

How do they decide in law systems? An approach on systemic constructionism

Como eles decidem em sistemas de direito? Uma abordagem sobre construcionismo sistêmico

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Abstract

From a communications perspective something in common can be observed in human decisions, a simple clause, consisting of a subject and a verb: I decide. The investigation of such a sentence leads to two questions: who is the subject who decides? And how does this subject decide? These questions are necessary to work with a bigger one: how can a decision be modeled in a system of law? The research uses Márcio Pugliesi's systemic constructionism to work with this problem. Systemic constructionism models the subject as a semantic-pragmatic atmosphere, formed by *doxa*, *episteme* and *social representations*. This atmosphere is capable of establishing communication with different atmospheres using non-empty intersections. The atmosphere contains an irremovable level of semantic pollution – unquestioned meanings, ideologies and traditions peculiar of individuals and groups. As for the decision-making process, systemic constructionism deals with a pragmatic and strategic perspective of conflict resolution in law, founded on game theory, in order to optimize acts of decision in conflict situations. The subject, seen as a semantic-pragmatic atmosphere, acts and corrects his action with the purpose of achieving certain results at the lowest cost in the system. In law practice, certain procedures limit the action of the subject, but to systemic constructionism a decision is never true or false, or even correct, only useful or useless within a situational context. The *minimax* criterion offers a guide to measure the utility of decisions, based on the exclusion of uselessness, and offers a path to the minimum of the maximum – often not the answer aimed at, but one that the institution can deliver. Through the application of this model, systemic constructionism offers new ways to understand how a decision is made in a system of law.

Keywords: subject, decision, system of law, systemic constructionism.

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Resumo

Algo em comum pode ser observado em decisões humanas de uma perspectiva comunicativa, uma simples oração, consistindo de um sujeito e um verbo: Eu decido. A investigação de tal sentença leva a duas perguntas: quem é o sujeito que decide? E como esse sujeito decide? Essas questões são necessárias para trabalhar com uma ainda maior: como uma decisão pode ser modelizada em um sistema de direito? A pesquisa usa o construcionismo sistêmico de Márcio Pugliesi para trabalhar com o problema. O construcionismo sistêmico modela o sujeito como uma atmosfera semântico-pragmática, formada por *doxa*, *episteme* e representações sociais. Essa atmosfera é capaz de estabelecer comunicação com diferentes atmosferas usando interseções não vazias. A atmosfera contém um nível irremovível de poluição semântica – sentidos não questionados, ideologias e tradições próprias de indivíduos ou de grupos. Quanto ao processo de tomada de decisão, o construcionismo sistêmico lida com uma perspectiva pragmática e estratégica de resolução de conflitos no direito, fundada na teoria de jogos, em ordem de otimizar atos de decisão em situações de conflito. O sujeito, visto como uma atmosfera semântico-pragmática, age e corrige sua ação com o propósito de alcançar determinado resultado com o menor custo possível no sistema. Na prática do direito, certos procedimentos limitam as ações dos sujeitos, mas para o construcionismo sistêmico uma decisão nunca é verdadeira ou falsa, ou até correta, apenas útil ou inútil dentro de um contexto situacional. O critério minimax oferece guia para medir a utilidade de uma decisão, com base na exclusão de inutilidade, e oferece um caminho para o mínimo do máximo – geralmente não a resposta desejada, porém aquela que as instituições podem entregar. Pela aplicação desse modelo, o construcionismo sistêmico oferece novas formas de entender como é tomada uma decisão em um sistema de direito.

Palavras-chave: sujeito, decisão jurídica, sistemas de direito, construcionismo sistêmico.

Introduction

The main concern of this paper is with the problem of subject and decision in a system of law. How do they decide in a system of law? It is a complex question that has been worked on by many legal thinkers over the centuries. This work will deal with this problem using tools of systemic constructionism as a new way to investigate decisions in a system of law. It is important to highlight that this is not an attempt to reach the correct mirror of nature, or the absolute truth, but merely a conjecture, created to promote criticism and debate. If the conjecture is not adequate to its ends, it can be discarded, opening space for the creation of a new one, and so on.

The first chapter will investigate systemic constructionism. This method, created by Márcio Pugliesi, tries to challenge the basis of the classic scientific method, using tools of philosophy, systems theory, psychology, critical theory, game theory and computer sciences, among others, to create a new way to understand reality and legal phenomena. It will mainly inquire the founda-

tions of systemic constructionism in systems theory and the method of modelization, based on authors like Bertalanffy, Churchman, Le Moigne and Pugliesi, trying to understand how this method allegedly goes beyond Cartesianism. An investigation of a new discourse on scientific method will be made and a brief overview of systems theory will be given. A major question guides this chapter: why will this work use this method instead of the classic Cartesian one, or why modelize? In the last section of the chapter the answer will be justified in order to continue the investigation on subject and decision through the lenses of systemic constructionism.

