the law. Modern *power* requires law as the medium of its dissemination: *'politics use law to diversify access to politically concentrated power'*⁶⁶⁶. Therefore, *power* must be second-coded as law and it cannot be transmitted except in the institutional structure of the *Rechtsstaat*⁶⁶⁷.

The *schema* of the *rechtsstaat* coordinates and consolidates the relationship between the political and the legal systems⁶⁶⁸. For the political system the *rechtsstaat* means that power has to be exercised in accordance with the law; and for the legal system this formula only involves a self-description

At the core of the *rechtsstaat* lies the *principle of legality* that preserves the conditions for the relationship between law and freedom, as well as the separation of the political and the legal system⁶⁶⁹.

Therefore, in accordance to this account, political power becomes legitimized through *legal dissemination*, that is, through the normative redundancies of the legal system or in consistency with those redundancies.

So, Luhmann argued that societies whose political systems enjoy legitimacy normally achieve intense interdependencies between law and politics, and that this legitimacy would be the attribute of political systems whose powers assume the form of a legally structured political system -which he referred to as democracy-⁶⁷⁰.

6.11.2. The Constitution & the Structural Coupling between Law and Politics

The structural coupling between law and politics takes place through the constitution⁶⁷¹.

According to Luhmann, *'the constitution, which constitutes and defines the state, has a correspondingly different meaning in both systems. For the legal system it is a supreme statute, a basic law. For the political system it is an instrument of politics, in the double sense of both instrumental politics (which changes states of affairs) and symbolic politics (which does not)'*⁶⁷².

⁶⁶⁵ Thornhill (2007), pp.505

⁶⁶⁶ Luhmann (2004), pp.162

⁶⁶⁷ Luhmann Niklas, Die Gesellschaft der Gesellschaft, 1997, pp.357, as referred by Thornhill, ibid pp.505.

⁶⁶⁸ In this context a *schema* is a form that allows for self-referential reciprocal action of the two systems (362).

⁶⁶⁹ Luhmann (2004), pp.362, 363, 366, 369.

⁶⁷⁰ Thornhill (2007), pp.505

⁶⁷¹ Luhmann (2004), pp.404.

⁶⁷² Ibid, pp.410.

The constitution, '*apart from its function as an 'instrument of government', was introduced explicitly in order to implement the 'Bill of Rights'*'⁶⁷³. And so the legal protection of basic rights in the constitution is a critical mechanism for structural coupling between law and politics. It is in this context that the *right of property* can also be understood as a mechanism of the structural coupling between law and politics, as will be further discussed later on⁶⁷⁴.

But, the legal protection of basic rights in the constitution is also a mechanism for structural coupling with different spheres of society, and also a mechanism for structural coupling between the legal system and the individual (ref. consciousness or the psychic systems)⁶⁷⁵. In this latter respect, it is important to note that '*the legal system functions largely, or at least initially, to cushion the consequences that the restructuring of society towards functional differentiation has on the individual*'⁶⁷⁶.

From the perspective of the legal system, the constitution is understood -in modern law- as positive law which constitutes positive law itself and through that regulates how *political power* can be organized and implemented in legal form with legally mandated restrictions⁶⁷⁷. This, I will claim, also allows us to understand the system of property rights and its corresponding restrictions (i.e. *numerus clausus*).

Now, the relevance of the constitution for the structural coupling between law and politics can also be understood through the idea of *irritation*, as it is the constitution that defines the channels for their mutual irritation, and this increases the probabilities of increased or lasting irritation⁶⁷⁸.

In order to understand how this mutual irritation takes place it may be useful to observe how basic values or moral or political principles included in the constitution become exactly such a mechanism for reciprocal irritation. When moral principles are considered within the law -for instance, in the constitution-, they are considered from the internal perspective of the legal system⁶⁷⁹ but they are considered '*not only as the substance of certain norms but as general points of interpretative reference, or more clearly, as rules for the closure of an otherwise open horizon for argumentation*'⁶⁸⁰.

This also means that at the constitutional level, and through constitutional interpretation, the reference to basic values or moral intuitions keeps the possibility of legal change open in the weighing of values from case to case. This means that '*the variety of the system increases and that the maintenance of redundancy becomes a problem. New forms must then be introduced -perhaps as a consequence of the system's mutual appreciation*'⁶⁸¹.

⁶⁷³ Ibid, pp.417.

⁶⁷⁴ See chapter 9.

⁶⁷⁵ Ibid, pp.416.

⁶⁷⁶ Ibid, pp.416.

⁶⁷⁷ Ibid, pp.405.

⁶⁷⁸ Ibid, pp.404.

⁶⁷⁹ Ibid, pp.111.

⁶⁸⁰ Ibid, pp.411.

⁶⁸¹ Ibid, pp.411.

6.11.3. The Legislative Process, Legislation and the Evolution of Law

The legislative process presents itself as a social process that involves communications that belong at the same time to both the political system and the legal system.

Under the framework of the constitution, the legislative process operates as the concrete procedure through which the political system and the legal system conduct their operational and structural coupling.

In this sense, the legislative process can be seen as a process where an assessment takes place as to -how such coupling shall unfold- whether through existing valid law or whether through legal change⁶⁸².

It is through the legislative processes that politics irritates the legal system triggering increased variety – that is, increased demands on law from political programmes-.

If we look at this from a broader social picture, we can see how increased social complexity –and increased social uncertainty and contingencies- push political programmes, the legislative agenda and normative change. This increase in complexity also triggers a reduction in the demand of consistency, and an overall experimental approach towards legislative efforts.

And so Luhmann expresses: *'legal change becomes normal. The average period of the validity of norms decreases'*⁶⁸³. As a result, *'the legal system increases its variety (its number of possible operations) while it decreases its redundancy ...'*⁶⁸⁴.

Here again we see the interrelation between *variety and redundancy*; and this is also directly connected to the *evolution of law* in modernity⁶⁸⁵. For Luhmann social evolution is a circular and non-sequential process entailing *variation, selection and stabilization*. Evolution *'operates in a circular fashion by responding partly with variation to external impulses, and partly by reusing stabilization as the motivation for innovation'*⁶⁸⁶.

The critical trend that deserves to be noted here is this tendency towards permanent change, towards regulatory fragmentation that is tackled through *temporal inconsistencies* that are subject to an experimental approach –as a solution of the impossibility to deal with factual inconsistencies derived from social complexity-⁶⁸⁷. So, this increase in variety and dynamism makes law more *'amenable to errors'*⁶⁸⁸.

⁶⁸³ Ibid, pp.261.

⁶⁸⁴ Ibid, pp.261.

⁶⁸⁵ Ibid, pp.261.

⁶⁸⁶ Ibid, pp.259.

⁶⁸⁷ Ibid, pp.261.

⁶⁸⁸ Ibid, pp.261.

I would also add that this trend is expressed, in the time dimension, to a *future-oriented* perspective, that is, a trend through which systems become oriented towards an unfolding contingent future⁶⁸⁹.

In other words, the role of legislation in the evolution of law is related to the higher level of complexity from both the social dimension and the temporal dimension of meaning. From the social dimension, different spheres of the functionally differentiated society make massive demands of further normativity. From the time dimension, increasing contingencies and risks make the legal system to orient itself towards permanent adjustments to tentative observations about the future.

Therefore, combining these social and temporal dimensions we could say that the mentioned legislative trends should be described as *amenable to errors and contingency*.

And from the political perspective this can be understood as a '*growing trend towards risk taking*'⁶⁹⁰. This trend unfolds in a context where '*the impossibility for the political system effectively to control other systems with an adequate grasp of the consequences and limited risk is inversely proportional to the facility with which such decisions can put into force and, however sporadically, actually implemented*'⁶⁹¹.

All this appears to explain the unfolding of regulatory failures and, in what concerns this thesis, it explains the *regulatory trilemma* of ecosystems conservation, particularly in the form of legal fragmentation, as we saw in Chapter 4.

6.12. Law & Morality

As already explained, the normative closure of the legal system involves that only this system can attribute normative quality on its elements, which means that the decision making of the legal system is not subject to external authority.

It would depend on the internal criteria of the legal system to define which moral principles would be internalized or legalized by the legal system. In other words '*The decision between right and wrong*', Luhmann explains, '*can be taken only within the legal system itself*'⁶⁹².

So, according to Luhmann '*Normative closure means, above all, that morality as such has no legal relevance*'⁶⁹³. Moral principles are considered as '*information*' in the environment of the legal system and it is only through the internal criteria of the legal system that they can become legal normative expectations⁶⁹⁴.

Then, as explained before, it is through the *programmes* that the

⁶⁸⁹ See note 19.

⁶⁹⁰ Luhmann (2005), pp.145.

⁶⁹¹ Ibid.

⁶⁹² Luhmann (1992a)

⁶⁹³ Luhmann (1992c): 1419, pp.1429.

⁶⁹⁴ Luhmann (2004).

foundational paradox of the legal system is concealed; then, it is through the programmes that the legal system can internalize moral criteria. This is also the reason why for Luhmann the reference to the legal system being the *guarantor of justice* in society is but a self-description that in coordination with different programmes constitutes the main mechanism for hiding the paradox of the legal system.

But this is a general theoretical answer, and a more practical question comes to the fore: how does the legal system handle conflicts between fundamental values, for instance, regarding ecosystems conservation and local economic development? Are there indispensable norms in our society?⁶⁹⁵

Various legal theories intend to answer these questions; they appear as attempts to deparadoxify the legal system.

For Luhmann, Kelsen's response is weak because it simply stops the infinite regression through a hypothetical basic norm⁶⁹⁶, without recognizing the self-founding circularity of the legal system. In the case of H.L.A. Hart, the same problem happens when asking about the basis of acceptance of the rule of recognition by the legal officials⁶⁹⁷. According to Luhmann, because these theories don't recognize the founding circularity of the legal system, for them the problem of validity *'has to be Gödelized by a reference to an external foundation'*⁶⁹⁸.

It is here where John Paterson explores contemporary natural law as it *'may offer a satisfying answer'*⁶⁹⁹ not only to the validity question but also to Luhmann's concern about indispensable norms.

In this regard, Paterson reflected on the natural law approach of John Finnis from a systems theory perspective⁷⁰⁰. Finnis, as is well known, attempts a modern explication and application of natural law theory based on a conception of practical reason referred to a notion of *objective goods*⁷⁰¹. In order to move from basic goods to moral choices Finnis proposes a set of intermediary principles or tests of practical reasonableness. One of these intermediary principles is that *'there should be respect for every basic good in every action'*⁷⁰². In the application of this principle he avoids the complications derived from indirect harm to basic goods by qualifying the principle as applying only to choices where a basic good will be harmed directly⁷⁰³. In this regard Paterson generally concludes that *'The direct and indirect harm approach advocated by Finnis simply does not seem to provide that sort of guidance. Thus, precisely in the sort of situation postulated by Luhmann, even this most subtle and persuasive of accounts of fundamental values falls short'*⁷⁰⁴, thereby leaving *'the question of ultimate validity*

⁶⁹⁵ Luhmann (2008).

⁶⁹⁶ Luhmann (2004), pp.103, 125.

⁶⁹⁷ Ibid, pp.125.

⁶⁹⁸ Ibid.

⁶⁹⁹ Paterson (2008): 68–82.

⁷⁰⁰ Ibid, pp.72.

⁷⁰¹ Finnis (1980), pp.36.

⁷⁰² Ibid, Chapter 5.

⁷⁰³ Ibid, pp.225.

⁷⁰⁴ Paterson (2008), pp.76.

*unanswered in precisely the cases where indispensable norms are expected to come into their own*⁷⁰⁵.

Then, Paterson reflects on the position of Ronald Dworkin. Dworkin postulates that legal principles containing moral propositions are integral part of the legal system⁷⁰⁶, and that the judge must uphold the best possible interpretation of the law understanding by that the one that best combines *fit* and *moral value*⁷⁰⁷. In *Law's Empire*, Dworkin brings in the interpretive ideal of integrity⁷⁰⁸. Dworkin writes: '*Judges who accept the interpretive ideal of integrity decide hard cases by trying to find, in some coherent set of principles about people's rights and duties, the best constructive interpretation of the political structure and legal doctrine of their community*'⁷⁰⁹. Under this approach Dworkin also proposes his *one right answer thesis*, that is, the notion that the answer to any legal question posed to a superhuman judge Hercules will be the right one⁷¹⁰.

But in practice, contrary to Dworkin's suggestions, legal complexity poses hard choices about which judges will hardly believe there is only one right answer, or even a clear answer at all. And as Paterson correctly wonders regarding Dworkin's position: '*Is his direction to the judge to concentrate on consistency and integrity any more likely than Finnis' direct / indirect harm test to provide an answer that does not in fact depend on a standard beyond that provided by the legal system?*'⁷¹¹.

And so Luhmann's words resound again: '*Nothing follows from values to aid in the adjudication of value conflicts. There is, as is often said, no firm hierarchical (transitive) order of such type that certain values are always preferable to certain other ones*'⁷¹².

But as judges are subject to the prohibition of the denial of justice, the *paradox of the undecidable decision* necessarily unfolds⁷¹³. And therefore, even in front of complex moral dilemmas '*law must be understood as a closed universe which refers to itself, in which pure juridical argumentation can be practiced even under extreme social tensions*'⁷¹⁴.

And so Paterson, after showing that the paradoxes of the undecidable decision also haunts English courts even in cases where judges are most willing to become activists⁷¹⁵, concludes that '*there is no once and for all answer to the question of validity in the ordering of values. Rather it is necessary to be content with the observation that it is the 'fact that there are*

⁷⁰⁵ Ibid.

⁷⁰⁶ This involves that not all moral (critical) principles are included in the law, but only those that have been relied upon or are implicit in past official decisions. Dworkin criticized this positivist-like separation of law and morality in his later publication: *Justice in Robes* (2006), pp.4 and 264.

⁷⁰⁷ This corresponds to the basic early ideas of Dworkin which are collected in Dworkin (1977).

⁷⁰⁸ Dworkin (1998), *Law's Empire*, pp.12.

⁷⁰⁹ Ibid, pp.255.

⁷¹⁰ Ibid, pp.235.

⁷¹¹ Paterson (2008), pp.77.

⁷¹² Luhmann (2008), pp. 29.

⁷¹³ Luhmann (2004), pp.289.

⁷¹⁴ Ibid, pp.290.

⁷¹⁵ Paterson (2008), pp.77-81

*values' that offers the protection that individuals within society seek. The fact of values is accordingly as close as it is possible to approach to the inviolate level without risking problems of confrontation with the paradox*⁷¹⁶.

Certainly, in line with Luhmann's general analysis, the legal system will hide its foundational paradox by developing self-descriptions and legal arguments –with respect to these hard cases- that will make reference to some reasonable distinctions, for instance, in relation to principles and their application or in relation to potential consequences of the corresponding decisions. Here the self-description and the legal arguments will make reference to existing *redundancies* of the legal system.

Then again, we believe it is necessary to insist that this cannot happen arbitrarily⁷¹⁷; because the reference to existing redundancies of the legal system always involves a historical context, and because the structural coupling of the legal system to its social, natural and psychic environment, always involves a process of coordination and adaptation⁷¹⁸, a process of co-evolution.

But as Paterson concludes in line with Luhmann's thought, this is not enough to clarify the ordering of values in greater detail, and this leaves us with an important *'degree of responsibility'* in the operation of the legal system, because *'It is inevitable that a deparadoxification strategy will be in play, but it is not inevitable that any given deparadoxification strategy will be in play'*⁷¹⁹.

But this must be understood in a strictly contingent manner, because as we have seen before, the unfolding of legal structures –of redundancy- is a social communication process neither guided nor controlled by the individual. Contingency –and double contingency- is never excluded in the process of structural coupling between the legal system and its environment, including the psychic systems.

Therefore, I see here a clear and direct connection between, on the one hand, accepting and understanding contingency, along the lines of what Mascareño calls the *ethics of contingency*⁷²⁰ and, on the other hand, assuming the *responsibility* pointed out by John Paterson. And so Mascareño asks: *'.. can we conclude that the contingency of modernity develops the ethics of contingency upon which participants can reflect and evaluate the social world?'*⁷²¹.

All this appears to be in direct relationship to what I believe is the central normative aspect of Luhmann's theory, his view about the profound relation between law and freedom⁷²². I see the direct relationship because I believe that in a *contingent* world, *freedom* can only be understood as involving at the same time *responsibility*.

⁷¹⁶ Ibid, pp.81; Luhmann (2008), pp.29

⁷¹⁷ Luhmann (2004), pp.195.

⁷¹⁸ Ibid, pp.195.

⁷¹⁹ Paterson (2008), pp.82

⁷²⁰ Mascareño (2006): 274–93.

⁷²¹ Ibid.

⁷²² Luhmann (1989), pp.66.

In Luhmann the relation between law and freedom is expressed in two critical senses. First, it is expressed in the sense that the function of stabilization of normative expectations *'can be proclaimed as the protection of freedom, indeed as the promise of freedom'*⁷²³. This general idea can be understood from the perspective that the stabilization of normative expectations allows other subsystems to produce their specific forms of communications allowing modern society to exist and evolve. The stabilization of normative expectations also allows individuals *'to know which expectations will meet with social approval and which not'*. It is through law that *'one can afford a higher degree of uncertain confidence or even of mistrust as long as one has confidence in law. Last but not least, this means that one can live in a more complex society, in which personal or interaction mechanisms to secure trust no longer suffice'*⁷²⁴.

But there is a second and even deeper sense in which law relates to freedom under Luhmann's theory, and this refers to the idea that in a functionally differentiated society no subsystem should assume a central or privileged position and impose its observations or meaning selection mechanisms on other subsystems.

So Luhmann states that *'the law has to offer protection against reasonable designs and against moral pressures because in an open, post-Gödelian society reason and morality are partisan values. At least the law has to make sure at which points and how far resistance against demands propagated in terms of a reasonable or moralistic "discourse" might be successful. To maintain this possibility of conflict with reason and morality is one aspect of the differentiation and the improbability of the law'*⁷²⁵.

Significantly enough, it is in a footnote to the just quoted paragraph that Luhmann says: *'"Freedom", in other words, is the normative counterpart of the fact that a functionally differentiated society cannot base its integration upon the traditional semantics of nature, reason or morality'*.

It is in this context that I will also understand the relationship between reflexive law, contingency and freedom⁷²⁶.

⁷²³ Ibid.

⁷²⁴ Luhmann (2004), pp.148

⁷²⁵ Luhmann (1986b), pp.123

⁷²⁶ See Chapter 8.

CHAPTER 7

THE EXCLUSIONARY AND THE REFLEXIVE

7.1. Introduction

As we saw in Chapter 5, double contingency portrays the *improbability of communication*, and according to Luhmann it is through recursive communication that systems make probable what is improbable, transforming double contingency into ordered interaction.

It is through the recursive repetition of communication, that is, through *time*, that certain observation-schemas or '*selective coordinations*'⁷²⁷ become stabilized, making possible the reduction of complexity that derives from double contingency. It is this recursive process of observations of observations that '*leads then to a condensation of units of meaning*' which in turn leads to '*abstraction of denotation for what seems identical in the different observations*'. And so '*one speaks here, in the language of mathematics, of 'eigenvalues' of the system*'⁷²⁸.

It is exactly through this process of *complexity reduction* that the various differentiated subsystems come to exist, through the unfolding of their codes and programmes⁷²⁹.

The reduction of complexity of the environment is indispensable because observing systems do not have the required internal complexity (Ashby's '*requisite variety*') to process external complexity⁷³⁰.

In turn, in order to process or *reduce* the external complexity, the system needs to *create* internal complexity. In this sense Luhmann reaffirms that complexity reduction is '*a necessary condition for the ability to resonate; reduction of complexity is a necessary condition for building complexity*'⁷³¹.

Therefore, the ability to *resonate* with the social environment derives from the double movement of external complexity reduction and internal complexity creation; and this double movement involves a combination of self-reference and hetero-reference that takes place through *reflexivity*.

In the case of the legal system, this double movement is achieved through the combination of normative closure and cognitive openness. It is through the reflexive combination of the normative and the cognitive orientations that the legal system achieves *resonance*⁷³² with the social and ecological environment.

In other words, and from the perspective of observation, the legal system achieves *resonance* with the social and ecological environment through *reflexivity*, that is, through the self-observation of processes of legal communication -that always involve *concurring or concomitant self-*

⁷²⁷ Luhmann (1984b), pp.138.

⁷²⁸ Luhmann (2002), pp.140.

⁷²⁹ See Sections 5.6. and 5.7. of Chapter 5.

⁷³⁰ Luhmann (2007), pp.87.

⁷³¹ Luhmann (2004), pp.382.

⁷³² Ibid, 382. Also see Luhmann (1989), pp.15, 25

reference and therefore hetero-reference⁷³³. These reflexive processes will be the concrete mechanisms that combine the normative and cognitive orientations of law.

In this chapter we apply these insights from systems theory to an important topic of legal theory, namely, the *formality of law*. This topic will be addressed through the assessment of what Joseph Raz has argued to be the *exclusionary* nature of legal rules and the legal system.

Our contention is that a proper understanding of *law as a social system* under the Luhmannian tradition supports the idea of the *non-exclusionary nature of law*. Accordingly, we claim that, under the systemic perspective, legal norms do not operate as exclusionary reasons in the Razian sense. Consequently, we oppose the views of those -such as Christodoulidis- who appear to overemphasize the idea of closure of the legal system, overlooking the manners in which, according to Luhmann, the legal system interacts with society through the combination of normative and cognitive orientations, and particularly overlooking how this combination takes place through the differentiation between norms (and their interpretation) and their judicial application.

I believe that understanding the *non-exclusionary* or *reflexive nature of law* will illuminate the manner in which the legal system interacts with the social environment. However, this should not be understood as meaning that the legal system is totally open to the social environment, or that the legal system is *reflexive enough* to handle the continuously increasing social complexity. On the contrary, as explained in Chapter 4, the legal system is facing a regulatory trilemma that appears to be caused by its limited capacity to cope with such social complexity. It is in this context that in Chapter 8 I will also introduce the idea of *reflexive law as a post-regulatory strategy*⁷³⁴, understood as an attempt to further increase the reflexive capacity of law to cope with increasing social complexity, and particularly, for our purposes, to cope with the regulatory trilemma of ecosystems conservation.

Moreover, further supporting the idea of the reflexive nature of law, I will also claim and argue for a reflexive understanding of the *form of law*. This understanding of the *reflexive form of law* will, first, allow us to go beyond the traditional Weberian dichotomy between form and substance and, second, allow us to assess the varying degrees of social reflexivity –or *reflexive capacity*- of different legal forms.

This approach will also explain why, in Chapter 8, I will present an understanding of reflexive law which does not focus on the Weberian tradition but on the aforementioned understanding of the Luhmannian tradition⁷³⁵.

⁷³³ See Section 6.6.2. of Chapter 6.

⁷³⁴ Hereinafter, every time I refer to *reflexive law* I will be referring to reflexive law as a post-regulatory strategy (See Chapter 8). In turn, every time I refer to the *reflexive nature of law*, I will be referring to the non-exclusionary nature of law, which is directly related to the capacity of the legal system to combine normative and cognitive expectations to coordinate its operations with the social and ecological environment.

⁷³⁵ See Section 8.3.1. of Chapter 8.

This chapter, in other words and in short, intends both to provide an understanding of the *reflexive nature of law* and also to develop an understanding of the *reflexive form of law*.

I believe that it will only be from this departure point that we will be able to explore new possible strategies to tackle the challenges of post-modern law.

7.2. The Exclusionary. The Relation between Form and Substance

In this section I will first briefly refer to the concept of exclusionary reasons as developed by Joseph Raz, to then refer to some general responses and views from other authors, such as those from R. Atiyah and others, that will provide the background understanding on the matter and particularly on the idea of formality in the law. I will then review how Emiliios Christodoulidis sees the exclusionary nature of law as supported by Luhmann's ideas. Finally, I will refer to our understanding of Luhmann's views, and in this light we will explain how law can be understood to be *reflexive* in the sense of being non-exclusionary.

7.2.1. Exclusionary Reasons according to Raz

The concept of an 'exclusionary reason' was presented by Joseph Raz in *Practical Reason and Norms*⁷³⁶. In this early work Raz first sets the concept of a *reason for action* at the centre of practical philosophy and drew an important distinction between first and second-order reasons for action.

First-order reasons are reasons to perform an act. These reasons have relative weights which should be balanced against one another. Second-order reasons, in contrast, are reasons to act for a reason, in which case they are 'positive' second order reasons, or reasons not to act for a reason, in which case they are 'negative'. The latter, negative second-order reasons, are also termed *exclusionary*. In other words, an exclusionary reason is a reason for disregarding other reasons for action.

The conflict between any two first-order reasons for action significantly differs from a conflict between a first-order reason and a second-order reason that excludes it. This difference is the same as that between *overriding*, which is what a first-order reason does to a weaker first-order reason, and *excluding*, which is what a valid exclusionary reason does to the first-order reasons it excludes, no matter their weight. So, according to Raz, in case of conflict with first-order reasons, and by a general principle of practical reasoning, '*exclusionary reasons always prevail*'⁷³⁷.

Raz claims that the idea of exclusionary reason is essential to distinguishing among others, legal rules⁷³⁸ and legal systems⁷³⁹.

According to Raz, organs that settle disputes in the legal system are

⁷³⁶ Raz (1999).

⁷³⁷ Ibid, pp.40.

⁷³⁸ Ibid, pp.144.

⁷³⁹ Ibid, pp.141.

institutions that *'ought to act on certain reasons to the exclusion of all others, namely institutions which are subject to an exclusionary reason not to act on certain reasons'*⁷⁴⁰.

7.2.2. Some Responses or Nuanced Approaches⁷⁴¹

Patrick Atiyah has pointed out that Raz's idea of rules as exclusionary reasons refers to the idea of formal reasons, as opposed to substantial reasons. Atiyah understands formal reasons in a way that resembles Raz's concept of rules, as he explains that in the case of formal reasons *'[t]here is no question of weighing one set of factors against another' as '[t]he formal reason ... simply excludes from consideration any countervailing reason'*⁷⁴².