The second chapter deals with the main problem of this work: subject and decision in systems of law, or, how do they decide? Using systemic constructionism and modelization, this paper tries to work with this main question by investigating the topics of subject and decision-making. In the first part of the second chapter, an inquiry will be made about the philosophical notion of subject, trying to answer the question: who is the subject who decides? This inquiry will try to challenge classical notions on the subject, such as Kantian *a priori*

concepts, using tools of systemic constructionism to model the subject, seen as a semantic-pragmatic atmosphere according to Pugliesi's notion. The second part of the chapter will deal with decision-making. Systemic constructionism uses game theory as a tool to model decisions in a given case. Pugliesi has built a system based on game theory that is specific to law and will be investigated in this portion.

Through the application of systemic constructionism as a method to work with those proposed questions, we expect to reach useful results to better guide human actions and decisions in a system of law.

Towards a new discourse on method: Systems and modelization

Unsolved problems have always existed. Cartesianism produced a strong tool to comprehend and modify the world: the scientific method – steps to be followed for the good of reason, founded on objectivity and logic. The world was modeled like a clock, and calculus was the right tool to understand it. Thus, unsolved problems only remained because right solutions through the method had not been found yet, but the *one best way* certainly would be found. But it seems that science loses each day its explanatory powers; extremely complex problems occur – hunger, unjust distribution of resources, high criminality, terrorism – apparently without solution, and the classic method does not show a way out. In Ackoff's (1974) view problems start to become a *mess*, systems of problems that cannot be seen individually.

A new discourse on method

In his work about systems, Le Moigne (2006) asks if we should not just dismiss the scientific method, remove once and for all this way of understanding the world and seek for something radically different. The author admits that for many thinkers that interrogative preposition “tient du blasphème: objectivité et logique, analyse et synthèse, conditions nécessaires et suffisantes, évidence des lois naturelles, autant de pierres grâce auxquelles nous savions raison garder, au sortir d'un obscurantisme dégradant” (Le Moigne, 2006, p. 28). Those rules, woven by Descartes in a discourse, constituted for many centuries one of humanity's rare certainties.

A method is a way of seeing the world. In Greek *meta hodos* means the way (*hodos*) to achieve an end (*meta*). The modern rational objective method sees itself as the only possible way to reach the “truth” about

the world – having only one possible end. It tends to forget that there are many ends at our disposal, just as there are many ways. As Bachelard (1975, p. 139) reminds us, “un discours sur la méthode scientifique sera toujours un discours de circonstance, il ne décrira pas une constitution définitive de l'esprit scientifique”.

Le Moigne (2006) wonders whether the scientific method would be a discourse of circumstance. If it is admitted that the method is a discourse of circumstance, argues the author, this characteristic could be used as an advantage for a new method, “d'un nouveau discours qui se saura, lui, de circonstance, à l'aide duquel nous pourrions peut-être développer de nouvelles formes d'exercices de notre raison” (Le Moigne, 2006, p. 29).

Descartes' (2001) method offers a way to reach objectivity, rationality and logical certainty that is proved only by practice, without solid ontological proof. It works with four precepts: evidence – only accepting as true something that one can know evidently; reductionism – dividing problems in smaller units to better solve them; causality – conducting thoughts in order, from the most simple to the most complicated one, in such a way that an order can be supposed, even if it does not exist; exhaustion – exhausting description completely, with the certainty that nothing was left behind.

At any given moment, according to Le Moigne (2006), Descartes clarifies the ends of his method – the “good” towards which reason is guided. Would this point be a flaw in his method? Would this flaw be capable of showing its contingency? Based on these problems, the French author suggests a project of intellectual honesty for the construction of a new method: “Que chacun élabore ses propres intentions et les annonce, aussi peu communicables soient-elles dans leur flou sémantique” (Le Moigne, 2006, p. 43). It is a project designed to clarify assumptions of thinking, in order to answer the old question: why do we think like this?

From this standpoint, would other methods be possible? Le Moigne (2006) proposes the construction of a new discourse that is aware of being a discourse of circumstance, without completely abandoning the Cartesian tradition. The Cartesian method cannot be seen as a *deus ex machina*, but it cannot be completely forgotten, since it brings minimum requisites of certainty for scientific research. By criticizing the precepts of the old method, maybe it would be possible to develop a new one without the same flaws, but with a superior quality: it is aware of being contingent. The French author starts to construct his new discourse on method by criticizing the four precepts of the Cartesian method.