However, very importantly, for Atiyah this formality has limits: *'If a statute seems ambiguous, or unclear, or if it produces results which seem grossly anomalous or utterly absurd or perhaps even seriously unjust, then courts may avoid applying the statute'*⁷⁴³.

In a somewhat similar manner, Atiyah and Summers explain that a formal reason *'is a legally authoritative reason on which judges and others are empowered or required to base a decision or action, and such reason usually excludes from consideration, overrides, or at least diminishes the weight of, any countervailing substantive reason arising at the point of decision or action'*⁷⁴⁴.

Therefore, in these remarks we can see three important elements: first, that there are some circumstances that restrain the application of rules; second, that rules only *'usually'* exclude; and third, that rules can *'at least diminish the weight'* of countervailing substantive reasons.

Atiyah and Summers distinguish four types of 'formality' which, in turn, can be present in different degrees, in terms of 'higher' or lower formality⁷⁴⁵. These four types of formality are: *authoritative formality* (related to rule validity and rank formality); *content formality* (related to the extent a rule is shaped by *fiat* and by the extent the rule is *'under-inclusive or over-inclusive in relation to its objectives'* –as a result of the contrast of purpose and rule coverage); *interpretive formality* (depending on whether the process of interpretation relies on purposes or rationales, whether legal or extra-legal); and *mandatory formality* (related to *'the extent to which otherwise relevant substantive considerations are ... excluded, overridden, or diminished in weight'*⁷⁴⁶).

Most important for our purposes is that in the view of Atiyah and

⁷⁴⁰ Ibid, 142-3.

⁷⁴¹ Raz's notion of exclusionary reasons (or pre-emptive reasons) has been subject to broad and intense analysis and critique over the past 3 decades. In addition to those authors that we will discuss in this section, special mention deserve Schauer (1993); Marmor (2005); Detmold (1984); Soper (1989); Bankowsky (2001); Michelon (2006), Chapter 4.

⁷⁴² Atiyah (1986): 19–41, pp.20, 21.

⁷⁴³ Ibid.

⁷⁴⁴ Atiyah and Summers (1987), pp.2.

⁷⁴⁵ Ibid, pp.12.

⁷⁴⁶ Ibid, pp.2.

Summers, *interpretive formality* and *mandatory formality* depend both on the features of the rules and on the evaluative criteria of the decision-maker when assessing the application of a rule to a concrete case⁷⁴⁷. In the specific case of mandatory formality they distinguish between '*prima-facie mandatory formality*' and '*ultimate degree of mandatory formality*', the latter being the one that '*remains after defences and collateral doctrines have been taken into account*'. They add that '*mandatory formality can also be profoundly affected by what happens at the point of application or enforcement of rules*'⁷⁴⁸, and therefore '*mandatory formality, like other varieties of formal reasoning, is thus a matter of degree*'⁷⁴⁹.

Therefore, as Fernando Atria observes, for Atiyah and Summers '*the level of mandatory and interpretive formality of a rule is not determined by the rule itself*', that is, that '*formality is not something that is attached to some normative standards (therefore called rules) but a mode of reasoning*'⁷⁵⁰.

In accordance with this point, Atria observes that Joseph Raz has failed to distinguish between *meaning* and *application*. This is important because in order to determine if a rule has to be applied as an exclusionary reason a prior evaluative judgement is necessary⁷⁵¹, and this evaluative judgement will open the door to the assessment of first-order reasons, especially in the case of '*evaluative hard cases*'⁷⁵². So he says ...*it is misleading to speak of laws as rules, at least if by "rules" one understands something like an exclusionary reason. The fact is, the issue of ascertaining the content of a norm can and should be distinguished from that of establishing how it should be applied: norms can be more or less formal(ly applied)*.⁷⁵³ The problem is that regarding the necessary prior evaluative judgement '*the norm itself cannot provide guidance*'⁷⁵⁴, and so the claim that a given rule is exclusionary is a *legal claim* in the context of application and not a theoretical concept that can be defined ex-ante.

Here Atria explains that, as a result, there will be '*different answers for different instances of the application of the same rule*', which will depend on how the '*balance between certainty and appropriateness is struck in different situations*...' ⁷⁵⁵.

This balancing or compromise⁷⁵⁶ is described in different ways by different authors, as a balance between: form and substance, certainty and appropriateness⁷⁵⁷, etc. In contrast, Luhmann expresses this as the combination of the normative and the cognitive orientations of law. This

⁷⁴⁷ Ibid, pp.16.

⁷⁴⁸ Ibid.

⁷⁴⁹ Ibid, pp.17.

⁷⁵⁰ Atria (2002), pp.97.

⁷⁵¹ Ibid, pp.94.

⁷⁵² Ibid, pp.92.

⁷⁵³ Ibid, pp.95.

⁷⁵⁴ Ibid, pp.94.

⁷⁵⁵ Ibid, pp.94.

⁷⁵⁶ The term 'compromise' has been paradigmatically used in this context by H.L.A. Hart to refer to the balancing of the social needs of certainty and the proper appreciation of the concrete case which cannot be done in advance or in the dark. Hart (1997), pp.129, 130.

⁷⁵⁷ See Atria as quoted above, and also Gunther, for a distinction between justification and application discourse on the bases of the criteria of appropriateness, see Günther (1993).

reference to a 'combination' indicates a somehow different approach. As I will explain, my understanding in this respect is that Luhmann saw the relationship between these *orientations* not as a necessary binary contradiction, but as a relationship of coexisting tendencies that can be present and concur in different manners. This is, in fact, the idea of the *reflexive form of law* that the present chapter intends to develop and put forward as an understanding of the form of law in the context of Luhmann's theory.

7.2.3. Christodoulidis: Luhmann and the Exclusionary

Now that I have provided a general theoretical background on the idea of exclusionary reasons and formality in law, I may return to Luhmann.

Here the question is whether, as Emiliós Christodoulidis has argued, Luhmann's theory is consistent with the Razian view on the exclusionary nature of legal rules.

I believe, as will be further discussed below, that Christodoulidis does not consider the important differentiation made in Luhmann's theory between interpretation and judicial application. But in a more general way, I believe that in order to understand the relationship between form and substance in Luhmann, we need to understand both his approach to the formality in law as well as his views on how the legal system combines normative and cognitive orientations. If these aspects of Luhmann's theory are properly considered, I believe, it will be possible to understand the *non-exclusionary nature of law*.

Before that, however, I would like to briefly present Christodoulidis's ideas on the subject.

Christodoulidis, in asserting the exclusionary nature of law, explains: *'To revisit the substantive would require us to suspend the very logic of reasons at the formal, exclusionary level. But rules and roles cannot be thus suspended because ... they are aspects of a reduction that makes it no longer possible for them to remain open to the substantive. It is at this point that the theory of exclusionary reasons would benefit from systems theory'*⁷⁵⁸.

And so later he states: *'And what can be expected legally depends on reductions to role and rule, the exclusionary language of law. In this sense law is a reduction achievement that is facilitative of action to the extent that it succeeds in ordering interaction and providing us with some security of expectations. And to order it must reduce contingency, it must provide exclusionary reasons, it must simplify, it must suppress.'*⁷⁵⁹

Here, according to Christodoulidis, the critical question is about the *revisability of exclusionary reasons*. The question is: once a reason is entrenched as exclusionary, how can it be revised or dis-entrenched?⁷⁶⁰

The first obvious answer, he says, is that because the first-order reasons have been already excluded, they cannot be simply brought back to

⁷⁵⁸ Christodoulidis (1999): 215–41, pp.234.

⁷⁵⁹ Ibid.

⁷⁶⁰ Christodoulidis (1998), pp.228.

life to compete with the exclusionary reason. In Raz's words: *'the strength of the exclusionary reason is not put to the test in [conflicts with first order reasons]; it prevails in virtue of being a reason of higher order'*⁷⁶¹. Therefore, *'inquiring behind the exclusionary reason', lifting the lid, as it were, to look at how the balance stands now, is not possible in a way that resurrects the initial first order balance'*⁷⁶².

So, Christodoulidis says: *'the revisability of exclusionary reasons is a process with a rationality of its own, which has nothing to do with the now displaced first-order balancings... it is a balance of different (second-order) reasons, at the second order level, that decides that the exclusionary function is not worth sticking to'*⁷⁶³.

Christodoulidis opposes the position of Atiyah, Bankowsky⁷⁶⁴, Schauer⁷⁶⁵ and the likes which he describes as proposing a *dialectic between formal and substantive reasons*. And here, interestingly for our purposes, Christodoulidis brings in the idea of **regulatory failure** as a typical or generic situation that would trigger the revision of an exclusionary reason –i.e. of a legal rule. And he refers to the situations described by Gunther Teubner as *'juridification'*⁷⁶⁶ which as we know is one form of the regulatory trilemma⁷⁶⁷ that we already discussed in detail earlier⁷⁶⁸. In this situation he asks again: *'and how is such a failure perceived? Because at the formal level a signal is received that the legal rule is not performing. But is this really an indication that the outweighed moral reasons are suddenly important again? Or could it be that new reasons have arisen, some of them specifically legal in nature, tied to the function and performance of law, in a word, formal rather than substantive countervailing reasons?'*⁷⁶⁹.

However, the way in which Christodoulidis refers to the regulatory failure appears to be too narrow. In fact, Teubner's assessment of the *regulatory trilemma* shows that this is a much more complex phenomenon, which in different situations refers to the way in which the first order observations of the system would require second order observations – including those ones taking place in judicial application- to better grasp social complexity. I will review this point further at the end of this chapter.

Christodoulidis, going back to Raz, insists: *'as I understand Raz's concept, formal reasons are not revised in light of substantive reasons that they stand in for and exclude, but other reasons that are formal too'*⁷⁷⁰.

As a result, and confirming his views on the exclusionary nature of rules and the law, he concludes that *'conceding any reduction at the same time is a concession away from the reflexive, of thinking things through, only in*

⁷⁶¹ Ibid

⁷⁶² Ibid

⁷⁶³ Ibid

⁷⁶⁴ Bankowski (1993): 27–45.

⁷⁶⁵ Schauer (1993).

⁷⁶⁶ Teubner (1987).

⁷⁶⁷ Ibid, pp.19.

⁷⁶⁸ See Chapter 4.

⁷⁶⁹ Christodoulidis (1998), pp.231.

⁷⁷⁰ Ibid.

terms of which is appropriateness⁷⁷¹.

Therefore, in my view, Christodoulidis seems to understand that the evolutionary achievement of law is solely related to its closure. In other words, he seems to overemphasize the idea of the closure of the legal system, and to overlook the manners in which, according to Luhmann, the legal system interacts with society through the combination of normative and cognitive orientations, and in particular how this combination takes place through the differentiation between norms (and their interpretation) and their judicial application.

7.3. The Reflexive or Non-Exclusionary Nature of Law

In this section I will present my argument in two steps, first I will describe Luhmann's theory of the judicial application of law in general terms, and then I will refer, in particular and successively, to: the reflexive form of law and the combination of normative and cognitive expectations. Regarding this last matter, my focus will be on how the combination of the normative and the cognitive takes place in and through the judicial application of law.

7.3.1. The Judicial Application of Law in General

As mentioned earlier, for Luhmann, the judicial system constitutes a differentiated subsystem of the legal system. This differentiation is based on the distinction between *legislation* and *jurisdiction* which in turn is an expression of the form of structural coupling between law and politics that is coordinated through the *schema* of the *Rechtsstaat* (rule of law)⁷⁷².

This difference between legislation and jurisdiction is, in turn, expressed operatively in the distinction between *legal interpretation* and *legal application*. Legal interpretation, on the one hand, is understood as a form of first order observation, while on the other hand the application of law, is conceived as a form of second order observation⁷⁷³.

Luhmann understands the relationship between legislation and judicial application as a relation of circularity that involves a '*mutual limitation of the ambit of decisions*'⁷⁷⁴. This relationship of circularity involves a recursive reference by the judicial system to the normative redundancies within the legal system.

It is, in fact, this recursive reference to the normative redundancies of the system that allows the judge to conduct a broader assessment of the legal texts in light of the particularities of the concrete instant case. In this sense, Luhmann understands that '*someone who must find reasons for reasons needs tenable principles*'⁷⁷⁵.

In this context, Luhmann's view is that the use of principles is

⁷⁷¹ Ibid, pp.236.

⁷⁷² See section 6.11 of Chapter 6.

⁷⁷³ Luhmann (2004), pp.306.

⁷⁷⁴ Ibid, pp.278-280.

⁷⁷⁵ Ibid, pp.312.

consistent with the understanding of law as an operatively closed system. So, he says that *'one can account for the use of principles in legal reasoning even if one accepts the theory of the operative closure of the legal system. Then, ..., one can understand principles as formulae for redundancy ...'*⁷⁷⁶.

Therefore, his view of the application of law is not conceived as a rigid application of fixed rules. Consequently he says: *'On the contrary, argumentative orientation is constantly shifting because its recursive support shifts from situation to situation'*⁷⁷⁷.

It is also in this context and sense that Luhmann refers to *'hard cases'*, *'[F]or there are cases in which the existing, doubtlessly valid, legal norms applied with logically correct deductive methods do not lead to unequivocal decisions. These are cases, then, in which the knowledge of uncontested and valid law is not enough to state the fact of who is in a legal position and who is in an illegal position.'*⁷⁷⁸. And in this context Luhmann asserts that, therefore, *'One has to understand that in practice they will follow principles'*⁷⁷⁹.

This decision-making is not random or arbitrary⁷⁸⁰, as it follows a contextual and historical process of unfolding of recursive communications and the resulting redundancies. This has a direct relation to the issue of how legal reasoning is connected with the use of logic. In this sense we may remember⁷⁸¹ that Luhmann explains the point by referring and concurring with the ideas of Neil MacCormick⁷⁸² in the sense of understanding that the polemic against logic and deduction -which has become customary in recent jurisprudence- is exaggerated. Luhmann believes that the very distinction between reasons and errors⁷⁸³ *'says something about the role of logic in legal argumentation'*^{784 785}. For Luhmann, logic allows proving errors, but it also allows law to present itself and its operations as consistent and continuous over time. But this reference to consistency in Luhmann does not imply a reference to an overall systemic consistency as, for instance, in the image of *law as integrity* or the *chain novel*⁷⁸⁶ as presented by Dworkin, but rather as what I would describe as *networks of redundancy* which contextually would make sense of different normative redundancies in different social situations, but would not necessarily fit in an overall integrated legal story⁷⁸⁷.

On the other hand, when Luhmann looks at the *application of law* from the perspective of the time dimension, he puts emphasis on the relevance of the *present*, that is, on the relevance of the *particulars* of the present-instant

⁷⁷⁶ Ibid.

⁷⁷⁷ Ibid, pp.314.

⁷⁷⁸ Ibid, pp.287.

⁷⁷⁹ Ibid, pp.288.

⁷⁸⁰ Ibid, pp.195.

⁷⁸¹ See section on Legal Argumentation in Chapter 6.

⁷⁸² MacCormick (1994).

⁷⁸³ See section on Legal Argumentation in Chapter 6.

⁷⁸⁴ Luhmann (2004), pp.308.

⁷⁸⁵ Luhmann (1995a), pp.289

⁷⁸⁶ Dworkin (1998)

⁷⁸⁷ Only *self-descriptions* in the form of legal theories could construct –through second order observation- an overall integrated image of the legal system. But this does not exclude that first order observation or other second order observations may construct parallel descriptions.

case, which would somehow ground the judge's independence. So he says that the judicial application to individual cases '*operates within its own construction which is only possible in the present*' and, therefore, in this sense the decision is '*not determined by the past (including of course, laws which were passed...)*'⁷⁸⁸.

Then, considering all these elements, what really seems to determine the form of operation of the modern judicial system for Luhmann is social complexity. Because the '*awareness of complexity arises which eclipses the claim that the problems of the world can be worked out logically or even theoretically*'⁷⁸⁹, at least in pre-established, general and abstract terms.

So, all these remarks on the judicial application of law already show that the exclusionary understanding of rules and the legal system seem implausible. In my view, this rather confirms that from Luhmann's perspective, legal rules and the legal system are non-exclusionary in nature in the Razian sense.

It is from this perspective that I argue that the legal system not only *can* be reflexive but that the legal system *is* reflexive in different degrees (depending on the corresponding forms and operations of the law), and therefore that the legal system is non-exclusionary in nature.

Therefore, I claim that the evolutionary achievement of law is exactly its reflexive or non-exclusionary nature, and not, as Christodoulidis would have it, its supposed exclusionary nature.

However, in order to further explain and support this view from a broader understanding of Luhmann's theory, I would like to revisit Luhmann's ideas on the formality in law and the combination of normative and cognitive orientations. I believe that these aspects of the theory will further illuminate how form and substance relate to one another in Luhmann's theory.

7.3.2. The Reflexive Form of Law

Recall that⁷⁹⁰, according to Luhmann, the function of *formality* in law can be grasped from the perspective or through the understanding of how the legal system combines closure and openness, the normative and the cognitive⁷⁹¹. In this respect, Luhmann makes an important distinction between two understandings or versions of formality⁷⁹². He first refers to forms that are tautologically valid, forms as *rituals* or *restricted codes* that contain no external reference⁷⁹³. It is in their respect that Luhmann expresses that because

⁷⁸⁸ Luhmann (2004), pp.283.

⁷⁸⁹ Ibid, pp.285.

⁷⁹⁰ Please see section 6.6.3. of Chapter 6.

⁷⁹¹ Luhmann (1988a), pp.22.

⁷⁹² It is very important to observe that Teubner seems to overlook this distinction when he refers to the formalization of legal norms in 'Law as an Autopoietic System' (1993), pp.40, where he quotes exactly these passages from Luhmann and says: '*references to the social environment are eliminated*', but this only occurs in the case of 'form as rituals'.

⁷⁹³ Luhmann (1988a), pp.23. It should be noted that Christodoulidis position would have been right if the formality of modern law could be understood as 'form as rituals or restricted codes'.

of the coexisting closure and openness of law 'no developed legal system can rely entirely on forms'.

But then, he adds that 'Self-reference is not only practiced simply as self-reference. Its symbolization through forms is transformed into a simultaneous practice of self-reference and external reference'⁷⁹⁴. So here he starts referring to a different idea of form, that of *modern forms*, that through hetero-reference are cognitively coupled with the external facts (i.e. social facts –moral, political, scientific and so on, as well as ecological facts) through operational and structural coupling, and in this way generate additional *variety*⁷⁹⁵.

Here it is critical for my purposes to understand what Luhmann says with respect to the varying capacity of legal forms to combine the normative and the cognitive. He explains that through the evolution of the legal system, new forms can unfold that can have a higher capacity to combine higher redundancy and variety. Luhmann states: 'In the course of the evolution of law it happens from time to time that new legal forms are found which realize a higher potential for combinations'⁷⁹⁶.

In other words, different forms may have different potential to combine *greater* redundancy and *greater* variety: 'variety and redundancy are matters that can both increase in relation to each other'⁷⁹⁷.

Therefore, when we look at different combinatorial possibilities from the perspective of the distinction between *redundancy* and *variety*, we could envisage not only situations of possible binary contrast (in which the increase of redundancy entails the reduction of variety) but also potential situations of, what I would call, *concurrent higher combinations*. Therefore, this approach would allow us to see not only *different degrees* of formality but also *different concurring combinations* of redundancy and variety –of form and substance-.

The great relevance of this point becomes clearer if we contrast these ideas with those of Atiyah that are still implicitly engrained in the Weberian tradition. I argue that Luhmann does not follow the binary paradigm set by Max Weber in which the ideal types of formal and substantive rationality appear as contrasting opposites. Max Weber considered these types to be in 'insoluble' and 'inevitable conflict'⁷⁹⁸.

Therefore, my understanding of the relationship between form and substance in Luhmann goes beyond the idea of *degrees of formality* (Atiyah) and can be better grasped by the idea of *degrees of reflexivity* or varying reflexive capacity of legal forms.

This in my view shows how the distinction between *redundancy and variety* provides not only a much more flexible tool to observe our existing legal forms and institutions, but also a much richer tool to design new forms and institutions. In other words, this idea makes possible to assess how

⁷⁹⁴ Ibid.

⁷⁹⁵ See section 6.9. on legal argumentation, in Chapter 6.

⁷⁹⁶ Luhmann (2004), pp.321.

⁷⁹⁷ Luhmann (2004), pp.321.

⁷⁹⁸ Weber (1978), pp. 319,811,885.

different forms and mechanisms handle social and ecological complexity in different degrees.

This is also to say that the distinction between form and substance (on its own) does not allow us to properly observe the different manners and degrees in which the legal system interacts with its social and ecological environment.

This approach will also explain why, in Chapter 8, I will present an understanding of reflexive law⁷⁹⁹, which does not focus on the Weberian tradition but on this understanding of the Luhmannian tradition⁸⁰⁰.

This understanding will be especially important and useful for our analysis in Chapter 9 of the institution of property and for our proposal of a new property right, the '*conservation property right*'.

7.3.3. The Combination of Normative and Cognitive Orientations

Now, continuing with our explanation of the reflexive (non-exclusionary) nature of law, our next step is to analyze how systems theory understands the combination of normative and cognitive orientations, particularly, in the process of the judicial application of law.

As explained in the previous chapter, the combination of normative and cognitive orientations takes place, first of all, through conditional programmes. But, most relevant for our purpose in this section is to note that among the other mechanisms that combine the mentioned orientations we find the *judicial adjudication process* and *legal argumentation* (which for Luhmann are directly related to decision-making in concrete cases).

Now, in order to understand how the judicial application of law and legal argumentation make possible the combination of normative and cognitive orientations we must understand how *second order observations* create redundancy and incorporate *variety*.

First let's remember that it is through second order observations that the system develops reflexive and reflective self-observations⁸⁰¹, as well as self-descriptions⁸⁰². It is through second order observation that the legal system conducts hetero-observations of other subsystems, including observations of observations of other subsystems with respect to the legal system, all of which facilitate the structural coupling of the legal system with its environment. It is also through second order observation that redundancy and variety are coordinated, thereby adjusting the system to external variety deriving from new observations from morality, science, politics, media, religion, education and so forth.

And it is this variety that '*provides a measure of complexity, namely the number and multifariousness of events which set off information within the*

⁷⁹⁹ See Chapter 8.

⁸⁰⁰ See Section 8.3.1. of Chapter 8.

⁸⁰¹ See Section 5.5.2. of Chapter 5 on Self-reference and Hetero-reference.

⁸⁰² See Section 6.3. of Chapter 6.

system⁸⁰³ and this 'variety complements the system and prevents it from getting stuck in the rut of habit'⁸⁰⁴ of its own redundancy.

And again, it is through the second order observation entailed in the *judicial application* and *legal argumentation* processes that the legal system can find the relevant redundancies in the normative materials (e.g. in rules and principles), in light of the concrete particular case. And it is through these processes that the legal system can bring up *collateral rules*, *collateral principles*, or in other words, *collateral redundancies*, to bear on a given case, in light of its concrete particulars. Therefore, it is this process that could generate a weighing of Razian first order reasons, especially in hard cases.

Therefore, in other words, it is second order observation that makes possible the reflexive processes and the resulting resonance of the legal system to its social and ecological environment.

Consequently, if at the level of first order observation (i.e. of interpretation) a legal norm could appear as an *exclusionary reason*, then, at the level of second order observation (i.e. of the *judicial application and legal argumentation*), the Razian first-order reasons that lie behind that exclusionary reason could be brought back into consideration, providing a new possibility for a process of balancing of first-order reasons (in light of the additional information/variety made available through second order observation). This could take place, as it normally takes place, through the broadening of the normative assessment of a given case to other rules and principles, or in other words, it could involve the discussion of first order reasons of other rules in order to bring those rules to bear on a given case. This would entail an assessment or balancing of first-order reasons of different rules, which would also involve –at the same time- an evaluative selection of the most appropriate rule. This evaluation could also result in the conclusion that none of the assessed rules –as such rules- would apply to the case or that one or more of them could only be used as a basis for a principled decision.

We can imagine, for instance, a *takings case* involving the expropriation by the state of land for public use (e.g. for highway infrastructure) and which may give rise to a legal dispute about the calculation of the corresponding economic compensation. We can also imagine the existence of clearly established rules about the applicable calculation procedure (e.g. to assess the effective patrimonial damage, full property damage or full market value, depending on the jurisdiction).

However, the judicial analysis of the case may reveal unexpected elements of complexity, which for instance may relate to the fact that the corresponding land could include a variety of eco-systemic values and services (e.g. which may relate to certain unique biodiversity features of flora or fauna, water basin management for downstream communities or projects, landscape values for ecotourism, CO₂ sequestration capacity, water generation supply for urban uses, biodiversity and pollination service for agricultural activities, biogenetic information for academic and pharmaceutical research, buffer zones services for protected areas, etc).

⁸⁰³ Teubner (1983), pp.292.

⁸⁰⁴ Luhmann (2004), pp.332.

The legal dispute would eventually be centered on whether the formula of calculation of the patrimonial damage should only include what the official market would recognize as economic value: square meters and exploitable trees (wood); or should, instead, also include some or all of the mentioned ecosystem's services.

This discussion, on the applicable criteria for the calculation of patrimonial damage is closely linked to the argument on the scope of property, namely, on whether there is property over those ecosystems services or intangibles, or these can only be considered indirectly as the source of contingent economic profit that derives from property (for instance, through third party payments). In other words, the question is whether those attributes or assets are also being expropriated as such or they would only be considered in the calculation of patrimonial damage when –and only when- they generated income (i.e. loss of profit).

Therefore, the aforementioned elements of complexity may trigger the need for the court to analyze the definition and scope of *private property*, the notion and scope of the '*effective patrimonial damage*', and even the foundations and scope of the *eminent domain clause*⁸⁰⁵, among various other legal aspects.

For instance, the analysis of this case could even challenge the original assessment of public interest on which the expropriation was based. If the state had only considered the public interest derived from the highway project but not the public interest derived from the potentially affected ecosystems services, then the overall expropriation could be subject to a re-assessment. Here a possible question would be: should the public interest behind the *eminent domain clause* only consider the public interest derived from the governmental project itself (i.e. highway project), or should it also balance the public interest derived from the interaction between ecosystem services located in private property and the overall eco-systemic stability of a region?. As we can see, this question can be understood as a question about the Razian first-order reason behind the eminent domain clause.

Therefore, in a case of this kind that involves the complexities of the social and the natural environment, there will be chances for the parties to raise different arguments on the background reasons that support different readings of the various rules (Razian first-order reasons related to property, to eminent domain, to patrimonial damage, to the valuation formula or to biodiversity, etc), and, therefore, we could see different views (e.g. utilitarian, libertarian, communitarian arguments, etc) about the *definition and scope of property*, the scope of *patrimonial damage*, the *formula of calculation*, and the *foundations and scope of the eminent domain clause*, amongst other things.

By presenting this case, I want to achieve two different things: first, I want to show how the unfolding of social and ecological complexity brings new cognitive variety into the operation of the normative redundancies of the legal system. This new cognitive variety may trigger new second order observations that may manifest themselves in a process of assessment of

⁸⁰⁵ In the U.K. the reference would be to compulsory purchase, see for instance the Compulsory Purchase Act of 1965.

different rules and principles or, in other words, that may manifest themselves in a process of balancing of Razian first-order reasons. And second, through this example, I also want to concretely show how *legal forms* (formality in law) may have varying reflexive capacities to adjust to external variety. The legal form of *traditional property rights* may have different reflexive capacities with respect to different aspects of ecosystems –i.e. different ecosystems services that are observed by (or given value by) different spheres of society. As will be discussed in Chapter 9, it appears that the legal form of traditional property rights effectively couples and coordinates the legal system with the economic system. However, it appears that its reflexive capacity with respect to other spheres of society such as science, art, religion and other systems, is rather limited or inexistent. This means that this legal form shows higher reflexive capacity to take into account aspects of ecosystems that are already recognized by markets as economic assets, but not other aspects of ecosystems that have no market value.

Now, from a different perspective and returning to Christodoulidis we should think of a possible counter-argument in the sense that what we would call going back to Razian first-order reasons would not be really so because those first-order reasons will not be considered in their *pure form*, as they will rather be understood and weighed within the context of the redundancies of the legal system. However, regarding this hypothetical counter-argument I may say that: (a) there will always be an observer perspective, and there is no such a thing as a *pure form* deriving from an Archimedean place; it is in this very context that the function of the legal system becomes relevant in order to reflexively stabilize normative expectations; (b) even if the external observations (Razian first-order reasons) are conceived or observed through the internal self-referential operations of the legal system, the sole fact that those first-order reasons are being balanced in the application of the corresponding rules confirms that these rules do not operate as exclusionary reasons.

7.4. The Reflexive Nature of Law and the Regulatory Trilemma

As mentioned earlier, Emiliios Christodoulidis has referred to the idea of *regulatory failure* as a typical or generic situation that would trigger the revision of an exclusionary reason (i.e. of a legal rule); revision which would make them non-exclusionary. And he refers to the situations described by Gunther Teubner as *juridification*⁸⁰⁶ which as we know is one form of the regulatory trilemma⁸⁰⁷ that we already discussed in detail before⁸⁰⁸. In this situation he asks again: '*and how is such a failure perceived? Because at the formal level a signal is received that the legal rule is not performing. But is this really an indication that the outweighed moral reasons are suddenly important again? Or could it be that new reasons have arisen, some of them specifically legal in nature, tied to the function and performance of law, in a word, formal rather than substantive countervailing reasons?*'⁸⁰⁹.

⁸⁰⁶ Teubner (1987).

⁸⁰⁷ Ibid, pp.19.

⁸⁰⁸ See Chapter 4.

⁸⁰⁹ Christodoulidis (1998), pp.231.

However, the way in which Christodoulidis refers to the regulatory failure appears to be too narrow when he says: '*Laws may need to be revised because judges cannot adjudicate them ..., executives cannot adequately implement them or supervise their implementation. Laws need to be revised because they create new unforeseen pathologies and are revised to respond to these, and revisions in turn may give rise to new pathologies and so on*'⁸¹⁰.

In fact, Teubner's assessment of the *regulatory trilemma* shows that this is a much more complex phenomenon. The regulatory trilemma, as explained, may involve, among other things, situations of *legal indifference* expressed in legal fragmentation, administrative fragmentation and legal form inadequacy.

For instance, we can imagine a case in which there is an ecosystem area surrounded by different stakeholders with conflicting interests or activities (e.g. forestry, agriculture, tourism, mining, residential, etc). In a case of this kind the regulatory situation will normally involve various rules that concur and overlap in different ways with respect to the same resources or with respect to the same natural background (e.g. rules on zoning rules, forest law, agricultural law, mining law, water law, energy law, aquaculture regulations, administrative law, environmental impact regulations, biodiversity law, protected areas law, endangered species regulations, indigenous law, archaeological regulations, tourism regulations, property rights, tort rules, constitutional rights, etc) each of which could be understood as establishing different exclusionary reasons –with different underlying substantive first-order reasons-. From a systems theory perspective, as we have already seen through this chapter and especially in the previous section, these different exclusionary reasons could be subject to second-order observations –i.e. through judicial application, legal dogmatics or legal argumentation- with respect to the manner in which they should be applied. At this level of complexity, those second-order observations will normally contain recourse to the underlying first-order reasons that can be found behind the various conflicting exclusionary reasons. This is in fact the normal manner in which legal argumentation, for example, unfolds in a judicial process in order to determine, which of the overlapping rules should prevail or whether a principled decision should be preferred.

A different matter is whether and how the regulatory trilemma can be better tackled through law. This is what we will discuss in the following chapter, which looks at reflexive law, a post-regulatory strategy that intends to increase the reflexive capacity of the legal system.

⁸¹⁰ Ibid, pp.231.

CHAPTER 8

REFLEXIVE LAW

'(I)n the complex modern societies, the less foreseeable the future, the more foresight is required; the less we understand, the more insight is needed; the fewer the conditions which permit planning, the greater is the necessity to plan.'

(Ruggie)⁸¹¹

⁸¹¹ La Porte (2015).

8.1. Introduction

The challenges of complexity for the legal system should not be downplayed. Helmut Willke wisely emphasizes what is at stake:

*'There is no evolutionary law which states the functional supremacy of the state and law in guiding societies. But if the function and the role of the state is to change, state and legal theory had better do some re-thinking and pre-thinking, lest they lose contact with reality'*⁸¹².

So, as the functional differentiation and the accelerated drifting apart of different spheres continue to unfold, the question is *'what is left to preserve and integrate society'*⁸¹³ and then, from the specific perspective of law, the question becomes *what could be the role of law* in this context of intensified complexity, and *to what extent and how* can this role be fulfilled?

More concretely, for the legal system the question is whether and how it can cope with the *limits of regulatory law* and the *regulatory trilemma* identified in Chapter 4, or, in other words, whether the legal system can find a different model of operation that can cope with the challenge of post-modern complexity.

It is in this context that several post-regulatory approaches have been proposed among which *responsive law*⁸¹⁴, *consensus-oriented procedures*⁸¹⁵, *procedural law*⁸¹⁶ and *reflexive law*⁸¹⁷ are the most prominent.

As I have previously indicated, my intention is to argue towards a post-regulatory model that would facilitate, promote and increase the *reflexivity of law*, that is, towards a post-regulatory model that would consider new possible forms of law that would better combine the normative and cognitive orientations of law.

It is from this perspective that I propose to work on the basis of the *reflexive law* approach developed by Gunther Teubner, with the specific purpose of exploring various possible mechanisms for coping with the regulatory trilemma of *ecosystems conservation*.

As explained in Chapter 1, I believe that among the different post-regulatory approaches, the reflexive law approach is the one that takes social and temporal complexity most seriously. Moreover, reflexive law departs from the idea of the double closure of law and society, discarding simpler linear approaches to external direct regulation of society through responsive policies, consensus procedures, or procedural participation in general.

⁸¹² Willke (1986), pp. 280–98.

⁸¹³ Ibid.

⁸¹⁴ Nonet and Selznick (2001).

⁸¹⁵ Habermas (1986a)

⁸¹⁶ Wiethölter (1986a).

⁸¹⁷ Teubner (1983): 239–85; Willke (1986).

As demonstrated at the end of this chapter – when I refer to the normative aspects of reflexive law – this approach also takes into account the functional differentiation of society by recognizing that no social sphere can assume a privileged position within society.

It is, in fact, the aim of reflexive law to coordinate the interactions between different subsystems of society. This involves the *facilitation* of such interaction as well as the *maintenance* of the autonomy of the functionally differentiated systems.

In this chapter I will analyse reflexive law and its general mechanisms, possibilities and limits. I will also aim to understand how reflexive law operates in the context of the structural coupling between law and the regulated systems. In particular, I will explore how Teubner's ideas of *interference* can be understood as a broader reference to a *social domain*.

All this should allow me to set the scene for observing how the traditional institution of property – or ownership – as a critical mechanism of the structural coupling of law, economy and politics is significantly influencing the social dynamics of ecosystems conservation, as will be analysed in the final chapter.

8.2. Teubner's Approach to Reflexive Law

Teubner developed the idea of reflexive law as a new possible form of legal rationality⁸¹⁸ and regulatory model⁸¹⁹.

His contribution has been considered to be not only the application of the systems theory approach to the challenges of post-modern law, but also a 'contribution to Max Weber's account of the evolution of law, which focuses on the formal and substantive orientations of law in the liberal and welfare state respectively'⁸²⁰.

Teubner developed and proposed his concept of reflexive law as 'a new type of rationality toward which post-modern law may be moving'⁸²¹.

It is in this context that Teubner originally presented reflexive law as a new type of rationality that would succeed both the *formal rationality* of the liberal state⁸²² and the *substantive rationality* of the welfare state⁸²³.

Thus, in order to distinguish reflexive law from substantive law, he suggested that the first 'shares with substantive law the notion that focused intervention in social processes is within the domain of law, but it retreats

⁸¹⁸ Teubner (1983), pp.272.

⁸¹⁹ Teubner (1986b), pp.303.

⁸²⁰ Paterson (2009), pp.561.

⁸²¹ Teubner (1983).

⁸²² Weber (1978), pp.333.

⁸²³ Ibid, pp.392.

from taking full responsibility for substantive outcomes'⁸²⁴. This is because reflexive law does not pursue the direct regulation of social processes, but to facilitate the unfolding of self-regulating social systems.

Then, in turn, in order to distinguish reflexive law from formal rationality, Teubner explained that reflexive law '*does not merely adapt to or support "natural social orders" ... but searches for "regulated autonomy". Reflexive law, unlike formal law, does not accept "natural" subjective rights. Rather, it attempts to guide human action by redefining and redistributing property rights*'⁸²⁵. In other words, and from the perspective of functional differentiation, reflexive law does not recognize a privileged position to the so-called spontaneous dynamics of the economic system (the *invisible hand*), but searches for the reflexive interaction of the different subsystems of society.

It is in this context that Teubner further explains that reflexive law '*seeks to design self-regulating social systems through norms of organization and procedure*'⁸²⁶.

Then, when explaining the 'external social functions' of reflexive law Teubner states that: '*It means to create the structural premises for a decentralized integration of society by supporting integrative mechanisms within autonomous social subsystems*'⁸²⁷.

Additionally, when explaining the 'internal rationality' of reflexive law, Teubner declares: '*The "internal rationality" of reflexive law is represented neither by a system of precisely defined formal rules nor by the infusion of purpose-orientation through substantive standards. Instead, reflexive law tends to rely on procedural norms that regulate processes, organization, and the distribution of rights and competencies... Under a regime of reflexive law, the legal control of social action is indirect and abstract, for the legal system only determines the organizational and procedural premises of future action*'⁸²⁸.

Therefore, it may be said that at the initial stage of development of the concept of reflexive law, Teubner was focused on two main aspects: 1) how reflexive law would fit into the Weberian account of the evolution of law⁸²⁹;

⁸²⁴ Teubner (1983), pp.254. Teubner further added that the difference between reflexive law and substantive rationality stems from the understanding that '*Functional differentiation requires a displacement of integrative mechanisms from the level of the society to the level of the subsystems*', so that '*to achieve integration under conditions of extreme functional differentiation, the different subsystems must, according to Luhmann, be mutually supportive*', and '*stand in a meaningful relation of compatibility*', rather than be subject to a mode of '*centralized social integration*', pp.272.

⁸²⁵ Ibid.

⁸²⁶ Ibid

⁸²⁷ Ibid, pp.255.

⁸²⁸ Ibid, pp.255

⁸²⁹ As we have noticed in the previous Chapter 7, we see an important contrast between the Weberian account of a binary opposition between formal and material rationality and the Luhmannian understanding of form that we argue should be rather understood through the distinction between *redundancy and variety* thereby allowing for *different concurring combinations* in the relationship between form and substance. If our position is correct, then we can conclude: (1) Reflexive rationality is not a successor of 'formal' and 'material' but a

and 2) how reflexive law was closely related to the idea of functional differentiation of society.

In a subsequent stage of development of the concept of reflexive law, Teubner began to emphasize the idea of *self-referentiality*, so that reflexive law appears to be a post-regulatory strategy that makes '*compatible the self-referentiality of various subsystems*'⁸³⁰. Here Teubner identifies two fruitful directions of analysis: one relates to the *limits* of regulation; the other relates to the *social knowledge* required for regulation (necessary for acting within those limits). A regulatory action is successful if the self-reproduction of both the *regulating* and the *regulated* systems are not trespassed. If this were the case, it would mean that regulatory efforts would conform to conditions of *structural coupling* between law and society. So, if regulation did not conform to the *conditions of structural coupling*, the legal system would face the regulatory trilemma⁸³¹.

At this stage, Teubner identifies three dimensions of reflexive law:

- (1) *Autonomy*: reflexive law should facilitate the self-referential processes of the different subsystems.
- (2) *Externalization* of self-reference: reflexive law should increase the observation capacities of the regulated subsystems.
- (3) *Coordination*: reflexive law should facilitate 'concerted action' or interaction amongst systems⁸³².

Then, at a subsequent stage, Teubner appears to focus more intensely on structural coupling, and particularly on the idea that there are institutions that he calls '*linkage institutions*' that are '*responsible for the duration, intensity and quality of structural coupling*'⁸³³.

Here Teubner indicates that '*Structural coupling as such leads only to transitory structural changes*'⁸³⁴. Therefore, reflexive law would seek in some sense to enhance the structural coupling of law and other subsystems⁸³⁵.

In a later statement, Teubner explains that he intends to analyze '*the relationship between legal autopoiesis and social regulation*'. He states that '*We can... talk of reflexive law if, and only if, the legal system identifies itself as an autopoietic system in a world of autopoietic systems and faces up to the*

different non-oppositional understanding of the relationship between form and substance; (2) From the perspective of what Teubner calls the 'internal rationality' (that we take to be about the different forms and mechanisms that can be used by reflexive law), reflexive law should not only be about certain procedural, organizational and the like forms, but about any forms that have the capacity to combine redundancy and variety (and, therefore, have reflexive capacity). We will see consequences of this approach through different sections of this chapter, especially in the section on The Possibilities and Limits of Reflexive Law in the subsection on the Function of Law (see , for instance, the example that shows how new reflexive law mechanisms will interact with traditional liability rules that also show reflexive capacity).

⁸³⁰ Teubner (1986b), pp.309-10

⁸³¹ Ibid, pp.311.

⁸³² Ibid, pp.319.

⁸³³ Teubner (1992a), pp.1458.

⁸³⁴ Ibid.

⁸³⁵ Paterson (2006), 13–32, pp.24.

consequences⁸³⁶.

In this respect, he says, the question that reflexive law intends to answer is: *'How does legal rationality respond to a high degree of functional differentiation in society?'*⁸³⁷. More specifically, it also intends to answer the question: *'How is it conceivable that the radical closure of legal operations also means its radical openness in relation to social facts, political demands, and human needs?'*⁸³⁸

Teubner states that *'My tentative answer is that social regulation through law is accomplished through the combination of two diverse mechanisms: information and interference. They combine operative closure of the law with cognitive openness to the environment'*⁸³⁹.

It is in this context that Teubner proposes the following *'feasible forms of indirect intervention'*: reciprocal observation, coupling through interference and communication through organization⁸⁴⁰.

In a more recent statement with John Paterson, four *'scenarios'* of reflexive law are offered: tangential response, bifurcation and attractors, synchronizing difference reduction and binding institutions⁸⁴¹.

As Paterson later explains, two of the latter four alternatives fit fairly well on the previous tripartite arrangement, while tangential response and synchronizing difference reduction appear as new additions⁸⁴².

So, in what follows I will examine briefly the different forms or alternatives of reflexive law intervention in accordance with the combined arrangement proposed by Paterson.

8.2.1. Tangential Response

A tangential response exists when the regulators *'limit their efforts and try only punctual intervention, wait until any of the usual idiosyncratic reactions appear on their screens and then try a punctual stimulus of a different kind and continue in this way until the regulated systems have moved somehow into the desired direction'*⁸⁴³.

Here the regulator gives up *'any attempt to establish stable structures in the regulated system or systems'*⁸⁴⁴. This *'punctual intervention'* strategy is a sort of trial-and-error approach and *'it is clearly an extremely minimal response and one that carries with it a high degree of risk'*⁸⁴⁵.

⁸³⁶ Teubner (1993), pp.65.

⁸³⁷ Ibid, pp.66.

⁸³⁸ Ibid, pp.65.

⁸³⁹ Ibid.

⁸⁴⁰ Ibid, pp.77.

⁸⁴¹ Paterson and Teubner (1998): 451–86, pp.474-479.

⁸⁴² Paterson (2006), pp.24.

⁸⁴³ Paterson and Teubner (1998): 451–86, pp.475.

⁸⁴⁴ Ibid

⁸⁴⁵ Ibid

8.2.2. Reciprocal or Mutual Observation

In the case of *mutual observation*, what is emphasized is the second-order observation of the self-reference of the regulated systems. Therefore, in this case, *'the observing system... reconstructs the self-reference of the observed system'*⁸⁴⁶.

In this way, the legal system seeks to *'influence the mechanisms of co-variation through the system's internal operations'*⁸⁴⁷. The idea is to influence the *'co-evolutionary processes between systems by deliberately increasing the possibilities for variation within the law'*⁸⁴⁸.

This is what Teubner also calls an *information-based strategy*, or *knowledge strategy*, which in any case cannot step outside the bounds of the legal system⁸⁴⁹. That is, it cannot go beyond the circularity of self-reference and can have no direct contact with the social environment.

The consideration of the *'self-reference of the observed system'* is one of the most critical elements of reflexive law, as this is the general basis of the understanding that law cannot simply implement linear-causal models of regulation without taking into account how the legal communications will be *observed* by the regulated systems. The traditional example of a simplistic linear-causal model is found in the contrast between a legal communication that pursues the protection of the environment, which when observed by the economic system is only considered in light of its potential economic costs (the comparative costs of compliance/non-compliance). A related example of a reflexive regulatory strategy that would enhance mutual observation can be found in the institution of *'environmental directors'* or *'environmental officers'* that would add an environmental observation element to the management of a regulated entity⁸⁵⁰.

8.2.3. Coupling through Interference or 'bifurcation and attractors'

This alternative contains a concept developed by Teubner, through which he intends to go beyond circular self-observation. In this sense, Paterson explains, the mechanism of interference *'appears to mark a definite departure from Luhmann's account'*⁸⁵¹.

According to Teubner, *'it is possible to break through this circularity in a way that extends beyond the system itself'*⁸⁵².

Teubner explains that if information cannot be obtained from outside the system, then *direct contact*⁸⁵³ has to be established with the outside. For Teubner, *'[I]nterference is a bridging mechanism whereby social systems get*

⁸⁴⁶ Teubner (1993), pp.80

⁸⁴⁷ Ibid, pp.81.

⁸⁴⁸ Ibid, pp.82.

⁸⁴⁹ Ibid, pp.81.

⁸⁵⁰ Teubner, Farmer, and Murphy (1994). See specially Chapters 11 and 12, on Environmental Officers.

⁸⁵¹ Paterson (2006), pp.26

⁸⁵² Ibid, pp.86.

⁸⁵³ Ibid, pp.89.

*beyond self-observation and link up with each other through one and the same communicative event*⁸⁵⁴.

Teubner explains: *'My suggestion is that it is this interference which enables social systems to come into direct contact with each other in a way that extends beyond mere observation'*⁸⁵⁵.

According to Teubner, interference is possible for *'three reasons'*: firstly, because systems *'use the same basic stuff, 'meaning''*; second, they all develop their systems *'on the basis of the same operations – that is, communication'*; and third, and most importantly, all forms of specialized communications in any social subsystem *'are also at the same time always forms of general societal communication'*⁸⁵⁶.

For Teubner, legal communication and general societal communication *'belong to the same phenomenological domain: society'*⁸⁵⁷. Most importantly, Teubner concludes: *'[I]f this is the case, then it follows that subsystemic and societal elements coincide in a single act of communication. In this way law and society are still linked together. In social subsystems communications take part in at least two different cycles at once: in general social communication and in a separate cycle which forms part of the social subsystem'*⁸⁵⁸.

Therefore, for Teubner, interference goes beyond mere observation, since *'[T]he mutual interference of systems makes it possible not only for them to observe each other but for there to be real communicative contact between the system and the life-world'*. Therefore, Teubner makes clear that interference goes beyond *interpenetration*, as the latter is still mere *'reciprocal observation'* for which *'no direct contact is possible'*⁸⁵⁹.

Then, also the use of *'bifurcation and attractors'* involves interference to the extent that they will *'probe for sensitive "intervention points" which will provoke the desired instability'* to move the regulated system to a new attractor state. For example, one way in which this can be implemented is through *'option policies'*⁸⁶⁰ that provide alternatives to regulated entities so that their internal operations would adjust to the regulatory offer.

Teubner further explains that there can be various types of interference, as it applies to different components of the system: event-interference (through the same event), structural interference (through social expectations or social constructs) and role-interference (through overlapping memberships of persons)⁸⁶¹.

⁸⁵⁴ Ibid, pp.86.

⁸⁵⁵ Ibid.

⁸⁵⁶ Ibid.

⁸⁵⁷ Ibid, pp.87.

⁸⁵⁸ Ibid, pp.88.

⁸⁵⁹ Ibid, pp.89.

⁸⁶⁰ Paterson and Teubner (1998), pp.477

⁸⁶¹ Teubner (1993), pp.90.

8.2.4. Communication through Organizations or Binding Institutions

This alternative involves *'a roundabout way in which channels of influence can be created between functional subsystems'*⁸⁶². Under these mechanisms different communications by different subsystems are *'channeled parallel to each other'* through formal organizations that act or work as *'binding institutions'*⁸⁶³, producing *'systematic effects'* and a *'close structural coupling of law and the other social processes within the organization'*⁸⁶⁴. One example is *'intra-organizational juridification'* where *'organizational processes are legally reconstructed in such a way that they themselves become sources of law'*⁸⁶⁵. An example of this can be found in the regulation of internal management systems (i.e. safety management systems). These organizational processes may also be triggered indirectly through liability rules⁸⁶⁶.

Furthermore, *'[F]ormal organizations can, as collective actors, communicate with each other across the boundaries of functional subsystems'*. This *'interlocking structure'* multiplies *'mutual observation'*. Examples of this include participatory procedures and collective bargaining.

8.2.5. Synchronizing Difference Reduction

This alternative is also about reciprocal observation, but in this case the observation is focused on synchronizing legal messages with the specific *differences* the regulated system constructs.

Regulatory steering itself is understood as the reduction of the difference *'between the current direction and the desired direction'*⁸⁶⁷. Now, considering that *"the regulatory messages" constituted by law's difference minimisation programme "are re-read, re-constructed and re-contextualized" by those other subsystems*⁸⁶⁸, it can be the case that the legal communication and the *"self-regulation processes in different social fields tend to work in the same direction and thus reinforce each other"*⁸⁶⁹.

An example of this is the legal requirement for a *'quantified risk assessment'* in the context of complex technology industries. The requirement for this assessment is consistent with the internal criteria of the regulated system itself. This subtle, indirect requirement will therefore lead the regulated entity towards the lowest possible level of risk in its management⁸⁷⁰.

8.3. The Possibility and Limits of Reflexive Law

Teubner sums up his description of reflexive law by stating that

⁸⁶² Ibid, pp.95.

⁸⁶³ Paterson and Teubner (1998), pp.477

⁸⁶⁴ Ibid.

⁸⁶⁵ Ibid.

⁸⁶⁶ Teubner, Farmer, and Murphy (1994); Brüggemeier (1994).

⁸⁶⁷ Paterson (2006), pp.29.

⁸⁶⁸ Paterson and Teubner (1998), pp.476

⁸⁶⁹ Ibid.

⁸⁷⁰ Paterson (2006), pp.30

'information and interference are the two mechanisms which ensure that operationally closed social systems remain cognitively open'⁸⁷¹.

Under Teubner's approach, as already seen, information relates to observation of both the legal system and regulated systems. Therefore, we can conclude that all the strategies described above (except for the one relating to interference) are based on the mechanism of information.

The second mechanism, that is, interference, relates to the strategy of the same name that refers to the *'relationship of structural coupling'* between law and its social environment.

For Teubner *'[I]t is the combination of the two [information and interference] which makes social regulation through law possible – even if... this takes place in an extremely indirect and rather uncertain way. If law becomes 'reflexive'... it can increase its regulatory potential to a certain extent'⁸⁷².*

Teubner concludes with an important statement: *'However, despite all 'reflexivity', law is still a closed autopoietic system. It is impossible to break down the barriers that result from this double closure'⁸⁷³.*

Therefore, Teubner concludes with a sobering understanding of the possibilities of reflexive law in light of the double closure of the legal system and society. Any attempts to steer society in a particular direction will depend on contingent self-referential observations of the systems involved.

Despite this somewhat unambitious approach, Teubner's position has raised Luhmann's concerns as to the theoretical possibility of the reflexive law model⁸⁷⁴.

As Paterson has explained, the real issue at stake is whether reflexive law is consistent with autopoiesis. Luhmann believes that attempts at social steering are simply unrealistic⁸⁷⁵, and that we may only rely on evolution⁸⁷⁶. However, as Willke explains: *'Evolution is a suboptimal strategy. It does not allow satisfactory reactions against long-term risks and dangerous situations. It avoids intervening – as the contrast between a laissez-faire regime and an intervening state makes clear. The problem is that under current conditions neither the laissez-faire nor an intervening state represent optimal solutions'⁸⁷⁷.*

However, Luhmann warns that all attempts at social steering may

⁸⁷¹ Ibid, pp.97

⁸⁷² Ibid.