Le Moigne (2006) criticizes the evidence precept for lacking intellectual certainty. Something can only be said to be evident from a standpoint; if this point is modified, evidence may cease to exist. For a mathematician, the equal sign in the operation $1 + 1 = 2$ shows something different from what a software programmer sees when he writes $N = N + 1$. That is why Le Moigne (2006, p. 44) proposes to substitute the precept of evidence for the one of pertinence: “le concept auquel aujourd’hui nous nous référons lorsque nous nous proposons de tenir quelque chose pour vraie, semble être celui de Pertinence: c’est par rapport à quelques finalités explicites que notre intelligence perceptive s’exerce”. In the case of the mathematician and the programmer, for example, the equal sign is pertinent to their projects at a given space and time. It does not possess evidence for itself, but on the basis of the relation of pertinence to the whole considered.

Reductionism teaches the reduction of problems to smaller units, to better solve them. It sees the whole as the sum of its parts, believing that when the correct function for each part is found the whole will be understood. Therefore, it denies the old Aristotelian concept that the whole is greater than its parts. Le Moigne (2006, p. 47), in opposition to reductionism, proposes “Percevoir désormais l’objet à connaître comme une partie insérée, immergée, active, dans un plus grand tout (nous dirons bientôt: dans un environnement), et faire de l’intelligence de cet environnement la condition de notre connaissance de l’objet”. Le Moigne (2006) calls the new precept globalism – the parts cannot be known without the whole, without relations of pertinence and contextualization with something global.

The causality precept constitutes a fundamental landmark in western thought. According to it, all mundane objects possess a cause and an effect, the world has an ordered structure – and the scientific method enables us to discover it. The method is so heavily founded on causality that it asks to suppose an order even between phenomena that do not proceed in a natural order. There is only one way of being rational in this view, according to Le Moigne (2006, p. 47-48): “être rationnel c’est, ou bien se comporter conformément à des lois déjà identifiées, ou bien faire l’hypothèse que des lois existent dans la nature et se donner pour raison de les identifier. Hors de là il n’est point de rationalité”. The French author refutes that claim with another one: “qu’il est possible d’être parfaitement rationnel sans être astreint au seul modèle causaliste pour connaître le monde”.

The world does not always stay the same. Effects can be produced by different causes. Hume (2007)

had shown this with his naturalistic fallacy – *being* cannot be derived from *ought*. An occurrence cannot be guaranteed, even if it has been repeated several times. Causality is not necessary, it is contingent. Boudon (1968) proclaimed the death of epistemic causality for this reason: the *one best way* belief, clearly related to the causality precept, certainly made some technological advancement possible, but, at the same time, it is paralyzing because it only deals with a portion of reality. Le Moigne (2006, p. 50-51) proposes the substitution of the simple causality for “une démarche totalisante prenant en compte les ensembles ‘fins/moyens’”. Therefore, rationality has to deal with the relation of compatibility between means and ends, and not seek for the best way to reach a particular end. “L’Intelligence substitue alors, par une féconde généralisation, l’interprétation (ou la compréhension) comportement-finalité”. It is no longer a causality precept, but a teleological one.

The exhaustion precept is easily refuted by Le Moigne (2006, p. 53-54): “il est... en pratique... impraticable! Qui pourra jamais être assuré qu’il a fait un dénombrement si entier qu’il soit assuré de ne rien omettre?” He continues his project of intellectual honesty – it is impossible to know it all, have the certainty that nothing has been omitted. “Mieux vaut en convenir et nous proposer délibérément d’omettre beaucoup de choses. Nous ne prétendons plus, dès lors, tout expliquer de l’objet considéré, mais, plus modestement, interpréter ce à quoi nous nous intéressons, sans nous assurer de la totalité”. The exhaustion precept is substituted for the aggregated one – that which cannot be known for any reason moves to the aggregates category, a set in which not all things are numbered, and it is just known for some labels that tell its position in the environment.

From the critical exam of the classical discourse, Le Moigne (2006, p. 51) leads his reader to a new discourse, that does not depart from the old one: “le nouveau discours englobe l’ancien sans renier autre chose que sa prétention à l’universalité et au monopole de la rationalité”. In this sense, the major difference between the old and the new one is this: the latter is aware of being a discourse of circumstance.

The new discourse on method, to Le Moigne (2006, p. 56), is founded on the systemic paradigm, making a modelization theory possible, even a social one. His four precepts cover and replace the four old ones. Pertinence replaces evidence: it is recognized that “tout objet que nous considérerons se définit par rapport aux intentions implicites ou explicites du modélisateur”; globalism replaces reductionism: all objects start to be seen as “une partie immergée et active au

sein d'un plus grand tout"; the teleological precept takes the position of causality: "Interpréter l'objet non pas en lui-même, mais par son comportement, sans chercher à expliquer a priori ce comportement par quelque loi impliquée dans une éventuelle structure"; and the aggregated precept replaces exhaustion: "Convenir que toute représentation est partisane, non pas par oubli du modélisateur, mais délibérément."