⁸⁷³ Ibid.

⁸⁷⁴ Teubner and Febbrajo (1992).

⁸⁷⁵ Paterson (2006), pp.31.

⁸⁷⁶ Luhmann (1986b), pp.121, 122, 123, 124; Luhmann (1995a), pp.360.

⁸⁷⁷ Translated by Aldo Mascareño (2006) pp. 279. Original in Willke (1993), pp.58.

cause critical overstrain on the legal system, to the extent that it may provoke *involution* or the *de-differentiation* of the same⁸⁷⁸.

If Teubner is right, though, some form of social engineering remains possible.

Paterson rightly explains that at the heart of this disagreement between Luhmann and Teubner lie two important questions: firstly, whether reflexive law is consistent with or entails the endangerment of *the function of law*; and, secondly, whether law is capable of identifying *'itself as an autopoietic system in a world of autopoietic systems'*⁸⁷⁹. I will deal with these two questions separately.

8.3.1. The Function of Law

Teubner himself sheds some light on the first question in his earlier writings: *'Just as classical formal law is not replaced, but at most overlaid, by materialization processes, here too it is only a matter of relative dominance. The most that can be expected is a shift of emphasis towards more flexible strategies'*⁸⁸⁰. So, Teubner sees that the different forms of law will coexist. He therefore sees reflexive law as a continuation of the social steering trend, even though *'it would help steer the process into more socially compatible channels'*⁸⁸¹.

I would add, applying Luhmann's understanding of how the legal system combines its normative and cognitive orientations, that reflexive law mechanisms will interact with the existing normative redundancies of the legal system in such a way that the new societal practices – that will unfold as a result of the reflexive law strategies – will be understood in the context of those existing redundancies, as well as in the context of the additional *variety* that will become available. If, for instance, the regulatory requirement of a *new management system* (i.e. a system imposed on corporations in order to improve their observation capacities with respect to environmental risks) triggers new corporate practices, the new management practices will be taken into consideration in the potential application of traditional liability rules (i.e. in case of an accident) when assessing compliance with the 'standard of due care'. Thanks to the new management practices, additional information and variety will be available for this purpose and will be considered during the judicial application of the corresponding liability rules.

In my view, these considerations and example show three things:

1) The mechanisms of reflexive law will operate in conjunction with the general mechanisms that combine the normative and cognitive orientations of the legal system⁸⁸². In this sense, a reflexive law strategy

⁸⁷⁸ Luhmann (1986b) pp.121, 122, 123, 124; Luhmann (1995a), pp.360.

⁸⁷⁹ Teubner (1993), pp.65.

⁸⁸⁰ Teubner (1987), pp.40.

⁸⁸¹ Teubner (1987), pp.40.

⁸⁸² See Chapter 6 and 7.

should consider the interaction between the mechanisms of reflexive law in conjunction with the reflexivity of all the traditional normative mechanisms (deriving from formal and material rationality)^{883 884}.

2) The *function of stabilization of normative expectations* will result from the interaction of the different normative elements of the legal system. In the example described above, the new reflexive law mechanisms will be combined with pre-existing normative redundancies, thereby producing new social practices and normative redundancies in the legal system. This process would contingently stabilize expectations at a *higher level of concurrent redundancy and variety*. In any case, this will become an empirical question to be observed.

3) The legal system must adjust to increased social complexity and must also deal with the major shift from the traditional *past-oriented social perspective* of a pre-existing order to the *future-oriented social perspective* of an unfolding contingent future⁸⁸⁵. In the case of environmental risks (i.e. example above) and also, paradigmatically, in the case of ecosystems conservation, the available information is limited, change (both social and ecological) is rapid and unpredictable and the entailed contingencies (irreversibility of ecological change) are high. Therefore, it appears that the legal system must adjust to these new societal circumstances and must fulfill its function whilst adjusting to the prevailing social contingency. In general terms this could be described as a transition towards what could be called a *reflexive stabilization of normative expectations*. As Thomas Vesting argues: '*... modern law can only achieve a limited security of expectations. The entire problem of the concept of 'expectation guarantee' truly lies in the measure of the thereby assumed security*'⁸⁸⁶.

8.3.2. Observation of Autopoiesis

The second question is whether or not the legal system can identify itself as an autopoietic system in a world of autopoietic systems.

Luhmann is not sure that this is possible, as he asks to what extent the legal system '*is capable of perceiving and taking into account autopoietic*

⁸⁸³ See Chapter 7 on the reflexive nature of law and the reflexive form of law. As we have argued, there will be different degrees of reflexivity in different legal forms. Therefore, as explained, reflexivity is a feature of the form of law and it should not be understood as a successive stage of legal evolution following after formal and material rationality. A different thing is that in the case of 'reflexive law' the very goal of the regulatory mechanisms is to increase reflexivity. We can also distinguish between formal, substantive and reflexive rationality from the perspective of '*regulatory politics*' or what Teubner calls the '*justification of law*'. Formal rationality is justified by 'private autonomy'. Substantive rationality is justified by the 'compensation of the inadequacies of the market'. Reflexive rationality is justified by the idea of 'coordinating recursively determined forms of social cooperation'. See Teubner (1983), pp.252.

⁸⁸⁴ This will also mean that traditional normative elements that appear to be counter-productive should be modified, adjusted or eliminated (i.e. forestry exploitation subsidies).

⁸⁸⁵ See note 19.

⁸⁸⁶ Vesting (2000), pp.268.

*systems in its environment*⁸⁸⁷, because 'if [law] must make indications with the aid of this distinction [legal/illegal] then what limits are thereby imposed on insight into the autopoiesis of environmental systems?'⁸⁸⁸. Luhmann is saying that law can 'only reinforce the self-sensitivity of law to its actual social conditions', which in any case he still considers to be a 'great deal'⁸⁸⁹.

However, I believe that, in the same way that Luhmann recognizes that second-order observation of the legal system may feed from observations of and from *legal sociology* (social science), the same second-order observation may gain insight into the autopoietic nature of itself and of other subsystems. I believe this may specially take place through the legislative process, within which recursive observations on previous regulatory failures will be available. In the face of these regulatory failures the legal system may contingently learn about its own failed observations and, moreover, it is in this same legislative process that observations of other subsystems (especially *politics*) will normally transpire, showing how blind and self-referential the failed legal observations have been.

It is in this context that Luhmann's words make sense when he says that '*as an autopoietic system observing autopoietic systems, it [the legal system] cannot avoid gaining information about itself*'⁸⁹⁰.

Luhmann is also concerned in this context with '*how in particular the legal system... will cope with the burdens of reflexion*' and particularly how this '*reflexion confronts the system with the paradoxicality to which it owes its existence*'⁸⁹¹.

However, as Paterson points out, Luhmann himself may provide an answer to this. Luhmann seems to be clear that '*it is not necessary "to risk the glance into paradoxicality"; rather, it is "sufficient to develop thoughtful procedures for observing observation, with the special emphasis on that which, for the other, is a paradox and, therefore, cannot be observed by him"*'⁸⁹². With regard to law, there appear to be ways in which the paradox of reflexive law may be deparadoxified, both through feeding legal sociology into legal practice⁸⁹³ (particularly into the legislative process) and through the *legal system* itself, which will evolve and develop different forms of deparadoxification in line with historical social change⁸⁹⁴.

8.4. Structural Coupling and the Social Domain

Rudolf Stichweh, one of Luhmann's most well-known disciples, recognizes that the notion of structural coupling remains a very general and vague concept. As he says, '*Structural coupling even in Luhmann remains too*

⁸⁸⁷ Teubner and Febbrajo (1992).

⁸⁸⁸ Ibid., pp.393-4

⁸⁸⁹ Ibid, pp.398.

⁸⁹⁰ Luhmann (1986a), pp.186.

⁸⁹¹ Ibid, pp.411-2

⁸⁹² Paterson (2006), pp.33; quoting Luhmann (1990e).

⁸⁹³ Ibid; Luhmann (1988c), pp. 23-42.

⁸⁹⁴ Ibid; Luhmann (1988b): 153-65, pp.154.

*much a vague metaphor*⁸⁹⁵.

This is also demonstrated in the nuances between the different approaches of Luhmann and Teubner, particularly as seen in the contrast between the concepts of interpenetration and interference.

According to Luhmann, there is *penetration* when a system ‘*makes its own complexity... available for constructing another system*’ and there is interpenetration when ‘*this occurs reciprocally, that is, when both systems enable each other by introducing their already-constituted complexity into each other*’⁸⁹⁶.

Luhmann applies this idea to explain how one same *event* can belong at the same time to different systems, which guarantees a ‘*high degree of interpenetration of the various systems*’. However, at the same time he emphasizes that ‘*[N]evertheless, the systems remain separate*’, because each system selects the event in accordance with its own criteria and ‘*this constitutes the meaning of the event in each case*’⁸⁹⁷. He concludes that through interpenetration ‘*albeit, in extremely precarious form, extremely close relationships between system and environment can be produced*’⁸⁹⁸.

Teubner, on the other hand, makes a distinction depending on the ‘*ontological quality of the relationship between system and environment*’. He says that ‘*[I]f the system and its environment are on the same ontological level, then real contact between them is possible*’. He also recognizes that ‘*[I]f they are on different levels, however, then “openness” is a matter only of interpenetration or of an entirely internal construction in the system*’⁸⁹⁹.

For Teubner, therefore, in the case of interpenetration ‘*no direct contact is possible, since the elements of the system are so different – even though they overlap to some extent*’. In the case of interference, on the other hand, ‘*direct contact is possible, because the elements are essentially similar*’.

It must be remembered that this is the answer given by Teubner to the question: ‘*Is there no way out of these closed circles of (self-) observation?*’. He immediately says that he believes it is possible ‘*to break through this circularity*’⁹⁰⁰.

Notwithstanding this belief, Teubner then asserts that ‘*However, despite all ‘reflexivity’, law is still a closed autopoietic system. It is impossible to break down the barriers that result from this double closure*’⁹⁰¹.

How can one understand Teubner’s seemingly divergent but co-existing views? It seems that, notwithstanding Teubner’s belief that there is a possibility to break through circularity and have ‘*real communicative*

⁸⁹⁵ Stichweh (2007): 528–42, pp.530.

⁸⁹⁶ Luhmann (1995a), pp.213.

⁸⁹⁷ Ibid.

⁸⁹⁸ Ibid.

⁸⁹⁹ Teubner (1993), pp.89.

⁹⁰⁰ Ibid, pp.85, 86.

⁹⁰¹ Ibid, pp.97.

*contact*⁹⁰², this can only take place from and through the self-referential closure of the autopoietic system. In other words, real communication would be the result of a communicative encounter of self-referential observations of different systems.

However, in reading Teubner's ideas on interference and on the possibility of real communicative contact between the system and its environment, it is impossible to avoid noting certain similarities with the ideas of Humberto Maturana and Peter Hejl regarding structural coupling.

Maturana and Hejl, though under different theoretical constructs, explain and support a view of structural coupling that allows for the emergence of a '*common cognitive world*'⁹⁰³ between systems, a shared space that Maturana calls the '*relational domain*'⁹⁰⁴ and Hejl calls '*social domain*'⁹⁰⁵. Maturana says that system and medium are "*structurally intersected, co-extensive and coessential*"⁹⁰⁶.

The emphasis is on '*congruency*' rather than '*autonomy*', which makes possible the continued existence of the '*system in the medium*'⁹⁰⁷. In other words, the emphasis of '*structural coupling*' is not on functional closure but on *co-evolutionary congruence*^{908 909 910}.

I believe that the idea of a social domain – which for Teubner could be called the *domain of interference* (the domain where direct contact is possible) – provides an important insight into a *relational or social space* that, as such, can be observed.

I further believe that we can better understand the relevance of this insight if we think that the *boundary* or the *border* (between the system and its environment) in which structural coupling operates can be conceived (imagined or experienced) either as a *border-line* or as a *border-space*. In other words, structural coupling could be seen as an operation that takes place in a border-line or as an operation that takes place in a border-space. As Zenon Bankowsky explains, when a border is '*imagined or experienced as a line, signals a structure in which one moves from one state to the other – you do*

⁹⁰² Teubner (1993), pp.88.

⁹⁰³ Mutelesi (2006): 6–16.

⁹⁰⁴ Maturana (2006): 91–102, pp.94.

⁹⁰⁵ Hejl (1984), pp.69; See also Hejl (1987), as quoted by Mutelesi (2006), pp.11.

⁹⁰⁶ Kenny (2007).

⁹⁰⁷ Maturana (2006), pp.95.

⁹⁰⁸ Ibid.

⁹⁰⁹ As a result of this Hejl believes that autonomy does not exclude regulation because the social domain "*make[s] possible for the system to select events or communicative offers that - due to the mechanisms of the system(s) addressed that are working at that particular time - trigger the desired behaviour*", in Hejl (2011), pp.230. But as Hejl himself recognizes this does not exclude complexity and, therefore, it does not exclude the need to build adequate systems of regulation. So, here again, it could be said that the strategies of reflexive law will be as necessary as before, because not all contact between systems will necessarily go through shared spaces of meaning, or in other words (in Luhmann's terminology) it will still be necessary to distinguish between structural coupling and operational coupling.

⁹¹⁰ It is through these ideas that Maturana and Hejl have taken distance from *radical constructivism* -and the idea of *solipsism*- that has sometimes been linked to the concept of autopoiesis. Mutelesi (2006).

not experience the in-between'⁹¹¹. And when a border is imagined or experienced as a space or as a 'transitional zone' then they appear as 'sites of encounter'⁹¹², 'as zones for the experience of transition, exchange and interaction'⁹¹³. This border-space, this 'transition from one zone to the next', can be seen 'as an opportunity for such continual exchange and interactive cross fertilization'⁹¹⁴.

Consequently, if structural coupling is imagined as a process that takes place in a border-line, it seems possible to only observe the bilateral coupling between two definite systems at the time. If structural coupling is imagined instead as a process that takes place in a border-space, it seems possible to observe a multi-systemic interaction. In other words, this opens up a social domain of interaction, the transition between different observations of different systems.

These two forms of observation⁹¹⁵ complement one another. In fact, it seems that when the *closure of the system* is observed, the image that prevails or applies is that of a border-line. Instead, if the *openness of the system* is observed, it seems that the image that prevails is that of a border-space. Moreover, it seems that first-order observation – or the original drawing of a distinction – operates through the image of a border-line. It is only when second-order observations take place (especially hetero-referentially and reciprocally between and amongst systems) that the image of a border-space seems to unfold.

It is in this respect and context that the image of border-space or *transitional space* also further illuminates the ideas of *complexity* and *contingency*, as through this image multiple connections and *double-contingencies* between different systems may be more clearly grasped.

Moreover, I also believe that this distinction seems to be relevant from the time dimension perspective. This is so because this distinction appears to facilitate the observation of 'the difference between events and permanence, between change and duration'⁹¹⁶. If structural coupling is imagined as a process that takes place in a border-line, it is easier to observe the *present as change*⁹¹⁷, that is, time expressed in each operation from moment to moment (i.e. in each operation of border-line crossing). If structural coupling is imagined as a process that takes place in a border-space, it is possible to observe the interactions of different *time-horizons* of the different systems, that is, to observe the interaction of the *present as duration* that each systems builds⁹¹⁸. Even more crucially, the observation of this transitional space also allows the observation of the contrast of the *time-speed* of different systems, as the multi-systemic interaction will more easily show the difference in the operations of different systems and, eventually, will also show how the time

⁹¹¹ Bankowski and Del Mar (2014), pp.68.

⁹¹² Ibid, pp.69.

⁹¹³ Ibid, pp.70.

⁹¹⁴ Ibid.

⁹¹⁵ We could refer to two forms of observation that indicate each side of the distinction line/space.

⁹¹⁶ Luhmann (1995a), pp.78.

⁹¹⁷ See Section 6 of Chapter 5 on the Temporal Dimension.

⁹¹⁸ Ibid.

dynamics of one or more systems may influence other systems.

I believe that because structural coupling has remained a '*vague metaphor*'⁹¹⁹, there has not been enough emphasis on observation of the transitional spaces between and among systems where multiple encounters and multiple variations take place. It seems that the emphasis of systems theory on the distinction between *self-observation* and *hetero-observation* has diverted attention from the transitional spaces where encounters take place. Naturally, however, these two forms of observation (self-observation and hetero-observation) will continue operating when addressing this transitional space or social domain, as even when observation is addressed to the social domain, the system will use a self-reference when its observations are oriented towards itself, and will use hetero-reference when its observations are oriented towards others. In any case, observing this social domain will make it easier to observe those spaces where different second-order observations overlap and co-operate.

The relevance of all this can be seen in the consideration of, for instance, the institution of *property*. Property has been considered one of the two central institutions of the structural coupling between the legal and economic systems (the other central institution being 'contracts'). In principle, observation of this bilateral structural coupling alone, especially if one's interest were to observe the closure of the systems involved, would result in a prevailing image of a border-line. However, if one's interest were to observe the interference between law and economics through the institution of property, and to further understand the redundancies of both systems linked in a more-or-less stable manner through this institution, the image of a border-space would probably apply.

To observe not only this bilateral relationship but also the interactions between various systems around the institution of property in a multi-systemic manner would require observation of the broader social domain. The observation of this transitional space will reveal other important structural couplings operating in connection with the institution of property, such as that of politics and law. In this way, for instance, it is possible to see how the dissemination of *power* from politics and through law takes place in important ways through the institution of property. It is also possible to see how that power is transformed within the economy in different ways, influencing other social dynamics (e.g. in the access, control and use of natural resources). In this same context, it is also possible to see how administrative powers (i.e. of municipalities) influence the content of the right of ownership (e.g. through zoning plans), thereby changing the interaction between property and other systems of society (e.g. community access to green areas). In other words, this facilitates observation and exploration of various complex interconnections, such as how property is delineated (protected and restricted) by different means, not always through property entitlements but also through liability rules and other kinds of regulation.

Crucially, observation of the social domain enables one to grasp more nitidly the absence of structural couplings with respect to certain systems and in certain areas. In other words, it is possible to note that there are many

⁹¹⁹ Stichweh (2007), pp.530.

observations of other subsystems, such as those related to various intangibles (e.g. ecosystems services of the land), that are not triggering structural couplings but random and tenuous operational couplings with the institution of property – and with the law. Moreover, in this regard, it could be observed that, in certain cases, the institution of property could be considered to be an obstacle to interactions and couplings between the legal system and other systems such as those of science, aesthetics (art), spirituality (religion) (e.g. traditional indigenous practices), education, media (information sharing) and local community interaction systems and organizations, etc. In the specific case of ecosystems conservation, it would be possible to see more clearly how property operates in structural coupling with the economy and politics, but excludes local communities, scientific research, artistic activities, indigenous activities, education, media dissemination, etc.

All this relates to what has been discussed in Chapter 4 about how the regulatory trilemma takes place through the institution of property. I believe that the idea of the social domain will be useful for our analysis in Chapter 9 of both the institution of property and the new property right (the conservation property right) that I will propose as a reflexive mechanism to facilitate multi-systemic interactions to tackle the regulatory trilemma of ecosystems conservation.

In my view, the image of the social domain facilitates the observation of structural coupling and, therefore, facilitates the development of possible mechanisms of reflexive law.

8.5. Reflexive Law, Contingency and Normativity

As we have seen, Teubner's position on the possibility of social steering through reflexive law is prudent and modest, which is especially clear when he says '*... this takes place in an extremely indirect and rather uncertain way. If law becomes 'reflexive'... it can increase its regulatory potential to a certain extent*'⁹²⁰.

This position appears to be a direct reflection of the understanding of social complexity and the ensuing ideas of contingency and double contingency⁹²¹.

Reflexive law is exactly oriented to the coordination of the double contingency of the systems involved (the legal system and regulated systems). This coordination means simultaneously *facilitating* the contingent encounter of the observations of the implicated systems and *maintaining* their contingency by acknowledging their self-referential autonomy.

Reflexive law, both through information and interference, operates towards this contingent coordination, towards increasing the probability of coordination of the self-referential operation of the regulated systems. The most symbolic example of this can be found in the '*options policy*' that Teubner mentions as a case of the interference mechanism. This example also shows how, in reflexive law, the function of law is somehow adjusted to

⁹²⁰ Ibid.

⁹²¹ See Sections 5.4. and 5.10. of Chapter 5.

contingency. Instead of comprehensive, univocal, unidirectional and fixed regulation, reflexive law involves a flexible interactive process of observation and interference that promotes adjustment of the self-regulation of the regulated systems. This latter adjustment by the self-regulated system is contingent on its own observations both of itself (self-observation) and of the communications of the legal system (hetero-observation).

All this also shows that reflexive law, by pursuing the coordination of double contingency and by acknowledging the self-referential autonomy of the different subsystems of society, also recognizes that no subsystem should assume a central, archimedean or privileged position, thereby imposing its observations – or selection mechanisms – on other subsystems.

Reflexive law shall, therefore, not only facilitate the coordination but shall also maintain the reflexive co-existence and interaction between and amongst all areas of society, preventing the exclusion of certain subsystems' observations from interaction within the reflexive mechanisms of law.

The maintenance of this reflexive co-existence also means that there is no search for meta-levels or supra-systemic principles, only the idea of preserving such transversal coordination of autonomous systems⁹²².

Significantly, this is consistent with Luhmann's ideas on how social interaction must take place in a functionally differentiated society. It is also particularly consistent with his view of the profound relation between law and freedom⁹²³. For Luhmann, *“Freedom”, in other words, is the normative counterpart of the fact that a functionally differentiated society cannot base its integration upon the traditional semantics of nature, reason or morality*⁹²⁴.

Therefore, it is also in relation to freedom that we see the normative foundations of reflexive law. However, as mentioned earlier⁹²⁵, this relationship with freedom must be understood in the context of an increasingly *contingent* world⁹²⁶, involving at the same time *responsibility*⁹²⁷.

This understanding of the normative foundations of reflexive law becomes clearer when we think of the regulatory trilemma of ecosystems conservation. In the face of the unprecedented ecological risks and contingencies of our contemporary society, reflexive law is not only based on the need to maintain the self-referential autonomy of the different social spheres, but also on the responsibility to search and explore post-regulatory alternatives to tackle the limits of regulatory law.

As discussed in the next chapter, an assessment of the reflexive capacity of traditional property rights will show that they appear to be predominantly reflexive to the observations of the economic sphere, which means that all the relationships that connect natural ecosystems with other spheres of society are

⁹²² Mascareño (2006): 274–93, pp.284.

⁹²³ See in Section 6.12. of Chapter 6, the two senses in which law is connected to freedom according to Luhmann; Luhmann (1989), pp.66.

⁹²⁴ Luhmann (1989), pp.123, in note 29.

⁹²⁵ See Section 6.12. of Chapter 6.

⁹²⁶ Mascareño (2006).

⁹²⁷ Paterson (2008), pp.81-82.

either excluded or reconfigured on economic terms. As will be explained when considering the *form* of traditional property rights, even when social observations from other social spheres are taken into account (e.g. through the 'social function' of property), they are reconfigured or transformed into *limitations* or *obligations*, thereby distorting the original value content of these observations.

I will therefore argue that establishing a new reflexive mechanism to facilitate the reflexive interaction of different spheres of society in the area of ecosystems conservation, thereby preventing occupation of a privileged position by the economy, is consistent with the functional differentiation of society and with the profound relationship between law and freedom.

CHAPTER 9

REFLEXIVE PROPERTY RIGHTS

9.1. Introduction

In Chapter 4, I analysed the *limits of regulatory law* and the *regulatory trilemma* in the area of *ecosystems conservation*. In assessing the regulatory trilemma I found that its three variants (the *problem of indifference*, the *disintegration of society by law* and the *disintegration of law through society*) were present in different ways in the regulatory framework of the Chilean system of protected areas.

When assessing the problem of indifference, and particularly when assessing how *legal indifference* unfolds through *legal form inadequacy*, I pointed out how certain legal instruments could oversimplify or distort the social and ecological complexity of the regulated sector. Moreover, I noticed that the use of inadequate legal forms was also related to the other forms of the regulatory trilemma.

In concrete terms, the question about adequacy of legal forms revolved around whether the use of *traditional property rights*⁹²⁸ at the local level (e.g. in Chile) was an adequate regulatory framework to achieve the regulatory goals proposed, that is, to implement the principles and measures of the CBD, and particularly to achieve the various goals recommended by the Aichi Targets⁹²⁹.

In this context, I generally argued that the legal form of *traditional property rights* does not appear to be an adequate regulatory mechanism to tackle the social and ecological complexity of this regulated area and that, in that sense, it does not appear to be a proper mechanism to achieve the mentioned regulatory goals.

In other words, I argued that *traditional property rights* are a regulatory form that is *indifferent* to broader social complexity, as these property rights do not facilitate the unfolding of proper interaction, communication, and cooperation among all spheres of society with regard to the conservation of ecosystems. Rather, traditional property rights, paradoxically, appear to operate separating land from the surrounding ecosystem and social communities, blocking or at least reducing the possibilities of cooperation and communication.

I further observed that the use of traditional property rights could also be considered as a case of juridification of social spheres – or a form of *social disintegration through law*⁹³⁰ - in the sense that in many cases they appeared to

⁹²⁸ See Section 4.4.1. of Chapter 4. As explained, the main reference here is to 'ownership', as this has been the main regulatory mechanism used in the case studied in Chapter 3 (i.e. the Chilean framework) which also appears to be an essential part of the regulatory framework of ecosystems conservation of different countries. However, as will become clear throughout this Chapter 9, the main critique against traditional property rights also applies to other rights such as *easements* or *servitudes*. To the extent that these easements or servitudes are used for conservation (e.g. in countries such as the U.S.A.), and to the extent that they also appear to transform the conservation interests (and the observations of other spheres of society) into limitations, restrictions or obligations, I argue that they are not reflexive enough to tackle the regulatory trilemma of ecosystems conservation

⁹²⁹ See specially Chapters 2 and 3, with particular emphasis on the Aichi Targets numbers 1, 4, 6, 7, 8 10, 18, 19, 20.

⁹³⁰ See Section 4.4.2. of Chapter 4.

cause both the relocation –or displacement- of people from their original habitat and the dislocation of the corresponding social web of relations. This is specially the case when ecosystems have been originally inhabited by communities or indirectly used for their traditional activities.

I additionally observed that the use of traditional property rights would also involve a form of *legal disintegration through society*⁹³¹ in the sense that they would orient or change the 'selectivity process of law' towards economic rationality. As we will see in this chapter, this change in the selectivity process of law reduces the reflexivity of the legal system to other spheres of society other than the economy and thereby prevents the unfolding of social practices required to generate cooperation, communication and knowledge sharing around and in connection with the corresponding ecosystems.

Then I observed that, in the case of *public* protected areas, these regulatory weaknesses could eventually be ameliorated by public policy through the establishment of new administrative rules that would facilitate new management practices and new cooperative practices. But I also argued that this would only be possible if these new implementation efforts would take seriously the implementation failures described in Chapters 2, 3 and 4.

A similar approach could be implemented in the case of private protected areas but in this case the implementation of management and cooperative practices would be of *voluntary nature* and, therefore, the proper incentives should be in place. Then again, this approach would also need to take into account the failures and limitations described in Chapters 2, 3 and 4.

The central claim of this thesis is that the implementation of a reflexive law strategy through the creation of a new property right -the *conservation property right*- would facilitate the achievement of the aforementioned regulatory goals, not only with respect to private conservation but also with respect to public conservation efforts. I argue that this approach will both increase the reflexivity of the regulatory system of ecosystems conservation and, also, avoid the aforementioned disintegrating effects of traditional property rights.

This reflexive law approach would not only reduce the transaction costs of conservation⁹³² (both of public and private conservation) but, most importantly, would also facilitate the unfolding of the aforementioned social practices.

In order to present this proposal, this chapter will first review certain paradigmatic approaches to traditional property rights, to provide a general background for a subsequent assessment of its limitations as a regulatory instrument for the conservation of ecosystems. A socio-legal analysis of traditional property will then refer specifically to the *reflexive capacity* of its form. I will then briefly explore the theoretical possibility of a *reflexive form of property*. Finally, I will propose the form and structure of the conservation property right, comparing its form to the form of traditional property rights, before continuing with the analysis of its *reflexivity*, to finish with general

⁹³¹ See Section 4.4.3. of Chapter 4.

⁹³² Ubilla (2003), pp.81.

remarks on its application to the tackling of the regulatory trilemma.

9.2. Traditional Approaches to Property

In this section I make general reference to certain paradigmatic approaches to property, which will provide a general background for the rest of the chapter.

9.2.1. The Traditional Liberal and Social or Welfare State Views

In common law, the traditional view of property is normally described by reference to Sir Edward Coke's adage: *'a man's house is his castle, et domus sua cuique tutissimum refugium'*⁹³³. Blackstone expresses this view when he refers to property as the *'sole and despotic dominium'*⁹³⁴. In the civil law tradition reference is made to article 544 of Napoleon's civil code⁹³⁵, which establishes that *'Property is the right to use and dispose of things in the most absolute manner provided this use and disposal are not prohibited by the law'*⁹³⁶. In the Chilean civil code this approach is embodied in article 582, which establishes that property is a right *'on a tangible thing, to use and dispose of it arbitrarily; not being against the law or against third party rights'*⁹³⁷.

This traditional view corresponds to the modern *liberal approach* that presses for expansive and strong protection of property. However, this liberal view does not amount to an absolute or unlimited conception of property. The locus classicus here is John Stuart Mill's *theory of self-regarding acts*, according to which owners should be free to act as long as they do not harm others. In the latter case, such other-regarding acts would come within the realm of government control and regulation⁹³⁸.

Liberalism departs from a formal understanding of the scope of property rights, which is *'defined ex-ante on the basis of objective rules, traditions and norms'*⁹³⁹. Any *obligations* or *limitations* are only considered at the fringe of this scope of autonomy of the right holder. In other words, in liberalism the obligations entailed in ownership appear to be marginal.

In turn, on the other side of the conceptual spectrum, we find a *social or welfare state approach*⁹⁴⁰ that presses for more expansive regulation of property in order to achieve competing social goals, such as environmental protection. This view conceptualizes property rights as *socially situated*, and

⁹³³ 'And his home his safest refugee', Sir Edward Coke, *Third Institute of the Laws of England*, 1644.

⁹³⁴ Blackstone (2003).

⁹³⁵ Spence (2015).

⁹³⁶ The fact that, as Joseph Singer explains, Blackstone supported a regime of detailed regulation of estates in land, on the one hand, and that, as Alfons Burge has argued, the Napoleon code did not intend to propose an absolute and unlimited ownership right but only take distance from feudal restrictions (and fragmentations) on ownership, 'in no way detracts from the importance of the image of property' thereby propounded. See Singer (2006), pp.314 footnote 16. Also see Brahm (1996): 7–12.

⁹³⁷ Código Civil (Santiago de Chile: Editorial Jurídica de Chile, 2014), our translation.

⁹³⁸ Stuart (1974), pp.141.

⁹³⁹ Singer (2006), pp.325.

⁹⁴⁰ Grey (1976): 877–902; MacNeil (1983): 343;

has also been called the *good neighbour or the environmental conception of property*⁹⁴¹. In the civil law tradition, as outlined in the following section, this social approach was expressed through the introduction of the notion of the *social function* of property that intends to delineate the internal content of property in consideration of different social elements including, amongst others, conservation of the environment⁹⁴².

I also locate Singer's *citizenship model* within the general idea of the social approach, as it considers owners as *citizens* that also hold obligations in a democratic society. It '*seeks to confer freedom and equality on all persons, spreading rights to all*'⁹⁴³ and, therefore, has a more expansive understanding of '*what we owe each other*'⁹⁴⁴. This approach establishes various social obligations within the scope of the borders of property, which are not formally defined ex-ante but require the judgement or assessment of the corresponding social consequences in each situation. Singer considers that the '*interests of those others need to be taken into account to determine whether any obligation imposed on a property owner is just or fair*'^{945 946}.

There are various other approaches, including that of the *legal realists* in North America⁹⁴⁷, or that of the *law-and-economics approach*⁹⁴⁸, but the two paradigmatic approaches described herein provide a general context within which to understand the concrete regimes adopted in different countries (e.g. in Chile), which normally involve a pragmatic combination of normative elements of the two approaches⁹⁴⁹.

Moreover, the two approaches described herein also provide a context within which to understand two processes experienced in different jurisdictions with respect to the concept of property. They have been called the *reconceptualization of property* and the *fragmentation of property*, which I now pass on to analyse as they provide further context for the understanding of the concrete regimes adopted in different countries, including the property regime of Chile.

9.2.2. The Reconceptualization and Fragmentation of Property

It is generally said that from the late 19th century there has been a reconceptualization of property from an idea of '*dominion over things*' to a

⁹⁴¹ Singer (2008), pp.3.

⁹⁴² Barnes (1988); Bordali (1998): 153–72.

⁹⁴³ Singer (2006), pp.330.

⁹⁴⁴ Scanlon (1998).

⁹⁴⁵ Singer (2006).

⁹⁴⁶ We naturally locate several other conceptions of property under this social approach such as that of Gregory Alexander that proposes a *social-obligation theory* that '*holds that all individuals have an obligation to others in their respective communities to promote the capabilities that are essential to human flourishing (e.g., freedom, practical reasoning)*', Alexander (2009), pp.745.

⁹⁴⁷ Cohen (1955): 357.

⁹⁴⁸ Demsetz (1967): 347–59; Demsetz and Alchian (1973): 16–27; Barzel (1997); Fischel (1995).

⁹⁴⁹ A classic example of 'pragmatic combinations' can be seen in the jurisprudence on regulatory takings in North America. For instance see the Penn Central decision that includes three different criteria that constitute what is called the Penn Central test for regulatory takings. See for instance Michelman (1988): 1600–1629;

'set of legal relations' concept⁹⁵⁰. This reconceptualization has been described very clearly in the American legal tradition⁹⁵¹.

This process can be observed as a trend that unfolds through four coordinates: from *relations with objects* to *relations between people*, from a *corporeal* conception to an *incorporeal* conception of property, from a *unified* to a *disaggregable* conception and from an *absolutist* to a *limited* approach to property.

Arnold has explained that this process can be explained from two perspectives, firstly from the perspective of a transition '*from agrarian to industrial to information based [economy] [that] required an understanding of property that could encompass complex legal and financial relationships, disaggregate ownership into a variety of interests held by a variety of stakeholders, and accommodate rights in intangibles*'⁹⁵², and secondly from the perspective of '*all the social, political, and economic forces that led to the rise of the regulatory state in the twentieth century...*'⁹⁵³. In other words, and from the perspective of my assessment in previous chapters, this reconceptualization process could be explained by reference to a general increase in social complexity.

In this transitional social context, the conceptual approach provided by Wesley Newcomb Hohfeld⁹⁵⁴, generally known as the *bundle of rights conception*, provided the necessary framework within which to grasp the new trends. This widely used conception focuses on relations between people, not on objects, and can refer to incorporeal as well as corporeal things. Further, the different *sticks of the bundle* are disaggregable and may be held by different owners. In this view, property is adaptable to social change: new rights or sticks can be conceived and found, new objects of property rights can be identified.

However, different criticisms of this theory have arisen over the years, amongst which the following seem the most relevant:

- (a) Its strong focus on rights deemphasizes duties⁹⁵⁵ and social relations⁹⁵⁶.
- (b) Its focus on legal relations between people ignores the relation with the object of the right⁹⁵⁷.
- (c) It fails to give attention to the context relating to the characteristics of the object-thing or the context relating to human relationships around it⁹⁵⁸.
- (d) Its emphasis on 'rights' language and legal entitlements and claims prevents a conception of 'shared interests among

⁹⁵⁰ Vandeveld (1980): 325.

⁹⁵¹ Reich, (1964): 787.

⁹⁵² Arnold, (2002): 281.

⁹⁵³ Ibid, pp.289.

⁹⁵⁴ Hohfeld (1911): 16; Hohfeld (1917): 710.

⁹⁵⁵ Singer (2006).

⁹⁵⁶ Singer (2000); Nedelsky (1993).

⁹⁵⁷ Penner (1997), pp.23. Waldron (1985). Arnold (2002), pp.291

⁹⁵⁸ Dagan (2011), pp.12. Munzer (2001), 36–75, pp.36.

- stakeholders'⁹⁵⁹. It triggers 'strategic behaviour' and 'bilateral monopolies' that prevent communication and cooperation⁹⁶⁰.
- (e) It has no capacity to understand property as a unitary conceptual legal category⁹⁶¹.

Regarding this latter issue, which has also been referred to through the idea of the *fragmentation* or *disintegration of property*, the fact is that, in practice, lawyers and judges have never relinquished their view that the idea and image of property – as a unitary concept – does matter⁹⁶². We also understand Jeremy Waldron's attempt to separate the *concept* of property from various *conceptions* of property as an expression of the idea that we have not lost a basic unitary image and intuition about property⁹⁶³.

In the civil law tradition it has also been said that a fragmentation or rupture of the unitary concept of property has taken place mainly as a result of various special regimes of property⁹⁶⁴ and as a result of various obligations and limitations derived from the incorporation of the notion of '*social function*' of property⁹⁶⁵.

Paolo Grossi explains that this fragmentation becomes evident when examining the relationship between *person* and *thing*, not from the perspective of the *person*, but from the perspective of the *thing*. This perspective reveals that there are diversified and specified orders, a plurality of properties that are structurally based on the reality of natural and economic facts⁹⁶⁶.

The idea of fragmentation of property in the civil law tradition goes back to social views of the writers of the late 19th century and early 20th century⁹⁶⁷ that were finally manifested in the idea of the social function of property. In this context, the views of Leon Duguit are especially interesting – as I will discuss further later on – because he connects the idea of the fragmentation of property to the sociological idea of the division of labour, which is one of the original conceptions of the idea of *social differentiation*. Duguit explains that from the facts of *social interdependence* and *division of labour* he deduces the idea that the property owner must exercise her rights

⁹⁵⁹ Arnold (2002), pp.304.

⁹⁶⁰ Dagan (2011), pp.20.

⁹⁶¹ Grey, (1980); Waldron, (1990), pp.29, 30, 33.

⁹⁶² Vandavelde (1980), pp.330. Arnold (2002), pp.290.

⁹⁶³ Waldron (1990), pp. 31. Among the theories that intent to avoid the weaknesses of the bundle of rights approach' by recognizing an internal coherence in the idea of ownership, the "boundary approach" deserves especial mention. This approach whose main proponents are J.E. Penner and Merrill & Smith, is an 'exclusion-based approach' somehow continuing the traditional conception of Blackstone, but recognizing that the dominion is not absolute. Penner (1997); Merrill and Smith (2007), pp.1867. Larissa Katz has criticized this approach by clarifying the idea of exclusivity. According to Katz, exclusivity should not be understood as '*exclusion of others from the object owned*' but as '*a special position to set the agenda for a resource*', Katz (2008), pp.4.

⁹⁶⁴ Rodota (1986), pp.137; Grossi (1992); Lopez (1998): 1639; Pugliatti (1964), pp.309.

⁹⁶⁵ The social function of property was first adopted in the Mexican Constitution of 1917, the Weimar Constitution of 1919, then in the Italian Constitution of 1948, in the Fundamental Law of Bonn of 1949, in the Spanish Constitution of 1978, in the Chilean Constitutional modification of 1967 (Law No16.615) and also in the Chilean Constitution of 1980, among others. See Barnes (1988); Bordali (1998): 153–72; Cordero (2008): 493–525.

⁹⁶⁶ Grossi (1992), pp.21.

⁹⁶⁷ Comte (1979); Duguit (2007); Duguit (1920); Von Jhering (1978).

both for the satisfaction of her individual needs and for the satisfaction of the collective needs of society⁹⁶⁸.

It is generally said that the social function of property implies that property not only generates rights but also obligations⁹⁶⁹. From this comes the idea that different obligations relate to *different social functions*, which, in turn, means separate regimes for a *plurality of properties*.

The idea of social function has had a significant impact on the traditional doctrine of the civil code, especially through the doctrine of the 'abuse of rights'⁹⁷⁰. However, the social function of property has generally been incorporated at the constitutional level and it has not involved a modification of the traditional provisions on property of the civil codes.

Moreover, the incorporation of the social function in different constitutions has come together with the inclusion of a special provision for the protection of the *essence of rights*, as is the case in the German⁹⁷¹, Spanish⁹⁷² and Chilean constitutions⁹⁷³, which involves a substantial restriction to the creation of limitations and obligations over property by the legislator.

In the case of the Chilean Constitution of 1980, the protection of the right of property refers to⁹⁷⁴:

- (i) Property over corporeal and incorporeal things.
- (ii) The rights of use, enjoyment, and disposal⁹⁷⁵.
- (iii) The existence of limitations and obligations deriving from the social function of property. The definition of the social function includes '*all requirements of the Nation's general interests, national security, public use and public health, and the conservation of the environmental patrimony*'⁹⁷⁶.

⁹⁶⁸ Duguit (2007), pp.243.

⁹⁶⁹ Barnes (1988); Bordali (1998): 153–72.

⁹⁷⁰ Josserand (1905); Calvo Sotelo (1917); Rotondi (1923), 105; Montes (1985)

⁹⁷¹ Gavara (1994).

⁹⁷² Barral (1994). Lopez (1988).

⁹⁷³ Aldunate (1997): 195.

⁹⁷⁴ The first three paragraphs of Article 19 No24 of the Chilean Constitution of 1980 establish the protection of:

“The right of property in its diverse aspects over all classes of corporeal and incorporeal things. Only the law may establish the manner to acquire property and to use, enjoy and dispose of it, and the limitations and obligations derived from its social function. Said function includes all the requirements of the Nation's general interests, the national security, public use and health, and the conservation of the environmental patrimony.

In no case may anyone be deprived of his property, of the assets affected or any of the essential faculties or powers of ownership, except by virtue of a general or a special law which authorizes expropriation for public use or the national interest, duly qualified by the legislator”. (My translation).

⁹⁷⁵ The faculties considered herein are equivalent to the general faculties recognized by the Civil Code, which have been traditionally referred to as: *ius utendi, ius fruendi* and *ius abutendi*.

⁹⁷⁶ This definition has generally been considered to be part of a rather individualistic and absolutist *approach* to private property. The notion of *social function* included by the constitutional modification of 1967 by Law No16.615 was wider and more 'social' in various respects, by including a reference to '*the best use of productive sources and energies in the benefit of the collective interest, and raising the conditions for a life in common*' (My translation).

- (iv) The protection of the essence of the right of property that can only be taken through expropriation based on *national interest* or *public use* duly stated by law⁹⁷⁷.

The idea of social function has been considered to be an internal element of the conception of property, that is, a form of internal delineation of the faculties included within the right of property. In that sense, therefore, the limitations and obligations derived from the social function have not been considered to be external constraints to property⁹⁷⁸.

The idea of the protection of the *essence of property* comes from the German tradition, from where it passed into the Spanish Constitution of 1978 and the Chilean Constitution of 1980. There have been two main doctrinal approaches to it: an *absolute or material approach* that searches for a substantive minimum of the right of property⁹⁷⁹, and a *relative approach* that applies criteria such as 'rationality', 'proportionality' and 'equality'⁹⁸⁰.

Under any approach, however, the notion of the *essence of the right* plays a central role in maintaining the idea and the image of a unitary concept of property. This is further supported by the fact that the traditional provisions on property of the civil code have generally remained unchanged, as has been the case in Chile.

The interaction between the notion of social function and the idea of '*essential faculties or attributes*' (paragraph 3 of Art.19 No24) and the idea of '*essence of rights*' (paragraph 1 of Art.19 No26) has been interpreted in the sense that limitations or obligations derived from the social function cannot affect such '*essential faculties or attributes*' or the '*essence of the right*'; because in such a case it would not be, properly, a limitation or an obligation derived from the social function, but an *expropriation* or *taking*⁹⁸¹.

The manner in which the notion of limitations and obligations appears to be constrained by the '*essence of the rights*' or '*essential faculties or attributes*' seems to point towards a *conceptual core* that no social function can modify or restrict⁹⁸². In this sense, the social function appears to operate as an external constraint, at least with respect to the essential core. In any case, whether the limitations and obligations operate as an internal or an external constraint⁹⁸³, there appears to be a tension between the essential core and the

⁹⁷⁷ The first paragraph of Article 19No26 of the Chilean Constitution establishes: "The assurance that the legal precepts which, by mandate of the Constitution, regulate or complement the guarantees established therein or which should limit them in the cases authorized by the Constitution, may not affect the rights in their essence nor impose conditions, taxes or requirements which may prevent their free exercise". (My translation).

⁹⁷⁸ Bordali (1998): 153–72, pp.155.

⁹⁷⁹ Barnes (1988), pp.179, 253; Verdugo, Pfeffer and Nogueira (1997), pp.322. Evans de la Cuadra, (1986), pp.378.

⁹⁸⁰ Gavara (1994); Bordali (1998).

⁹⁸¹ Aldunate (2006): 285–303, pp.292.

⁹⁸² In this sense it has been said that the Constitution of 1980 affords a strong protection to private property, nearly approaching the idea of an 'absolute right'. See Ferrada (2015), pp.170.

⁹⁸³ The position that asserts that these limitations and obligations involve an internal delineation of the right of property appears to be a *second-order observation* that intends to emphasize the centrality of the social function arguments. However, this does not eliminate the internal tension between autonomy and heteronomy. Ideas such as a 'concept in equilibrium' or 'two sides of the same coin', only hide this unavoidable tension. For concepts like those see: Rajevic (1996).

limitations and obligations, which need to be assessed case by case as to how significant or intense they are. In practical cases, this can be observed as a tension between the autonomy of the owner and the heteronomy of the social ends pursued by the legislator.

This tension can be found in all jurisdictions under different conceptual arrangements, for instance in the North American legal system through the distinction between the *regulation of 'harmful' or 'noxious' uses* (the 'nuisance exception') and the *takings of property*⁹⁸⁴.

Most important for the purpose of this thesis is that this tension also exists between the essence of property⁹⁸⁵ and the limitations and obligations established for the '*conservation of the environmental patrimony*' (as an element of the social function)⁹⁸⁶.

In other words, within the structure of property there is a tension between private autonomy and the social heteronomy of the conservation of the environmental patrimony.

This idea will be relevant to the analysis of the following sections, as it will provide significant and substantial contrast with the form of the conservation property right that will be proposed and discussed in due course.

9.3. Property, Social Differentiation and Reflexivity

Having discussed the traditional approaches to property, I now proceed to analyse the institution of property from a sociological perspective.

9.3.1. The Property Rights System and Functional Differentiation

The modern concept of *property* unfolded on the basis of the State/individual distinction, in the context of the opposition between the (sovereign) State and the protection of individual rights⁹⁸⁷.

In this context, *modern property* was conceived as a right that was disembedded from stratified social relations and that took an abstract, universal and general form.

The *abstract form* of property was expressed in the juristic construction of its internal faculties and in the definition of the proper legal title⁹⁸⁸. The *universal form* of property was expressed in its availability to all individuals irrespective of personal or family status and in the universal legal protection that provides against everybody else⁹⁸⁹. Additionally, its *generality*

⁹⁸⁴ Epstein (1985); Michelman (1988): 1600–1629; Miceli and Segerson (1996): 749–76.

⁹⁸⁵ That is, between the redundant normative contents of the rights or sticks that are bundled inside the right of property and the social obligations and limitations.

⁹⁸⁶ Banda (1998). Bermudez (2007).

⁹⁸⁷ Luhmann (2004), pp.163.

⁹⁸⁸ Ibid, pp.251. This abstract form allowed for the '*decisive distinction between property and possession*'

⁹⁸⁹ Ibid.

was expressed in the unification of its legal regime, which also entailed that competing jurisdictions were eliminated or at least substantially reduced⁹⁹⁰.

Modern property was conceived as the central piece of a *system of property rights* that was regulated or developed as a limited list of property institutions (the *numerus clausus*⁹⁹¹). This was especially clear in the civil law tradition, where the codification pursued a transparent and regulated system of property rights that would avoid a return to the stratified and fragmented structures of rights over land that prevailed in the middle ages.

In this sense the institution of modern property can only be understood within a system of property rights. The different features of modern property and of the system of property rights allow for the high mobility or circulation of wealth, both through the transferability of property and through its function in supporting the financial or credit markets. In fact, it is not only modern property but the whole system of property rights that, through its abstraction, universality and generality, allows for the circulation of wealth in the money economy.

These legal features of the system of property rights are not random legal creations but relate to an overall process of social change. For Luhmann, this social process is the functional differentiation of society.

From the political perspective it is possible to see how these features relate to the differentiation between law and politics through the separation between political *imperium* and legal *dominium*⁹⁹² that, in turn, is also an expression of the opposition between the Sovereign and the individual. In this context of the differentiation of law and politics, the notion of *subjective right*⁹⁹³ becomes most relevant. Regardless of whether this notion of the civil law tradition is seen to have been developed by William of Ockham⁹⁹⁴ or to have been developed earlier during the late middle age⁹⁹⁵, the idea of *ius* as *potestas*, *facultas* or *potentia* becomes a central legal structure in the context of both the separation and opposition between Sovereignty and the individual⁹⁹⁶ and the functional differentiation of law and politics. In my view, it is through this notion of *right* that we can understand modern property as a form of dissemination of *power* and as a crucial element in the structural coupling between law and politics. It is also through this political understanding that it is possible to grasp the political basis for the legal delineation of the system of property rights and the *numerus clausus*.

For Luhmann, what is decisive for the unfolding of the legal features of property – and of the system of property rights – is the increasing

⁹⁹⁰ Ibid.

⁹⁹¹ As we will see in the next section, it is generally accepted that the *numerus clausus* exists both in common law and in the civil law tradition. See Dorfman (2011): 520; Akkermans (2008); Merrill and Smith (2000): 110.

⁹⁹² Luhmann (2015): 1–17, pp.10.

⁹⁹³ This notion belongs to the civil law tradition. In common law the reference should simply be to the notion of 'right'.

⁹⁹⁴ Villey (1976), 169.

⁹⁹⁵ Pennington (1993); Guzman (2003): 433.

⁹⁹⁶ According to Guzman Brito, the term 'subjective right' was first used by George Darjes in his book 'Institutiones Jurisprudentiae Universalis' (1745); in Guzman (2003), pp.434.

differentiation, autonomization and mobility of the money economy⁹⁹⁷, which pushes for the legal development of freely transferable modern property and of *freedom of contract*. According to Luhmann, the development of these legal features is the result of the '*requirements of the economy*'⁹⁹⁸.

Luhmann believes that the functional system that most directly influences and determines the *form of property* is the economic system⁹⁹⁹. This is because property is directly linked to the binary code of the economy, because the payment/non-payment code requires in the background a clear definition of have/not-have property¹⁰⁰⁰.

As Teubner has commented, '*the "semantics of decentralization" which arises out of the systematization of subjective rights is the adequate legal form for the functional differentiation of an autonomous economic system (Luhmann, 1981a: 80)*'¹⁰⁰¹.

According to Luhmann, the legal system cannot regulate the operations of the economy because they are subject to the binary code of the economy. The legal system can only provide a general normative framework and establish some *limitations or abuse clauses*¹⁰⁰². This will be relevant to my analysis of the form of property and of the *structural coupling* between the legal system and the economy that I now pass on to review.

9.3.2. Modern Property and Structural Coupling

According to Luhmann, structural coupling between the law and the economy takes place through the institutions of property and *contract*¹⁰⁰³.

As already explained, there is structural coupling '*if a system presupposes certain features of its environment on an ongoing basis and relies on them structurally*'¹⁰⁰⁴.

In the case of property, this means that both systems *rely* on each other's *structures* – related to property – for their operations, on an *ongoing basis*¹⁰⁰⁵. This also supposes that the legal system must fulfil its own function effectively – with regard to property – to make possible the continuous operation of the economy.

As discussed in the previous chapter¹⁰⁰⁶, in simplified terms we may understand structural coupling either through Luhmann's notion of *interpenetration* or through Teubner's notion of *interference*. As I argued previously¹⁰⁰⁷, Teubner's notion of interference allows us to consider a *social*

⁹⁹⁷ Luhmann (2004), pp.387.

⁹⁹⁸ Luhmann (2015), pp.14

⁹⁹⁹ Ibid, pp.14.

¹⁰⁰⁰ Luhmann (2007), pp.598.

¹⁰⁰¹ Teubner (1983): 239–85, pp.253. The reference to Luhmann is to: *Gesellschaftsstruktur und Semantik, vol 2. Frankfurt: Suhrkamp, 1981.*

¹⁰⁰² Ibid, pp.16.

¹⁰⁰³ Luhmann (2004), pp.391.

¹⁰⁰⁴ Luhmann (2004), pp.382.

¹⁰⁰⁵ Ibid

¹⁰⁰⁶ See Section 8.4. of Chapter 8.

¹⁰⁰⁷ Ibid.

domain where direct contact between systems is possible. As also argued, this social domain or *transitional space* can be better captured if we observe the system/environment boundary through the image of a border-space (as opposed to the image of a border-line).

If these ideas are applied to the structural coupling between the legal system and the economic system and, therefore, we observe the institution of property in the social domain, it will be possible to notice that there are some legal normative elements of property that appear to be stabilized and structurally connected to the economy and, in turn, some other normative elements that appear to be connected only operationally (ref. operational coupling¹⁰⁰⁸).

Among the elements that seem to be structurally coupled we may find:

(a) The *faculties* or *rights* that facilitate the operation of general economic transactions, which in the civil law tradition are normally identified with *ius utendi*, *ius fruendi* and *ius abutendi*. In common law we could refer to the '*standard incidents*' of property for ordinary '*uncomplicated cases*', as listed by Honoré¹⁰⁰⁹. In non-standard cases, concrete and detailed analysis of the faculties or rights involved in structural coupling will depend on the concrete economic operation of the specific market involved¹⁰¹⁰. In the particular case of Chile, as explained, the mentioned civilian faculties or rights have also been generally linked to the normative concepts of '*essential faculties or attributes*'¹⁰¹¹ and also to the doctrinal interpretation of the idea of '*essence of rights*'¹⁰¹².

(b) The norms that legally protect the aforementioned faculties or rights, whether in the form of property or liability claims¹⁰¹³. However, in my view, this would be already entailed in the normative structure of these faculties or rights, and would not require a separate mention.

(c) The general obligations and prohibitions with stabilized meanings (i.e. objects of unlawful trade that are excluded from commerce).

In turn, other normative elements that are not totally stabilized and need to be assessed on a case-by-case basis – like the *abuse clause*, the *boni mores clause* or the *social function clause* – would appear to be non-essential to the ongoing operation of the economy and would not appear to be involved in the structural operations that connect the legal system and the economy on an ongoing basis. Obviously this is a general theoretical observation that would need empirical assessment on a case-by-case basis.

¹⁰⁰⁸ See Section 5.8. of Chapter 5.

¹⁰⁰⁹ Honoré (1961), pp.107.

¹⁰¹⁰ A similar thing can be said with respect to the *bundle of rights conception* developed by Hohfeld. See Hohfeld (1911): 16; Hohfeld (1917).

¹⁰¹¹ Paragraph 3 of Art.19 No24, the Constitution of the Republic of Chile.

¹⁰¹² Paragraph 1 of Art.19 No26, the Constitution of the Republic of Chile.

¹⁰¹³ The latter category includes the takings clause. For a useful description of how property can be protected by different kinds of rules see: Calabresi and Melamed (1972).

Further observation of the institution of property in the social domain makes possible capturing the structural coupling between the political system and the legal system. It is through this structural coupling that *political power* appears to be transformed into *legal power*. This is how political *imperium* is transformed into legal *dominium*. The legal system controls and regulates this power, most clearly through the detailed delineation of faculties or rights as well as through the institution of *numerus clausus*. The observation of property in the social domain also shows how such legal power is subsequently transformed into *economic power*, and how this power is then, in turn, transformed into different power dynamics in other social spheres (e.g. media, art, science, etc). Finally, through observation of the social domain it is also possible to observe how this *disseminated power* influences the interaction between society and the natural environment (i.e. access, control and use of natural resources).

Most importantly for the purposes of this thesis, observation of the institution of property in the social domain also highlights the *absence of structural couplings* with other social spheres. In other words, it is evident that there are many observations or operations of other spheres of society, such as science, education, health, art and media, that are not being considered on an ongoing basis in the stabilized operations of the institution of property. In the case of ecosystems conservation, the *property of protected areas* operates in structural coupling with the economy and politics, but excludes interaction with other spheres of society. This includes, for instance, observations from science (i.e. ecology) with respect to *ecosystems services* that have not yet been recognized (i.e. not yet economically assessed by markets). These observations do not appear to trigger structural couplings with these spheres of society, rather – at best – random and tenuous operational couplings with the institution of property. These random and tenuous operational couplings may take place through the general clauses previously mentioned (abuse clause, *boni mores* clause, social function clause), but in most jurisdictions, as in Chile, these operational couplings relate only to marginal or extreme cases where either the ecological risk is widely known and accepted or the economy gives at least an indirect valuation of what is being lost.

All this relates to the discussion in Chapter 4 about how the regulatory trilemma takes place through the institution of property. In the present section I have analysed, from the perspective of systems theory, how the institution of property reduces social complexity by systematically interacting only with the economic system. This is also related to the analysis of the reflexivity of modern property that I will now move on to.

9.3.3. Modern Property and Reflexivity

As described in Chapter 7¹⁰¹⁴, different legal forms may have different *degrees of reflexivity*, that is, varying capacity to combine normative redundancy and cognitive variety.

As mentioned earlier¹⁰¹⁵, Luhmann believes that the functional system that most directly influences and determines the form of property is the

¹⁰¹⁴ See Section 7.3.2. of Chapter 7 on the Reflexive Form of Law.

economic system. This is because the binary code of the economy requires, in the background, a clear definition of property in order to operate¹⁰¹⁶.

Additionally, in the previous section I concluded that the normative structures that participate in structural coupling between the legal system and the economy are those normative elements of property that appear to be stabilized and structurally connected to the economy. Any elements that are not clearly delineated and stabilized in their meanings are not considered to be structurally coupled.

It is therefore possible to conclude that the *normative redundancies of the form of property* are essentially normative elements that facilitate the operation of the economic system. In that sense, these redundancies are composed predominantly of faculties or rights (the *rights content*), with few clearly delineated obligations or limitations that appear to be marginal to the main *active* normative content.

On the other hand, it is possible to conclude that the *cognitive variety of the form of property* relates to:

(a) The cognitive elements in the conditional programmes of the norms of property (i.e. facts about assets being corporeal, incorporeal, moveable or unmoveable), which are only those facts relevant or valuable to the economic system. In this context, the generally accepted or standard facts (i.e. about which assets are legally protected) can be deemed to be generic features that also become *redundant* and do not involve any new *variety* for the operation of the form. However, from time to time there can be new facts that do not clearly fit stabilized categories and which, *if duly observed by the economic system*, can be considered as a new kind of asset (i.e. a new intangible ecosystem service). In this latter case, the cognitive elements of the conditional programme are seen as a form that facilitates the processing of new cognitive variety within the context of the stabilized categories established in the corresponding norms.

(b) The cognitive elements that may be internalized from different spheres of society through the general abuse clause, boni mores clause, social function clause and the eminent domain or takings clause. However, these broad clauses (that in turn make reference to other broad normative categories such as public use, public interest, national interest, etc.): (i) only process cognitive variety through the form of broad obligations or limitations, and can therefore be considered as part of the *obligations content* of the form of property; (ii) only partake of random and tenuous operational couplings since their meanings are not generally stabilized; (iii) generally relate to only marginal or extreme cases where the economy gives at least an indirect valuation of what is being legally assessed¹⁰¹⁷.

¹⁰¹⁵ See Section 9.3.2. of this Chapter.

¹⁰¹⁶ Luhmann (2007), pp.598.

¹⁰¹⁷ In Chile there are numerous cases that also confirm this conclusion. The legal system seems to assess new cognitive variety always through the prevailing observations of the economy. See for instance the analysis of the Supreme Court decision of *Agrícola Lolco con Fisco en Ubilla*,

This overall description of the form of property appears to be consistent with the previous description of the regulatory framework of Chile. On the one hand there are *normative redundancies*, represented by the traditional civilian faculties described in the civil code as well as referred to in the constitutional notions of '*essence of the rights*' and '*essential faculties or attributes*'. On the other hand – regarding the elements from which cognitive variety is derived – there are the various general clauses of the civil code and the constitutional clause of the social function, from which limitations and obligations are derived.

Now, this overall analysis of the form of property should make possible assessing the reflexivity of this form. In the first place, I can conclude that the form of property has a high *degree of reflexivity* with respect to the economic system. The form of property appears to be perfectly adjusted to the requirements of the economy, as its abstract, universal and general form perfectly fits the needs of transparent market transactions. Moreover, the form of property can adjust to economic change or to the varying requirements of the economy with respect to new economic observations (e.g. new economic assets, new financial products). This is the same as saying that the form of property (its normative redundancy) has a high reflexive capacity to adjust to *economic variety*.

However, since the normative redundancies of the form of property (rights content) are structurally adjusted – stabilized – to the normative requirements of the economic system, and have no *structural* interaction – irritation – with the observations of other spheres of society, I can also conclude that, overall, the form of property has a low degree of reflexivity with respect to the other spheres of society.

The obligations content, which may derive from the general clauses described above, is not capable of *significantly* increasing the social reflexivity of the form of property¹⁰¹⁸ because the obligations content does not appear to be structurally stabilized, and because the form of property reconstructs the observations of different social spheres (e.g. art, ecology) as obligations content, that is, in negative terms (i.e. as limitations or restrictions on rights content). In other words, the form of property does not internalize cognitive variety in *the terms*¹⁰¹⁹ of the observations of the corresponding

(2004): 305–61; see also Comunidad Galletue V. Fisco de Chile, C.S.,07.08.1984, RDJ. T.LXXXI, (1984), sec. 5^a, 181.

¹⁰¹⁸ There are voices that intend to put distance between traditional property rights and market approaches, including Jeremy Waldron that believes that individualism does not necessarily entail capitalism (Waldron (1990), pp.93); or approaches that emphasize that the legal system tends to discipline private property through limitations or restrictions of different kind (Priest (2006): 385–459; Radin (1987) (Market-inalienability often expresses an aspiration for non-commodification). However, the point we are making here regarding the form of property relates to the form of traditional property and how the legal system construes this institution from a core of autonomy –as an active content that is structurally coupled to the economy- and only a marginal aspect of heteronomy –as a passive content- expressed in limitations and obligations -to interact with other spheres of society-. All this presents a clear contrast with the form of the conservation property right as will be later explained in this chapter.

¹⁰¹⁹ That is, in accordance with the side of the code of the corresponding subsystem of society. In simple systems theory parlance, when the aesthetic discourse refers to the beauty of the landscape it will indicate the positive value side of its binary code; but for the same aspect, the

social spheres (e.g. landscape beauty), but in terms of the prevailing structure of the form of property, which is defined by structural coupling with the economic system (e.g. restriction of the faculty to modify the land).

This is consistent, once again, with my assessment of the regulatory trilemma in Chapter 4. In this case, the form of property appears to be *indifferent* to the social observations of various social spheres (*legal indifference*)¹⁰²⁰. This indifference manifests itself in: (i) the fact that the form of property does not make possible the consistent and stabilized interaction (irritation) with other spheres of society; (ii) the fact that when the form of property does interact with those spheres, it distorts the terms of their observations.

In my view, these observations that result from applying systems theory to the assessment of the property right system are generally overlooked by property theorists¹⁰²¹. I will further elaborate on these considerations about inter-systemic translations when I discuss below the form of the conservation property right, at which point I will also look at this issue from the perspective of the structure of *communication* according to Luhmann.

9.4. Reflexive Property

Before moving on to the presentation of the conservation property right, it is evident that the previous section on the form of traditional property leaves open an obvious question: is it not possible to understand or re-conceive property in a different way, in a more reflexive manner?

I have referred to the limited social reflexivity of the traditional form of property and have also outlined numerous critiques of the contemporary understanding of property (see section 9.2.2.), which in my view refer to aspects that are but manifestations of the aforementioned limited reflexivity. Many of those critiques point towards the issue of the social dimension of property, its incapacity to consider social relations¹⁰²², or its incapacity to consider 'shared interests among stakeholders'¹⁰²³. They also point to its focus on relations between *people*, ignoring the relationship with the *object* of the right, which is critical in the case of nature¹⁰²⁴ ¹⁰²⁵. They also refer to the limited capacity of traditional property to give attention to the context¹⁰²⁶.

But when this is considered from the perspective of functional differentiation, it is necessary to ask what kind of concept or form of property and private property would make possible a broader reflexive interaction with the various spheres of society – not only with the economy.

economic discourse will indicate the negative value side of its binary code (as a restriction of the ownership right).

¹⁰²⁰ See Section 4.4.1. of Chapter 4.

¹⁰²¹ For instance, Rose (1997), pp. 50; Smith (2003): 1105; Singer (2008); Alexander (2009).

¹⁰²² Singer (2000); Nedelsky (1993).

¹⁰²³ Arnold (2002), pp.304.

¹⁰²⁴ For an understanding of the loss of the appreciation of things' intrinsic value and how this also relates to an understanding of the natural world as means to anthropocentric ends, see Horkheimer (1985), pp.92.

¹⁰²⁵ Penner (1997), pp.23; Waldron (1985); Arnold (2002), pp.291

¹⁰²⁶ Dagan (2011), pp. 12.; Munzer (2001), 36–75, pp.36.

In terms of what was discussed in Chapter 7, the question would be how this new form of property would achieve a higher degree of reflexivity, that is, a combination of higher concurrence between normative redundancy and cognitive variety. The specific challenge would be whether this form of reflexive property would allow for cognitive variety to be directly processed as such without being distorted by a legal rationality shaped by the economic system.

Moreover, it would be necessary to conceive this form of property in a manner that would intend to surpass the opposition between autonomy and heteronomy by developing interdependence, shared interests, trust and cooperation. In other words, this reflexive form of property would make possible the unfolding of what we would call a *reflexive autonomy*, that is, an autonomy that is open to broad interaction with society, interaction through which autonomy itself would be self-construed reflexively as socially integrated and as socially embedded.

For Luhmann these consideration would immediately raise a further question on how such a concept or form of property would recognise the autonomy of the economic system or, in other words, how it would facilitate structural coupling between the law and the economy without risking the de-differentiation of the economic subsystem.

As this new reflexive form of property would need to be reflexively coupled with the various spheres of society, it would also need to be coupled with the economy. Therefore, in my view, the development of this new form of property would also require the development of a new form of economic interaction, where cooperation around shared interests (and notions such as *social capital* and *natural capital*) should also become stabilized in different economic structures. In this way it would be possible to envisage a structural coupling between law and the economy through the combination or interaction of these new structures.

It is important to note that, even if this new reflexive form of property were to be developed, the conservation property right – to be proposed in the next section – would still make sense as it would specially facilitate the enhancement of social interactions around ecosystems and ecosystems services. In other words, even if a reflexive form of property existed the conservation property right would still have a unique role in the area of conservation of ecosystems by facilitating the reflexive development of relationships around lands and intangibles with eco-systemic value.

On the other hand, and finally, it is possible to assume that the creation and implementation of a conservation property right may trigger cooperative social practices that would eventually facilitate the development of a new reflexive form of property along the lines described herein.

9.5. The Conservation Property Right

As has been indicated previously, through the present thesis I propose and argue for the creation of a new property right, the conservation property right, as a reflexive mechanism for tackling the regulatory trilemma of ecosystems conservation.

In this section I will first provide a background for and introduction to the conservation property right in order to subsequently analyse its relation to the traditional system of property rights as well as its operation as a *reflexive law mechanism*, amongst others.

9.5.1. Background and Introduction

I originally proposed the creation of the conservation property right as a mechanism to facilitate *private initiatives* for the conservation of ecosystems¹⁰²⁷.

At the time of the proposal, the conservation of ecosystems in most countries was being carried out mainly by the state through the public system of protected areas, and by private parties through private acquisition of lands¹⁰²⁸.

This conservation strategy (that could be called the *land ownership strategy*, or the *traditional property rights strategy*) was generally accepted, but initial concerns about its financial viability began to arise as it started to become clear that the conservation of relevant ecosystems could neither be achieved solely by the state (i.e. through costly expropriations), nor solely through expensive private acquisitions of land. At the same time, there was a general understanding that a public law *regulatory approach* – through severe prohibitions or restrictions on land use – would entail similar costs to the state (i.e. due to *regulatory takings* compensation) and would also impact local communities and local economic activities. Moreover, such an approach would require significant knowledge about ecosystems that was not available to the State, and would incur high administrative and management costs.

In this context, attention started to shift towards civil society and towards the search for new strategies and legal instruments. The main idea was to get all local stakeholders involved. This was also in line with the general principles of the CBD, and particularly with the promotion of *private involvement* in conservation, as established in article 8 of the convention.

At the time of my original proposal the only private law instruments (different from property or ownership) known in comparative law that could serve the private conservation of lands were the common law easements¹⁰²⁹, the covenants¹⁰³⁰ and the civil law servitudes¹⁰³¹.

¹⁰²⁷ Ubilla (2003): 72.

¹⁰²⁸ It should be noted that the situation continues like this in Chile and in most countries.

¹⁰²⁹ National Conference of Commissioners on Uniform State Laws, “Unified Conservation Easement Act,” 1981. There is abundant literature on conservation easements in the U.S.A., see for instance: Korngold (1984), Korngold (2010), Cheever (1996), Lippman (2006), McLaughlin (2005), Morissette (2001), Serkin (2010), Bray (2010), McLaughlin (2008), Mahoney (2008), Olmsted (2008). For a history of the land trust movement and the use of conservation easements in the U.S.A., see Richard Brewer, *Conservancy: The Land Trust Movement in America* (Univ. Press of New England 2003).

¹⁰³⁰ In the U.K. the reference is to conservation covenants, but they could only be created in certain specific situations and with restrictions. The best known is contained in section 8 of the National Trust Act 1937, which allows a landowner to agree with the National Trust certain restrictions on activities on the land. These covenants can involve only obligations not to do something, and therefore cannot be used to guarantee positive conservation acts such as

In all these legal forms, as I will further discuss later on, the corresponding property rights were conceived as *restrictions or encumbrances or limitations over private land property*¹⁰³².

In all those cases, the corresponding property right was originally focused on '*private*' lands, and only on '*lands*'. There was no consideration of the possibility of applying these institutions on *public* lands¹⁰³³ and there was no general consideration of the possibility of applying them to '*ecosystems services*' in particular¹⁰³⁴.

The proposal of the conservation property right follows a different approach and structure. In the original proposal I coined the term '*derecho real de conservación*' (conservation property right) for two reasons: firstly, in order to frame the institution as a property right within the civil law tradition where *property interests* are known as '*derechos reales*'; and secondly, in order to make a clear separation from the idea and form of *servitude* or *easement*¹⁰³⁵.

This right was originally conceived as an *active* or *principal* property right as opposed to a *passive* or *restrictive* property right. In other words, instead of being conceived as a *restriction, encumbrance* or *limitation* like the easement, the covenant or the servitude, it was conceived as active property right along the lines of the *usufruct* or the *right of use*.

This was achieved, first of all, by proposing a new generic faculty or right, which is the *faculty to conserve* or *ius conservandi*¹⁰³⁶ that would become the central element of the definition of this new property right.

Additionally, instead of referring by definition to *lands*, the conservation property right was conceived as a right that could also be applied to specific features of land or to specific ecosystem services, whether tangible or intangible.

maintenance or cultivation, and they can be agreed only with the National Trust. See The Law Commission, 'Conservation Covenants. Law Commission No 349. Ordered by the House of Commons to Be Printed on 23 June 2014' (Williams Lea Group, 2014).

¹⁰³¹ For instance in Puerto Rico: "Ley de Servidumbres de Conservación de Puerto Rico," Ley N°183, 2001.

¹⁰³² As we will further comment, the concept of *easement*, which has normally been assimilated to the civil law *servitude*, has not been used accurately in the United States of America, because traditionally in common law *easements* grant '*affirmative rights*' and do not merely establish a restriction. In common law, traditionally, the property interest that consists solely on a restriction is called *covenant*. See Korngold (2004), and also Mattei (2000).

¹⁰³³ For instance, through private initiatives in public lands.

¹⁰³⁴ Notwithstanding this, in subsequent years conservation easements have been used in the United States of America to indirectly regulate or provide protection to agreements on ecosystems services. Ristino (2010): 56–58.

¹⁰³⁵ There was a third reason to select this name: in order to avoid a misunderstanding that a denomination like '*conservation right*' would generate, because in Spanish language the words *law* and *right* coincide. Therefore, such a denomination would have confused the *conservation right* with *conservation law*. However, I believe that in the common law tradition this institution could be called the *conservation right*.

¹⁰³⁶ Ubilla (2014). This proposal was accepted by the Senate Commission on Constitutional Affairs of the Congress of Chile.

Furthermore, as the conservation property right was focused on the conservation of the environment in general, its scope of application was broad. This meant that it could be used not only for the strict conservation of ecosystems as such, but also for the conservation of certain features of agricultural lands, forestry lands and even urban lands and spaces (i.e. even artificial environments)¹⁰³⁷. This aspect has become even more relevant in light of the various Aichi Targets that promote sustainable economic activities beyond the system of protected areas.

Through the present thesis I intend to base my proposal on a general theory of society, and on a general theory of law as a reflexive system. On this basis I will argue that the conservation property right is a reflexive law mechanism and will present it in contrast to traditional property rights. In this way I intend to sustain my claim that this new property right will be better prepared to tackle the regulatory trilemma of ecosystems conservation.

9.5.2. The Numerus Clausus as a Context

The creation of a new property right needs to be understood in the context of the numerus clausus principle.

As previously mentioned, it is generally accepted that this principle on the limitation of the number of property rights exists both in the common law and in the civil law traditions¹⁰³⁸.

However, there is no agreement as to the origin and basis of this principle.

Recent prevailing opinion on the origin of the numerus clausus principle in the civil law tradition is that it was established at the time of codification¹⁰³⁹. In the case of the common law tradition there is no clear opinion on time of origin, as this depends on the specific precedents for each property interest¹⁰⁴⁰.

Most opinions on the basis of the numerus clausus principle, incline towards general reasons such as legal certainty, information and operational coherence¹⁰⁴¹. Other views focus on transaction costs (measurement costs, optimal standardization, information costs)¹⁰⁴², or on avoiding excessive

¹⁰³⁷ Ibid. By reference to the broad definition of 'environment' of Article 2 letter II of Law No19.300. Environmental Framework Law" (1994). Ref. artificial environment including to the conservation of socio-cultural elements (i.e. cultural spaces, architecture, parks, etc)

¹⁰³⁸ See Dorfman (2011): 520; Akkermans (2008); Merrill and Smith (2000).

¹⁰³⁹ Akkermans, (2008), pp.405. The idea of a limited list only appeared at the time of the codification, even though before this time there were some categorizations and classifications, being the first one that of the Post-Glossator Baldo de Ubaldo (1327-1400) who called these rights for the first time *iura realia*.

¹⁰⁴⁰ Merrill and Smith (2000), pp.12. However, the current list of established property interests seems to have stabilized also through the same period of the arising of the modern state when the old feudal property interests were definitely eliminated.

¹⁰⁴¹ For instance Rudden, as quoted by Akkermans, is inclined to 4 kinds of reasons: legal certainty, publicity to third parties, implicit consent from third parties, and the problem or risk of the *pyramid* of different rights one over one another generating contradictions on rights and obligations. See Rudden (1987).

¹⁰⁴² Merrill and Smith (2000), pp.24; Barzel (1997), pp.4.

fragmentation or the tragedy of the anti-commons¹⁰⁴³. Another view focuses on political power and how its exercise needs political legitimation through democratic self-governance¹⁰⁴⁴. In other words, under this view, the *numerus clausus* explains that the normative power entailed in the creation of new property rights should remain with the legislative authority.

All these reasons appear to be related to my discussion in the previous section of the relationship between the modern system of property rights and functional differentiation. The *functional differentiation between law and politics* is expressed in the legal regulation of political power, that is, in the transformation of political power into legal power and, in this context, property rights appear as legal forms of that power. On the other hand, the development of modern property and the modern property system are directly linked to the *differentiation of the economic system* that, through its autonomization, pressed the legal system to adjust the features of its legal mechanisms to the needs of the money economy in order to facilitate high mobility of wealth with low transaction costs. All this is also consistent with the differentiation of the legal system and its function: the stabilization of normative expectations.

So how does the creation of a new property right fit this theoretical framework?

From the political perspective, the conservation property right is a form that makes possible the dissemination of power to other spheres of society, as it allows discourses other than the economy to communicate their observations on the value of ecosystems into the mechanisms of the legal system. In specific and simple terms, if the political system transfers power to traditional property structures for the use and disposal of land through the *ius utendi, ius fruendi* and *ius abutendi*, the conservation property right would make possible the transfer of power for the protection and conservation of ecosystems through the *ius conservandi*.

However, this is not only about the dissemination of power as such, but also about the generation of new power interaction dynamics. This legal form allows for interaction and communication between different social spheres. This has important implications, as demonstrated later in the discussion about the *reflexive nature* of this new property right. Let's just say here that this broader interaction is also linked to new models of social interaction, from individualist, non-cooperative and strategic behaviour towards cooperative community practices¹⁰⁴⁵.

From the economic perspective, the conservation property right is, generally speaking and in traditional economic terms, a mechanism that allows for the efficient allocation of assets or attributes¹⁰⁴⁶. In this sense, it better promotes a higher mobility of specific wealth. The creation of the conservation property right would respond to the general economic principle that when there is an increase in the scarcity or value of certain assets or

¹⁰⁴³ Heller (2010).

¹⁰⁴⁴ Dorfman (2011), pp.468.

¹⁰⁴⁵ Luhmann (2000), 94. From a different perspective, Ostrom and Walker (1989).

¹⁰⁴⁶ Barzel (1997), pp.9.

attributes in the public domain, there will be a trend towards the creation of new property rights¹⁰⁴⁷.

However, from a sociological point of view, and particularly from the perspective of the reflexive interaction between and amongst social spheres, what is relevant is that through the reflexive interactions facilitated by the conservation property right the economy itself becomes more reflexive to other spheres of society. This is possible because the conservation property right allows new assets or attributes¹⁰⁴⁸ (e.g. ecosystems services) originating from the observations of other social spheres to be delineated and given value. In this sense, the conservation property right allows the creation of new wealth or natural capital¹⁰⁴⁹, and makes possible the development of new sectors of the economy, the natural capital economy¹⁰⁵⁰.

It is also very important to note from this perspective that the development of new property rights is linked to the development of *new knowledge* about the new assets or attributes. In the present case, as explained earlier, this is critical for increasing the probability of achieving proper conservation of ecosystems¹⁰⁵¹.

9.5.3. The Principle of Limitation of Restrictions

I should now also briefly refer to the normative principle that exists in both the common law and civil law traditions regarding the limitation of restrictions over property or ownership.

In common law this is manifest in the idea that '*covenants are not favourites of the law*'¹⁰⁵².

In the civil law tradition this is manifest in many different ways, such as through restrictions on the duration of usufructs and other limitations, or through limitations to successive usufructs or fiduciary property. Moreover, the principle of *numerus clausus* itself can be understood as a manner of avoiding the creation of new limitations to property.

This general idea of limiting restrictions is based on the economic principle of *free circulation of wealth* that was broadly promoted at the time of codification. By way of example, the *legislative message* of the Chilean civil code refers to the idea of avoiding those restrictions or limitations that: '*encumber the circulation of goods, and weaken the spirit of conservation and improvement, that gives life and mobility to the industry*'¹⁰⁵³.

¹⁰⁴⁷ North (1990), pp.51; Barzel (1997).

¹⁰⁴⁸ Ibid, 103.

¹⁰⁴⁹ Hawken, Lovins, and Lovins (2000).

¹⁰⁵⁰ Brink and et al. (2012).

¹⁰⁵¹ As it should be remembered, the generation of knowledge is critical for the achievement of the objectives of the CBD and the Aichi Targets. See in particular target 19.

¹⁰⁵² Quoted by Korngold referring to several precedents in the United States of America, see Korngold (2004), pp.298-99.

¹⁰⁵³ Section 26 of the Message of the Executive to the Congress of Chile for the approval of the Civil Code of 1855, my translation.

If the conservation property right were assessed in light of the original ideas at codification, one might observe:

(a) That the conservation property right allows for the creation or delineation of new wealth and promotes its circulation. This new wealth (i.e. ecosystems services) was unknown at the time of the codification and the existing system of property rights is not capable of internalizing and promoting its circulation.

(b) That this new property right facilitates the internalization of other societal values deriving from observations of spheres of society other than the economy, meaning that the property rights system becomes more reflexive to society in general, moving beyond sole economic discourse¹⁰⁵⁴.

(c) That this new property right shall not be defined as a restriction or encumbrance and shall not be assimilated to covenants, easements or servitudes¹⁰⁵⁵.

(d) That this new property right shall not be subject to time duration restrictions. This will also be discussed in the following sections.

9.5.4. The Form of the Conservation Property Right¹⁰⁵⁶

In this section I will briefly describe the elements of the conservation property right.

As mentioned earlier, the conservation property right is defined by a new generic faculty or right, which is the 'faculty to conserve'¹⁰⁵⁷.

The faculty to conserve is the first structural element of this property right, which is central and defining because it ensures its *active nature*.

Then, a second element is the *object of the right* that may refer to the environment or to certain attributes or functions of the environment¹⁰⁵⁸. This

¹⁰⁵⁴ We also expressed this opinion at the Senate of Chile, and has been the basis of the overall idea of the legislative bill and its recent changes. See, Senado del Congreso Nacional, Comisión de Constitución (2015).

¹⁰⁵⁵ This is a crucial aspect that has been missed by property theory, including property theory that has intended to focus on facilitating environmental sustainability. This will be further discussed in the following sections.

¹⁰⁵⁶ It should be noticed that the final law establishing the 'conservation property right' was finally passed and enacted in Chile as Law N°20930 on July 10th, 2016, after the submission of this thesis for examination but before the submission of the final version of this thesis –after its successful examination–.

¹⁰⁵⁷ Ubilla (2014). Please note that in civil law systems, and particularly in the system of property rights of the Civil Code, a 'faculty' (faculty to use –ius utendi-, faculty to enjoy –ius fruendi- and faculty to dispose –ius abutendi-) is used to unite or bundle several rights or sub-rights or incidents or sticks. If we needed to refer to the form of this right in a common law jurisdiction we would not refer to a 'faculty to conserve' but to a 'right to conserve'. In this case, anyway, this right would also entail several incidents such as: right to repair or restore the environment, right to information about the environment, right of access to the estate, etc. In civil law countries, the content of each faculty is developed by doctrinal sources and no explicit or complete definition of each faculty is found in the Civil Code.

¹⁰⁵⁸ It should be noticed that legally speaking the *conservation property right* couldn't grant a direct juridical power over the commons or global commons. This property right can only refer to the aspects of the land that provide the physical support to those commons or global commons.

object provides flexibility for the co-existence of different conservation property rights with respect to different attributes or functions (ecosystems services) in the same land or space¹⁰⁵⁹. Therefore, the flexible definition of the object is a central and defining element of this property right as it ensures the reflexive nature of the same. I will further refer to this element in the following section.

The third element of the form of this property right is the *right-holder*, broadly established as any person, natural or juridical¹⁰⁶⁰. This was also considered relevant for the proposal, as it allows different kinds of stakeholders from different sectors and spheres of society to undertake rural or urban conservation activities.

The fourth element of this property right is the *landowner's obligations content* that may include duties to perform or not to perform certain actions. This obligations content may include the existence of, and compliance with, a *management plan*. The management plan will be the critical element connecting and coordinating the landowner's obligations with the right-holder's obligations (see fifth element, to follow). The management plan should also be the mechanism for communication, adjustment and cooperation between and among different conservation property right-holders concurring in the same space or ecosystem.

A fifth *contingent element* is the *right-holder's obligations content* that may include duties to perform certain actions¹⁰⁶¹. It is generally understood that the conservation property right will normally entail the active involvement of the right-holder in the conservation activities, through administration and coordination under the management plan.

The Structure of the Conservation Property Right

I will now proceed to analyse the structure of the conservation property right through the traditional conceptual categories developed by Hohfeld¹⁰⁶². By applying these categories to the conservation property right I conclude that: the conservation property right-holder (Party A) holds a *claim* against the landowner (Party B), who has a *duty* to perform or not perform certain actions for the conservation of the environment.

It is noteworthy that under this Hohfeldian understanding, it appears that the conservation property right and the conservation restriction, covenant, easement or servitude, have a similar form or structure. The only difference would be that in the conservation property right we could eventually add a fifth contingent element: Party A's obligation in favour of Party B, in which case Party B would also hold a claim against Party A, who would also have a correlative duty.

¹⁰⁵⁹ Moreover, to the extent that the right is established over an *immovable thing* it would also apply to immovable rights such as mining rights, water rights, maritime concessions, etc. In this case, the conservation property right would involve the conservation of the environment, attributes or functions that are within the scope of the corresponding immovable right.

¹⁰⁶⁰ This suggestion was fully accepted and incorporated in the Chilean draft. Ubilla (2015b).

¹⁰⁶¹ The conservation property right may or may not entail an economic compensation; and the economic compensation may or may not be of monetary nature.

¹⁰⁶² Hohfeld (1911): 16.

However, a conservation property right does not need this contingent element to be a conservation property right. Therefore, under Hohfeld's concepts, its basic structure appears to be identical to that of a conservation restriction, covenant, easement or servitude.

In my view, this Hohfeldian analysis is incomplete and misses the essential difference between the conservation property right and those restrictions, covenants, easements and servitudes.

A very significant and indicative fact is that the Hohfeldian analysis also misses the difference between *usufruct* and *servitudes* in the civil law tradition. It is clear that no civil law scholar, judge or lawyer would understand that usufructs and servitudes are similar in structure or nature. The paradox is that the doctrinal material of the civil property rights system has never provided a classification that makes clear this distinction from the perspective that I will present here¹⁰⁶³.

If Luhmann's understanding about communication is applied, an important difference is highlighted that Hohfeld's categories cannot unearth. The difference, briefly expressed, is that the usufruct – and property – are *active, principal or empowering property rights* that reflect active valuations (from the economic sphere); and the conservation restriction, covenant, easement and servitude are *passive or restrictive rights* that reflect passive or restrictive valuations (from the economic sphere).

As mentioned previously¹⁰⁶⁴, the traditional form of property reconstructs the observations of other-different social spheres (e.g. art, ecology, etc) as obligations content, that is, in negative terms (i.e. limitations or restrictions of the rights content). In other words, the traditional form of property will construct or observe the communications of the corresponding social spheres (e.g. landscape beauty) in terms of the prevailing structure of the form of property, which is defined by the structural coupling with the economic system (e.g. restriction of the faculty to modify the land).

The distinction between *active or empowering property rights* and *passive or restrictive property rights* may only be understood by going beyond the Hohfeldian claim-duty distinction that appears to prevail in legal property theory. Applying Luhmann's approach reveals that each property right, despite containing several incidents, is subject to a self-description of the legal system – a second order observation – that observes the bundle under a prevailing description or image. The civilian usufruct is described as an active or empowering right under the image of two prevailing rights: *ius utendi* and *ius fruendi*. Then, the various duties of the usufruct-holder are left as secondary incidents. In turn, the servitude is described as a passive or restrictive right under the image of a restriction or encumbrance. Then, the rights of the servitude-holder are left as secondary.

Let's see why this distinction is important from the perspective of society, from the perspective of *social communication*. This may be

¹⁰⁶³ For instance: Diez (2012); Castán (1955); Alessandri (1937).

¹⁰⁶⁴ See subsection on Modern Property and Reflexivity.

demonstrated by looking at an example through which the structure of communication by different spheres or subsystems with respect to the same ecosystem service or attribute may be compared. Recall that, according to Luhmann, the structure of communication is *information / utterance / understanding*.

A case about the '*conservation of the landscape*' may be examined as the content of a hypothetical communication:

(a) The structure of this communication from the perspective of the economy would be roughly the following:

- i) Information: the cost of conserving the landscape.
- ii) Utterance: the restriction of ownership's economic value due to conservation¹⁰⁶⁵.
- iii) Understanding by the legal system: as a restrictive right (covenant-servitude).

(b) The structure of the communication from the perspective of the art-aesthetic system would be roughly the following:

- i) Information: the value of conserving the landscape.
- ii) Utterance: the conservation of aesthetic value¹⁰⁶⁶.
- iii) Understanding by the legal system: as an active or empowering right (usufruct-conservation property right).

Therefore, if the legal system had a legal form that was reflexive to the communications from the aesthetic system, the legal form to be used would be exactly that (-that is, a legal form that would be an active or empowering property right-).

If the legal system only had legal forms that were reflexive to the communications from the economic system (or that would reconstruct the observations of the other spheres of society negatively - through limitations or obligations), the only alternative would be to use that available legal form (-that is, the legal form of a passive or restrictive right-).

This is why I seek to emphasize the relevance of the proposed structure of the conservation property right as an active, principal or empowering property right¹⁰⁶⁷.

This aspect, and its relevance, has been overlooked by property rights theorists who consider merely that property rights can become more socially embedded and socially reflexive by considering limitations, obligations or

¹⁰⁶⁵ The communication of the economic system indicates the negative-value side of its binary code.

¹⁰⁶⁶ The communication of the art system indicates the positive-value side of its binary code.

¹⁰⁶⁷ This will also have consequences from the economic and accounting perspectives, as property rights that have the form of restrictions appear to be harder to account as assets, or when they are so accounted, the valuation is generally restricted to the corresponding payments. A principal or active property right makes theoretically possible a dynamic valuation and re-valuation of the underlying asset itself.

restrictions¹⁰⁶⁸. Like Hohfeld, they are missing the difference between usufructs and servitudes, therefore they miss the critical element that a communication's approach – a general theory of society – can bring to light.

9.5.5. Structural Coupling

I argue that, through the form of the conservation property right, the legal system and the other various systems of society are capable of achieving structural coupling as they may rely on each other's structures for their operations, on an *on-going basis*¹⁰⁶⁹.

I have already mentioned that through the conservation property right the different observing systems or spheres of society can register their observations of valuable aspects of the ecosystems in a legal form that has an active or empowering structure.

In specific and simple terms, if the science system attributes value to ecosystems research; the education system attributes value to environmental education and research; the local community attributes value to green areas, landscape and to spaces that make possible certain cultural practices; the indigenous community attributes value to ceremonial spaces; the tourist industry attributes value to the landscape; local industry attributes value to ecosystems services (e.g. aquaculture attributes value to water basin management, forestry industry attributes value to soil sustainability, agriculture to pollination, etc.); the local government attributes value to green areas; and so forth, then all these different spheres and stakeholders can register their observations of what is valuable in a legal form that grants them a faculty or right to conserve those assets or attributes. This form in turn facilitates cooperation with various other stakeholders in the same space through a management plan, without excluding the original owner and without excluding any stakeholder.

If, following the ideas explained in Chapter 8, it is understood that this structural coupling will unfold as interference in the social domain, it should be possible to observe in due course that there will be some normative elements of the conservation property right that will be stabilized and structurally connected to the different social spheres and, in turn, there will be some other normative elements that will appear to be connected only operationally (ref. operational coupling¹⁰⁷⁰).

In light of the form of this property right, I foresee that the main element that will be stabilized will be the 'right to conserve', in its central meaning. Additionally, the general management practices or procedures (obligations) with respect to the management plan should also become gradually stabilized.

In turn, there will be other normative elements that will not be totally stabilized and will need to be assessed on a case-by-case basis. This will also

¹⁰⁶⁸ Singer (2008); Singer (2006); Merrill and Smith (2000); Rose (1997);; Rose (2006). Smith (2003); Priest (2006): 385–459, among many others.

¹⁰⁶⁹ Luhmann (2004), pp.382.

¹⁰⁷⁰ Section 5.8. of Chapter 5.

provide a contrast with traditional property rights because it is possible to foresee that in light of broad ecological and social complexity there will be wider space for case-by-case assessment in light of permanent change and new knowledge development. This also applies in light of the interaction of the observations of the various stakeholders and social spheres.

This brings me to the assessment of the reflexivity of the conservation property right, which is what I will now analyse.

9.5.6. Reflexivity

I will now review the degree of reflexivity of the conservation property right, that is, its capacity to combine normative redundancy and cognitive variety¹⁰⁷¹.

From my considerations in the previous section I can conclude that the normative redundancies of the form of the conservation property right will essentially include the 'faculty to conserve' plus the *basic obligations* relating to the management plan.

On the other hand, I can conclude that the cognitive variety of the form of property will relate to:

- (a) The cognitive elements related to the object of the faculty to conserve: the environment, its attributes, and the ecosystems services.
- (b) The cognitive elements related to the management plan and management actions – obligations.

From this general description I conclude that in the case of the conservation property right, cognitive variety will influence and determine the *detailed content and scope* of the faculty to conserve, that is, the corresponding normative redundancy. It is possible that, in contrast with traditional property rights or ownership, in the case of the conservation property right a higher cognitive variety will not necessarily reduce or restrict normative redundancy. In fact, higher cognitive variety (e.g. a higher level of information on ecosystems) may generate higher levels of normative content for the faculty to conserve, which may become stabilized and become redundant, producing higher normative redundancy. Notice that, in the case of traditional property, higher variety (e.g. increased ecological issues) generates more limitations and obligations (i.e. from the social function of property), and this involves a reduction in normative redundancy, because it involves a pressure to reduce the scope of traditional redundant faculties or rights. In other words, cognitive variety and normative redundancy operate as opposites in traditional property rights. In the case of the conservation property right, however, they operate or may operate as *concurrent higher combinations* (in which both redundancy and variety are increased)¹⁰⁷².

This overall assessment allows me to conclude that the form of the conservation property right has a high degree of reflexivity with respect to the

¹⁰⁷¹ Section 7.3. of Chapter 7.

¹⁰⁷² Section 7.3. of Chapter 7.

observations of various systems or spheres of society. The form of the conservation property right appears to be perfectly capable of adjusting to the observations – structural interactions or irritations – of different spheres with respect to the environment, its attributes or the corresponding ecosystems services. This is the same as saying that the form of the conservation property right (its normative redundancy) has a high reflexive capacity to adjust to various social spheres.

Reflexivity and Propertisation

It is noteworthy that it is exactly this high degree of reflexivity that allows me to say that the creation of a conservation property right does not entail a mechanism of *propertisation*¹⁰⁷³ because through this new property right it is not the economic sphere that is expanded to other spheres of society but, instead, other spheres of society that colonize spaces – lands – where traditional property and the economy have previously reigned alone. The conservation property right is in fact a mechanism through which these other social spheres – and other stakeholders – will be able to interact in a social space where traditionally economic discourse has prevailed. Paradoxically, I believe that in this manner this new property right may also facilitate social processes that could infuse the economy with new social and ecological meanings.

Moreover, as I explain below, the conservation property right does not expand the logic of individual interests but rather sets the bases for potential cooperation on the basis of shared interests. This is specially the case in scenarios where more than one conservation property right will co-exists in the same land, which is one of the flexible features of this right as was previously described. Furthermore, it is noteworthy that the core faculty of the conservation property right, the *faculty to conserve*, is in itself a faculty that involves positive externalities for the owner and for all the community.

Finally, we should also remember that as opposed to traditional property rights, the conservation property right is inclusive of the original inhabitants or owners and does not involve or require their relocation or displacement¹⁰⁷⁴.

9.5.7. The Conservation Property Right as Reflexive Law Mechanism

Analysis of the structural coupling and reflexive capacity of the conservation property right allows me to conclude that this new property right is a proper reflexive law mechanism that facilitates both *mutual observation* and *interference* between and among observations from various social spheres regarding the conservation of ecosystems.

In order to see how such interference takes place, it is necessary to observe how the conservation property right operates in the social domain.

In doing so, it is noticeable that the conservation property right allows not only interaction between and among persons, groups, associations

¹⁰⁷³ Sterckx (2006): 55–78.

¹⁰⁷⁴ See Section 4.4.2. of Chapter 4.

and all kinds of intermediary bodies, but also allows various social spheres or discourses to properly interact through communication¹⁰⁷⁵.

In this sense, the reflexivity that the conservation property right makes possible implies that it leaves behind the *simplistic State/individual distinction* that had excluded the various intermediary bodies, and therefore, their practices, cultural contexts and the corresponding social discourses or spheres¹⁰⁷⁶.

By observing this reflexive process in the social domain it is possible to grasp how the different spheres interact, the multiple connections of their observations, the different eco-systemic aspects that each sphere will consider, the different manners in which each sphere will be able to contribute to ecosystems management, the different ways in which each sphere will be able to generate information and knowledge, the different practices that can be pooled together, the disagreements and their implications for real practices, their multiple risk assessments and the different time dimension perspectives and their implications –which will be considered further below.

It will be through this reflexive process that the improbable *inter-discursive translations* would become contingently and paradoxically possible through *mutual observation*, that is, through *creative and productive misunderstandings*¹⁰⁷⁷.

(a) Power, Cooperation and Trust

Further observations of the conservation property right in the social domain will allow to capture the processes in which legal power will be transformed into different power dynamics in different social spheres (e.g. media, art, science, etc.). It will be in this space where power will be transformed and disseminated, making possible social interaction and thereby increasing the probability of cooperative behaviour.

Consequently, it will be in this context that the improbable will become probable, making possible the development of new *information and knowledge* in the common interest of stakeholders and social spheres¹⁰⁷⁸. This new information and knowledge should facilitate the development of practices for the sustainable management of shared spaces in a context of common uncertainties, contingencies and risks¹⁰⁷⁹.

In this same reflexive dynamic, it may be possible to observe how various obligations will have a higher probability of becoming reflexive *self-governance efforts*¹⁰⁸⁰, because different interactions will give rise to increased possibilities to create familiarity, trust and cooperation, promoting local

¹⁰⁷⁵ In this sense, the conservation property right is also a *discourse right* in the private sphere, as described by Teubner, see Teubner (2000b): 399–417, pp.413.

¹⁰⁷⁶ Teubner (2010): pp.2; Teubner (2008): 835–43; Dagan (2008): 835-43; Taylor (2004), pp.49.

¹⁰⁷⁷ Teubner (2000b): 399–417, pp.408.

¹⁰⁷⁸ Ostrom, Walker, and Gardner (1994).

¹⁰⁷⁹ Luhmann (2005), pp.111-118.

¹⁰⁸⁰ Ostrom, Walker, and Gardner (1992): 404–17.

community lifeworlds¹⁰⁸¹.

(b) The Conservation Property Right and the Time Dimension

An increase in reflexivity implies an increase in the possibility of interactions between and among various spheres of society, which also implies increased interaction between and among the different *time horizons* and *time-speeds* of the different social spheres.

As previously discussed, the form of traditional property rights allows only for structural interactions between the legal, political and economic systems. According to Luhmann, the form of traditional property rights is mainly influenced or determined by structural coupling with the economic discourse. This means that the operations of traditional property rights would be fundamentally influenced or determined by the time dimension of the economy.

The conservation property right provides the possibility of diversified structural (and operational) couplings between different spheres of society. This new property right therefore opens up the possibility of increased interaction between and among the different *time horizons* and *time-speeds* of different social spheres. The same can be said with respect to interaction with the natural environment and the increasing speed of ecological changes, and with respect to structural coupling between different social spheres and the psychic systems¹⁰⁸².

Examination of the *conservation property right* in the social domain and from the perspective of these considerations about the time dimension may reveal that the different time horizons and time-speeds of the different spheres will have the opportunity to interact in the same space, in the same ecosystem, reflexively. This would mean that the conservation property right, through lasting irritations, mutual observation and interference, would facilitate or make probable synchronizations or creative overlappings of the different time horizons or time-speeds, thereby preventing a privileged position or predominant influence or colonization of certain social spheres through time.

9.5.8. The Conservation Property Right and The Regulatory Trilemma of Ecosystems Conservation

I now return to my departure point: the regulatory trilemma of ecosystems conservation.

I have argued that the traditional property rights approach is not an adequate regulatory strategy for the implementation of the principles, objectives and measures of the CBD and the Aichi Targets.

This is because traditional property rights are a regulatory form that is '*indifferent*' to broader social complexity, as these property rights do not facilitate proper interaction, communication and cooperation amongst all

¹⁰⁸¹ Luhmann (2000); Kjaer (2006).

¹⁰⁸² See Section 5.9 of Chapter 5 on the Time Dimension.

social spheres in society with regard to conservation of ecosystems. Rather, and paradoxically, traditional property rights operate by separating land from the surrounding ecosystem and social communities and by blocking cooperation and communication, in direct contradiction of the '*ecosystems approach*'.

I further observed that the use of traditional property rights could also be considered as a case of juridification of social spheres – or a mechanism of *social disintegration through law*- in the sense that in many cases they appeared to cause both the relocation –or displacement- of people from their original habitat and the dislocation of the corresponding social web of relations. This is specially the case when ecosystems have been originally inhabited by communities or indirectly used for their traditional activities.

I additionally observed that the use of traditional property rights would also involve a form of *legal disintegration through society* in the sense that they would orient or change the 'selectivity process of law' towards economic rationality. As I explained in this chapter, this change in the selectivity process of law reduces the reflexivity of the legal system to other spheres of society other than the economy and thereby prevents the unfolding of social practices required to generate cooperation, communication and knowledge sharing around and in connection with the corresponding ecosystems.

As a result of this overall assessment, the basic proposal of this thesis has been the development of a *reflexive law approach* through the creation of a new property right, the 'conservation property right', which will both contribute to better implementation of the system of *public protected areas*, and substantially modify and facilitate cooperative social practices for the implementation of *private protected areas*.

I believe that the present thesis has provided substantive arguments to sustain these claims. However, I also know that in dealing with increasing social complexity and the ensuing contingencies, uncertainties and risks, no regulatory strategy can be considered a panacea, but only an additional element to increase the reflexivity of our legal system. If by proposing the conservation property right the probability of such increased reflexivity is raised, the present thesis will have achieved its goal.

9.6. Conclusions

This thesis has been presented as a contribution both to the sociological analysis of law and to the analysis of regulatory approaches of biodiversity conservation.

On the one hand, I have intended to contribute to a better understanding of the limitations of the current regulatory framework of ecosystems conservation in the context of the local implementation of the CBD. I have shown how the use by local legal systems of traditional regulatory instruments, and particularly of traditional property rights, appears to be inadequate, or at least insufficient, to facilitate the development of the necessary social conservation practices.

On the other hand, from a systems theory perspective I have

developed an understanding of the reflexive or non-exclusionary nature of law, which I believe to be relevant to the comprehension of the interaction between law and society. This entailed the development of an understanding of the reflexive form of law, which I believe will allow us to go beyond the Weberian dichotomy between form and substance, making possible the assessment of the varying degrees of social reflexivity of different legal forms.

These theoretical developments have allowed us to better understand Teubner's post regulatory approach known as reflexive law, which in its application involves the development of new forms of law with higher reflexive capacity for tackling the limits of regulatory law. Moreover, in the context of my analysis of reflexive law I also developed an understanding of Teubner's idea of interference by reference to the ideas of Maturana and Hejl on the relational and social domain, and to Bankowsky's notion of transitional spaces, that has allowed me to observe or better observe the interactions between law and different spheres of society.

These various theoretical understandings were then applied to the analysis of the regulatory trilemma of ecosystems conservation, in particular to the analysis of the limitations of the legal form of traditional property rights as a regulatory instrument for ecosystems conservation. Specifically, these theoretical understandings allowed me to assess the reflexive capacity of traditional property rights, which showed that these rights are predominantly reflexive to the observations of the economic sphere but not to other spheres of society, meaning that all the relationships that connect natural ecosystems with other spheres of society appear to be either excluded or reconfigured on economic terms. In consideration of the form of traditional property rights I explained that, even when social observations from other social spheres are taken into account, they are reconfigured or transformed into limitations or obligations, thereby distorting the original value content of those observations. This analysis was mainly focused on *ownership* but, as explained, it also applies to other traditional property rights such as *easements* and *servitudes*.

It has been on the basis of all these understandings and considerations that I finally proposed the creation of a new property right, the conservation property right, as a reflexive law mechanism that should allow for broader social interaction amongst different spheres of society and, consequently, should be better prepared for tackling the regulatory trilemma of ecosystems conservation.

APPENDIX I
THE 2010 STRATEGIC PLAN
SUMMARY OF OBSTACLES FOR THE IMPLEMENTATION OF THE
CBD

The 2010 Strategic Plan provided a list of the factors that were deemed to be the *obstacles* to the implementation of the CBD. These *obstacles* are the following:

- x. Political/Societal Obstacles
 - a. Lack of political will and support to implement the CBD;
 - b. Limited public participation and stakeholder involvement;
 - c. Lack of mainstreaming and integration of biodiversity issues into other sectors, including use of tools such as environmental impact assessments;
 - d. Political instability;
 - e. Lack of precautionary and proactive measures, causing reactive policies.

- xi. Institutional, Technical and Capacity-related Obstacles
 - a. Inadequate capacity to act, caused by institutional weaknesses;
 - b. Lack of human resources;
 - c. Lack of transfer of technology and expertise;
 - d. Loss of traditional knowledge;
 - e. Lack of adequate scientific research capacities to support all the objectives.

- xii. Lack of Accessible Knowledge/Information
 - a. Loss of biodiversity and the corresponding goods and services it provides not properly understood and documented;
 - b. Existing scientific and traditional knowledge not fully utilized;
 - c. Dissemination of information on international and national level not efficient;
 - d. Lack of public education and awareness at all levels.

- xiii. Economic Policy and Financial Resources
 - a. Lack of financial and human resources;
 - b. Fragmentation of GEF financing;
 - c. Lack of economic incentive measures;
 - d. Lack of benefit-sharing;

- xiv. Collaboration/Cooperation
 - a. Lack of synergies at the national and international levels;
 - b. Lack of horizontal cooperation among stakeholders;
 - c. Lack of effective partnerships;
 - d. Lack of engagement of scientific community.

- xv. Legal/juridical Impediments
 - Lack of appropriate policies and laws
- xvi. Socio-economic Factors
 - a. Poverty;
 - b. Population pressure;
 - c. Unsustainable consumption and production patterns;
 - d. Lack of capacities for local communities.
- xvii. Natural Phenomena and Environmental Change
 - a. Climate change;
 - b. Natural disasters.

APPENDIX II
THE GLOBAL BIODIVERSITY OUTLOOK 3
SUMMARY OF RELEVANT CONCLUSIONS

The following is a summary of the main conclusions of the GBO3:

The GBO-3 firstly contained a summary of the different 'indicators' that show the condition of the world biodiversity (-it makes here reference to the 'direct drivers' of biodiversity loss, see vi. Below-). The report states:

"..there are multiple indications of continuing decline in biodiversity in all three of its main components (genes, species and ecosystems) including:

- a Species which have been assessed for extinction risk are on average moving closer to extinction. Amphibians face the greatest risk and coral species are deteriorating most rapidly in status. Nearly a quarter of plant species are estimated to be threatened with extinction.*
- b The abundance of vertebrate species, based on assessed populations, fell by nearly a third on average between 1970 and 2006, and continues to fall globally, with especially severe declines in the tropics and among freshwater species.*
- c Natural habitats in most parts of the world continue to decline in extent and integrity, although there has been significant progress in slowing the rate of loss for tropical forests and mangroves, in some regions. Freshwater wetlands, sea ice habitats, salt marshes, coral reefs, sea-grass beds and shellfish reefs are all showing serious declines.*
- d Extensive fragmentation and degradation of forests, rivers and other ecosystems have also led to loss of biodiversity and ecosystem services.*
- e Crop and livestock genetic diversity continues to decline in agricultural systems.*
- f The five principal pressures directly driving biodiversity loss (habitat change, overexploitation, pollution, invasive alien species and climate change) are either constant or increasing in intensity.*
- g The ecological footprint of humanity exceeds the biological capacity of the Earth by a wider margin than at the time the 2010 target was agreed."*¹⁰⁸³

On the other hand, and regarding the social consequences of the loss of biodiversity, the GBO-3 states that:

"The loss of biodiversity is an issue of profound concern for its own sake. Biodiversity also underpins the functioning of ecosystems which provide a wide range of services to human societies. Its continued loss, therefore, has major implications for current and future human well-being. The provision of food, fibre, medicines and fresh water, pollination of crops, filtration of pollutants, and protection from natural disasters are among those ecosystem services potentially threatened by declines and changes in biodiversity. Cultural services such as spiritual and religious values, opportunities for knowledge and education, as well as recreational and aesthetic values, are

¹⁰⁸³ Global Biodiversity Outlook 3, pp.9.

also declining.”¹⁰⁸⁴

In this context the report also emphasizes the relevance of considering the *thresholds or tipping points* and how those first impacted in our societies would be the poor but not only them.

*“There is a high risk of dramatic biodiversity loss and accompanying degradation of a broad range of ecosystem services if ecosystems are pushed beyond certain thresholds or tipping points. The poor would face the earliest and most severe impacts of such changes, but ultimately all societies and communities would suffer.”*¹⁰⁸⁵

¹⁰⁸⁴ Global Biodiversity Outlook 3, pp.9.

¹⁰⁸⁵ Global Biodiversity Outlook 3, pp.10.

APPENDIX III
THE GLOBAL BIODIVERSITY OUTLOOK 4
SUMMARY OF CONCLUSIONS

The following is a summary of the main conclusions of the GBO4 with respect to the status and progress towards achievement of the Aichi Targets.

Target 1: Awareness about Biodiversity

The main conclusion of the GBO4 is that:

'People are still not certain which actions have a negative impact on biodiversity, and fewer still are able to connect specific actions to biodiversity protection'¹⁰⁸⁶.

Target 2: Integration of Biodiversity Values into Policies and National Accounting

The GBO4 among other things reports that: *'Relatively little attention is given to the integration of biodiversity into national accounting and reporting systems'¹⁰⁸⁷.*

And that *'Based on all the information available, the GBO4 concludes that while important progress has been made towards achieving all components of Target 2, significant additional actions are required to meet the target by the 2020 deadline'¹⁰⁸⁸.*

Target 3: Incentives Reform

The GBO4 concludes that: *'Overall, progress towards this target shows a very mixed picture. While there is increasing recognition of the need to remove harmful subsidies, there is limited action to phase them out and some backward steps in creating new ones. The development and application of positive incentives, especially for agricultural practices that protect the environment, are steps in the right direction, but on the current trajectory are not judged sufficient to meet this component of the target by 2020'¹⁰⁸⁹.*

Target 4: Sustainable Production and Consumption

The GBO-4 concludes that there has been *'progress towards part of this target as steps are being taken in many areas to implement plans for more sustainable production and consumption (see for example Box 4.2 and certification schemes under Target 7), although not on a scale that would achieve this element of the target by 2020. There is, however, ample evidence that we are*

¹⁰⁸⁶ Ibid, pp.33.

¹⁰⁸⁷ Ibid, pp.37.

¹⁰⁸⁸ Ibid, pp.37.

¹⁰⁸⁹ Ibid, pp.41.

currently moving in the wrong direction regarding the objective of keeping the impacts of natural resource use within safe ecological limits, especially with regard to water use¹⁰⁹⁰.

Target 5: Reduction of Habitat Loss

Considering the relevance of this Target 5 for our research, here we quote the full conclusion –excluding references to tables, notes and figures-:

'Globally rates of deforestation are declining but are still alarmingly high. The loss of forest habitats in some regions, for example the Brazilian Amazon, has significantly slowed in recent years, through a combination of policies targeting multiple drivers of deforestation. Significant gain in forest area has been reported in some areas, with especially high rates of gain in China and Vietnam. However, deforestation in many other tropical areas of the world is still increasing. Deforestation in Southeast Asia is mainly attributed to large-scale agro-industry, especially oil palm plantations, while in other areas increased demand for land for local food production is a major driver.

While data is scarce for other terrestrial habitats, grasslands and savannas continue to witness large-scale conversion to intensive agricultural and other uses. While no globally-agreed measure exists for the extent of coastal and freshwater wetlands, the majority of relevant studies suggest high rates of decline for global wetland area. The total area of land remaining in natural or semi-natural conditions has shown a downward trend in recent decades and would decline further by 2020 if recent trends continue. Coastal habitats such as mangroves continue to be lost through activities such as aquaculture, land reclamation and urban development, but global trends are difficult to discern due to variable data.

Habitats of all types, including forests, grasslands, wetlands and river systems, continue to be fragmented and degraded. While data on habitat degradation are not available on a global scale, populations of wild birds specializing in habitats such as grasslands and forests in North America and Europe show a decline of around one fifth since 1980, an indicator of long-term degradation. Extrapolations based on current trends suggest this decline will continue but that the rate will slow by 2020. While there is a trend towards removing small dams in some industrialized countries, rates of new large dam construction are increasing rapidly in South America, Asia and Africa, threatening further fragmentation of fresh-water habitats.

Most countries have set national targets relating to habitat loss, although few specify the scale of reduction being sought. About sixty per cent of the national reports analysed for GBO-4 suggest

¹⁰⁹⁰ Ibid, pp.46.

that progress is being made on reducing loss of habitats. Less information is available regarding national action to reduce fragmentation and degradation.

Overall, while GBO-4 can report limited progress towards this target with respect to tropical forests in some regions, indicators suggest a highly variable picture in different parts of the world and among different biomes, with data still scarce for many types of ecosystems¹⁰⁹¹.

Target 6: Sustainable Management of Aquatic Living Resources

The GBO4 concludes that: 'Overall, based on current trends, the proportion of fish stocks within safe ecological limits is projected to decline slightly at least until 2020 though there is uncertainty around the exact trajectory. Some progress towards sustainable management and stock recovery in some areas is overwhelmed by continuing unsustainable practices in fishing worldwide. Significant changes in policy and practice are therefore required if this target is to be met'¹⁰⁹².

Target 7: Sustainable Agriculture, Aquaculture and Forestry

The GBO4 concludes that: 'Overall GBO-4 can report progress in introducing sustainable management to areas under agriculture, aquaculture and forestry, but not to the extent that would achieve this target by 2020 given current trends'¹⁰⁹³.

Target 8: Reduced Pollution

The GBO4 concludes that: '.. overall evaluation is that current trends are moving us further away from the target of bringing excess nutrients to levels not detrimental to ecosystem function and biodiversity. It was not possible to evaluate overall trends regarding other forms of pollutants, due to limited information'¹⁰⁹⁴.

Target 9: Prevention and Control of Alien Species

The GBO4 mainly concludes that: 'Overall, there has been some progress towards achieving Target 9 but additional actions are required if it is to be met by the 2020 deadline'¹⁰⁹⁵.

Target 10: Ecosystems Vulnerable to Climate Change

The GBO4 reports: 'While assessment for GBO-4 has focused on coral reefs, other ecosystems especially vulnerable to climate

¹⁰⁹¹ Ibid, pp.51.

¹⁰⁹² Ibid, pp.58.

¹⁰⁹³ Ibid, pp.63.

¹⁰⁹⁴ Ibid, pp.67.

¹⁰⁹⁵ Ibid, pp.72.

change include mountain ecosystems such as cloud forest and páramos (high altitude tundra in tropical Americas) as well as low-lying ecosystems vulnerable to sea-level rise.

Few national biodiversity strategies and action plans (NBSAPs) or national reports to the CBD include specific measures to reduce multiple pressures on coral reefs and other ecosystems vulnerable to climate change. Exceptions include Brazil, Finland and Japan, which have all established targets to reduce human-induced pressures on vulnerable ecosystems¹⁰⁹⁶.

Target 11: Protected Areas

It should be noted that this Target should be read in close connection with Target 5 on Habitat Loss, Target 10 on Ecosystems Vulnerable to Climate Change, Target 14 on Ecosystems Services and Target 15 on Ecosystems Restoration. Target 7 on Sustainable Agriculture, Aquaculture and Forestry also deserves special attention as these activities normally surround protected areas. Considering the relevance of this Target 11 for our research, here we quote the full conclusion –excluding references to tables, notes and figures-:

'The terrestrial area of the planet protected for biodiversity is increasing steadily, and designation of marine protected areas is accelerating. Nearly a quarter of countries have already passed the target of protecting 17 per cent of their land area. At the current rate of growth, the percentage targets would be met for terrestrial areas by 2020 and this is reinforced by existing commitments to designate additional terrestrial protected areas. Overall, the extrapolations suggest that the marine target is not on course to be met. However, progress is higher in coastal areas, while open ocean and deep sea areas, including the high seas, are much less covered.

The protected area network is becoming more representative of the world's diverse ecological regions, but around one-quarter of terrestrial regions and more than half of marine regions have less than five per cent of their area protected. Further today's protected areas will not be adequate to conserve many species whose distributions will shift in the future due to climate change.

Although 17 per cent of the world's river length were within protected areas in 2010, the effectiveness of that protection is less certain due to upstream and downstream impacts.

A minority of protected areas enjoy effective management, although this appears to be improving over time according to the limited information available. Further actions are needed to ensure that protected areas are effectively and equitably managed.

¹⁰⁹⁶ Ibid, pp.77.

Recent national biodiversity strategies and action plans indicate that most countries have targets relating to improvement of protected area coverage, although relatively few address issues of ecological representativeness, connectedness or management effectiveness. Almost all fifth national reports assessed for GBO-4 suggest that some progress is being made towards the attainment of this target. Among the actions being taken by countries include plans for the establishment of new protected areas (Azerbaijan, Nepal, New Zealand and Pakistan), and undertaking vulnerability assessment of existing protected areas (Dominica) among other things¹⁰⁹⁷.

Target 12: Reducing Risk of Extinction

The GBO4 reports that: *'Multiple lines of evidence give high confidence that based on our current trajectory, this target would not be met by 2020, as the trend towards greater extinction risk for several taxonomic groups has not decelerated since 2010. Despite individual success stories, the average risk of extinction for birds, mammals, amphibians and corals shows no sign of decreasing¹⁰⁹⁸.*

Target 13: Safeguarding Genetic Diversity

The GBO4 reports that: *'Considerable crop genetic diversity continues to be maintained on farms, in the form of traditional crop varieties. However, there is currently limited support to ensure long term conservation of local varieties of crops in the face of changes in agricultural practices and market preferences that are tending, in general, to promote a narrowing genetic pool. The wild relatives of domesticated crop species are increasingly threatened by habitat loss and fragmentation and climate change, and few protected areas or management plans address these threats. Erosion of traditional crops and their wild relatives is greatest in cereals, followed by vegetables, fruits and nuts and food legumes.*

Genetic diversity of domesticated livestock is eroding, with more than one-sixth of the 8,200 assessed breeds (16%) at risk of extinction. Based on recent trends and assuming current pressures continue, this proportion is projected to increase further by 2020¹⁰⁹⁹.

Target 14: Safeguard and Restore Ecosystem Services

Considering the relevance of this Target 14 for our research, here we quote various sections of the conclusion –excluding references to tables, notes and figures-:

¹⁰⁹⁷ Ibid, pp.83.

¹⁰⁹⁸ Ibid, pp.87.

¹⁰⁹⁹ Ibid, pp.91.

'Habitats important for ecosystem services, for example wetlands and forests, continue to be lost and degraded. Recent sub-global assessments have confirmed the global trend in the decline of services provided to people by ecosystems. For example, the United Kingdom National Ecosystem Assessment in 2011 concluded that some 30 per cent of ecosystem services were declining, largely as the result of declines in the extent and condition of habitats providing those services...

The state of marine ecosystems as measured by the Ocean Health Index, falls far short of their potential to provide for human needs through a wide variety of services including food provision, recreation, coastal protection and carbon storage. The decline of Arctic sea ice, linked to climate change, presents particular challenges to northern local and indigenous communities...

Overall, available evidence shows little sign of progress towards meeting this target by the deadline of 2020, and in the case of services of particular importance to local and indigenous communities, women, the poor and vulnerable, trends appear to be moving in the wrong direction'¹¹⁰⁰.

Target 15: Ecosystem Restoration and Resilience

The GBO4 reports: *'The combined initiatives currently under way or planned may put us on track to restore 15% of degraded ecosystems, but it is hard to assess and we cannot be confident that this part of the target will be met by 2020 on our current trajectory. Despite restoration and conservation efforts, there is still a net loss of forests, a major global carbon stock, suggesting no overall progress on this component of the target'¹¹⁰¹.*

Target 16: Access to and Sharing Benefits of Genetic Resources

The GBO4 explains that: *'The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization entered into force on 12 October 2014 following its ratification by 51 Parties to the Convention on Biological Diversity. Thus this component of the target has been met in advance of the deadline set. This opens up new opportunities for the fair and equitable sharing of the benefits arising from the utilization of genetic resources'¹¹⁰².*

Target 17: Biodiversity Strategies and Action Plans

The GBO4 reports that: *'the adequacy of available updated NBSAPs in terms of following the guidance set by the CBD's Conference of the Parties (COP) is variable. The degree to which countries are implementing their updated strategies and action*

¹¹⁰⁰ Ibid, pp.97.

¹¹⁰¹ Ibid, pp.101.

¹¹⁰² Ibid, pp.105.

plans is also variable, suggesting that, while progress can be reported on these components of the target, they will not be achieved by 2015¹¹⁰³.

Target 18: Traditional Knowledge

The GBO4 reports that:

'Overall, traditional knowledge continues to decline as illustrated by the loss of linguistic diversity and large-scale displacement of indigenous and local communities. However, this trend is reversed in some places through growing interest in traditional cultures and involvement of local communities in the governance and management of protected areas and the growing recognition of the importance of community conserved areas.

...While progress has been made in all components of this target, current trends as far as they can be assessed suggest that the actions taken to date are insufficient to achieve the target by 2020¹¹⁰⁴.

Target 19: Sharing Information and Knowledge

The GBO4 reports that: *'Data and information on biodiversity are being shared much more widely through a range of national, regional and global initiatives. They include networks to promote and facilitate free and open access to digitized records from natural history collections and observations, including through citizen science initiatives; collaboration to build a complete catalogue of the world's species; and the development of 'DNA barcoding' as a means of identifying species. However, much data and information remain inaccessible and capacity is lacking to mobilize them in many countries.*

...With the advances made in building systems to share data, information and knowledge on biodiversity, a significant part of this target is judged to be on track. However, to meet all components of the target, further efforts are needed on investment in data mobilization and the coordination of models and technologies that can be readily applied to decision making¹¹⁰⁵.

Target 20: Mobilizing Resources from all Sources

The GBO4 reports that: *'In its first assessment the High-Level Panel on Global Assessment of Resources for Implementing the Strategic Plan for Biodiversity 2011–2020 concluded that the cost of attaining the twenty Aichi Biodiversity Targets would be somewhere between US\$ 150 billion and US\$ 440 billion per*

¹¹⁰³ Ibid, pp.109.

¹¹⁰⁴ Ibid, pp.115.

¹¹⁰⁵ Ibid, pp.119.

year. However the Panel also noted that these figures needed to be regarded as broad approximation of the resources required to attain the targets rather than exact estimates. The second assessment of the High Level Panel concluded that the available evidence broadly supports these estimates but that for some targets the estimates may be conservative. Both assessments concluded that most of the investments required to attain the targets will deliver multiple benefits and should not be financed from biodiversity budgets alone and that many activities could be jointly funded through budgets for agriculture, forestry, fisheries, water, pollution control and climate action as these benefits would extend to biodiversity.

...Recent trends and the limited information available, suggest that while some progress has been made towards this target, progress to date is not sufficient to meet the target by 2020¹¹⁰⁶.

¹¹⁰⁶ Ibid, pp.123.

APPENDIX IV IUCN Protected Areas - Management Categories

The guidelines include six categories into which protected lands can be sorted, and four governance types.

The relevance of the categories developed is expressed by the IUCN's "Guidelines for the Application of the Protected Area Management Categories" when it explains that the term protected area *'embraces a wide range of different management approaches, from highly protected sites where few if any people are allowed to enter, through parks where the emphasis is on conservation but visitors are welcome, to much less restrictive approaches where conservation is integrated into the traditional (and sometimes not so traditional) human lifestyles or even takes place alongside limited sustainable resource extraction.'*

The following is a general description of these categories and types:

Category I: Strict Protection

Category Ia: Strict nature reserve - strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring.

Category Ib: Wilderness area - usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.

Category II: National park - large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.

Category III: Natural monument or feature - protected areas set aside to protect a specific natural monument, which can be a land form, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.

Category IV: Habitat/species management area - protected areas to protect particular species or habitats and whose management reflects this priority. Many category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.

Category V: Protected landscape/seascape - a protected area where the

interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

Category VI: Protected area with sustainable use of natural resources - protected areas which conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.

However, in different countries we may still find, as we will see below, a wide variety of approaches to defining, designating, and managing protected areas, and therefore, these categories are approximate, and some areas do not fit into any category and shall be understood as “sui generis”.

As the new guidelines of 2008 expresses:

“The variety reflects recognition that conservation is not achieved by the same route in every situation and what may be desirable or feasible in one place could be counter-productive or politically impossible in another. Protected areas are the result of a welcome emphasis on long-term thinking and care for the natural world but also sometimes come with a price tag for those living in or near the areas being protected, in terms of lost rights, land or access to resources. There is increasing and very justifiable pressure to take proper account of human needs when setting up protected areas and these sometimes have to be “traded off” against conservation needs. Whereas in the past, governments often made decisions about protected areas and informed local people afterwards, today the emphasis is shifting towards greater discussions with stakeholders and joint decisions about how such lands should be set aside and managed. Such negotiations are never easy but usually produce stronger and longer-lasting results for both conservation and people”¹¹⁰⁷.

The new guidelines of 2008 also refer to 4 ‘governance types’:

Type A: Governance by government (at federal/state/subnational or municipal level).

Type B: Shared Governance

Type C: Private Governance¹¹⁰⁸

Type D: Governance by Indigenous Peoples and Local Communities

¹¹⁰⁷ IUCN, “New Guidelines for the Application of the Protected Area Management Categories.”, pp.3.

¹¹⁰⁸ Private governance comprises protected areas under individual, cooperative, NGO or corporate control and/or ownership, and managed under not-for-profit or for-profit schemes.).

Applying the new guidelines of 2008 is the current challenge of all countries¹¹⁰⁹ and this means assigning sites to management categories and governance types.

An analysis by McNeely of the distribution of protected areas in the various categories leads to some useful conclusions¹¹¹⁰: “Category III is relatively unimportant and the sites tend to be small. Nearly half the world's total area under legal protection is in the category of national parks, but these areas are so large (mean size: 2595 km²) that they include only about 18% of the number of sites. The most strictly protected Category I is most prominent in North Eurasia, where the former Soviet Union established a large number of extensive Strict Nature Reserves; these are now bones of contention in the newly independent republics. Relatively densely populated parts of the world, such as Europe, East Asia and South and Southeast Asia, tend to have relatively extensive areas in Categories IV or V; globally, sites in these categories tend to be much smaller than national parks.”¹¹¹¹

Even though statistics can always be contested, these clearly show that different regions have approached protected areas in very different ways. New Zealand, Australia, North America, Central America and Sub-Saharan Africa depend very much on national parks, while the other regions tend to give greater attention to alternative management approaches; these alternatives in Categories IV and V tend to give greater emphasis to the needs of traditional agriculture and local people, an emphasis which is carried a step further in Category VI (for which adequate statistics are not yet available)¹¹¹².

¹¹⁰⁹ Adrian Phillips, *Management Guidelines for IUCN Category V Protected Areas: Protected Areas Protected Landscapes / Seascapes*, 2nd edition (Gland, Switzerland: World Conservation Union, 2002).

¹¹¹⁰ Jeffrey McNeely, J. Harrison, and P. Dingwall, *Protecting Nature: Regional Reviews of Protected Areas* (IUCN- The World Conservation Union, Gland, Switzerland, 1994).

¹¹¹¹ Ibid.

¹¹¹² Ibid.

APPENDIX V
TYOLOGY OF ECOSYSTEMS SERVICES
Millennium Ecosystem Assessment of 2005 (MA)¹¹¹³

It is important to look into these services in detail, because as we will see, they show concrete ways in which ecosystems relate to society.

First Type: Provisioning Services. *These include among others, food elements, food additives, water, oils, fuels, genetic resources, biochemicals, biocides, medicines, wood, construction materials, etc.*

Second Type: Regulating Services. These are the benefits obtained from the regulation of ecosystem processes, including: oxygen generation, air quality maintenance, water generation, water regulation, water purification, waste treatment, climate regulation, biological control –pests and diseases-, regulation of human diseases, pollination, storm protection, etc.

Third Type: Cultural Services. These are the non-material or intangible benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences, *including: cultural diversity, community values, spiritual and religious values, educational values, knowledge systems –traditional and formal-, aesthetic values, social relations, sense of place, sense of time, inspiration, cultural heritage values, cultural landscapes, recreation, ecotourism, etc.*

The MA emphasizes that ‘cultural services’ are tightly bound to human values and behaviour, as well as to human institutions and patterns of social, economic, and political organization. Thus perceptions of cultural services are more likely to differ among individuals and communities than, say, perceptions of the importance of food production.

Fourth Type: Supporting Services. According to the MA, supporting services are those that “are necessary for the production of all other ecosystem services”. They differ from provisioning, regulating, and cultural services in that their impacts on people are either indirect or occur over a very long time, whereas changes in the other categories have relatively direct and short-term impacts on people. For example, humans do not directly use soil formation services, although changes in this would indirectly affect people through the impact on the provisioning service of food production. Similarly, climate regulation is categorized as a regulating service since ecosystem changes can have an impact on local or global climate over time scales relevant to human decision-making (decades or centuries), whereas the production of oxygen gas (through photosynthesis) is categorized as a supporting service since any impacts on the concentration of oxygen in the atmosphere would only occur over an extremely long time. Some other examples of supporting services are primary production, production of atmospheric oxygen, soil formation and retention, nutrient cycling, water cycling, and provisioning of habitat.

¹¹¹³ “Millennium Ecosystem Assessment, 2005. Ecosystems and Human Well-Being: Synthesis. World Resources Institute.”

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