This new discourse on method has the objective of enabling one to see the world in different ways, by other angles, to think about the current (apparently) unsolvable problems in other ways. Morin (1977, p. 274) states that "the mission of this method is to invite to think about complexity".

A brief overview of systems theory

The separation and systematization of sciences for the study of particular parts of reality were a constant in modern rationality, as described by Descartes' (2001) method. In order to know one must decompose and systematize mundane phenomena, in an analytical and mechanical way, separating them for a better investigation. This led to a perception that reality could be observed without an observer. Descartes' (2001) model shows the core of the classical scientific thought, which, according to Morin and Le Moigne (2000), is based on order, separability and reason. Modern sciences, or at least hard sciences, like physics, generally share that core. The development of these sciences mainly in the last century led to the questioning of this core. On the field of physics, for example, that happened with relativity theory and quantum mechanics.

One can constantly observe interrelations among elements in the complex social reality of the world in which one lives. Nothing is given in a pure fashion, as described by classical science, but constructed from a complex network of interconnected relations.

In the 1950s the biologist Bertalanffy (2008) was responsible for the development of a theory that tried to understand reality through those relations – a general systems theory (or theory of the general system). According to Pugliesi (2009, p. 55), this is a theory "that focuses on interactions among elements in a given portion of reality called system".

While classical analysis went from the part to the whole, discovering each small element in order to reveal totality, the systemic approach tries to have a global view, from the whole to the parts, trying to clarify the relations among elements in a system. Systemic theory works with a simple modelization of reality, in constant

reconstruction, in order to verify behaviors that are similar to the one investigated, aspiring to reduce the complexity of world and make its understanding (and manipulation) possible. It must be clear: systemic theory does not work with pre-made versions of reality, but with a never ending construction. There is no definitive truth, but a constant process in search of a more adequate explanation. From the moment it ceases to work, a new one must be obtained. The world is not a given, but an eternal (re)construction.

Bertalanffy (2008, p. 63), defines systems as a "set of elements in interaction", bringing the ideas of relation and organization – based on the relation among elements an organization occurs in the system, which reveals its rule, but this is not the most complete definition of systems.

Churchman (1971, p. 28-29) states that "systems are made up of sets of components that act together in the execution of a general objective. The systemic approach is simply a way to think about these total systems and their components". Churchman adds teleology to his definition of systems, in other words, elements in a given system interact towards a goal, a common objective of the system.

Le Moigne (2006) defines a system as "un objet qui, dans un environnement, doté de finalités, exerce une activité et voit sa structure interne évoluer au fil du temps, sans qu'il perde pourtant son identité unique". Le Moigne's definition includes five concepts: a system is an object that is (i) active, (ii) stable and (iii) has evolutionary properties, (iv) is present in an environment, and (v) has an objective.

In order to construct a systemic model, one must first take into account the system's teleology, in other words, the result of its functioning, its objectives, its outputs. Beginning with its outputs, it is possible to trace some basic rules about a system from the organization of relations between its elements. Morin (1977, p. 69) thinks that the organization of a system is "a disposition of relations among components or individuals which produces a complex unity or a system, that has unknown properties at the level of components or individuals". The interactions among elements in a system create unknown qualities – there is a property that emerges from the relation of singular elements, a quality known as emergency. This can be seen in the model of life: if a frog is separated into its smaller parts, it loses an essential emergent quality – life, which is only possible when the parts are working together. An investigation must take into account that emergent quality to understand systems as a whole.

Having said that, it is possible to affirm that a system is not only the sum of its parts. From the relations between its elements, environment or other systems new characteristics can emerge. This characteristic is called globalism (or emergence). According to Morin and Le Moigne (2000, p. 202), “the first systemic lesson is that the whole is not the sum of its parts. This means that there are emergent qualities born from organizing a whole, and that they can react on its parts.”

Every system has a goal. Because of the multiplicity of elements and the possibilities of organization, that goal can be reached in many ways. Bertalanffy (2008, p. 112) saw that capacity, calling it equifinality, that is, “the fact that the same final state can be reached from different initial conditions and in different ways”.

A system is greater than the sum of its parts, and its goal may be reached in many ways. On the one hand, this shows that the classical Cartesian decomposition method is insufficient to understand nuances of complex reality. On the other hand, systemic approaches using simulation with models enable us to understand systems from their whole, as they aim to construct models that mimic the global functioning of the system, in order to attain their goals, despising some elementary parts (avoiding classical analytical presumptions).

The notion of system nucleus is important to understand its possibilities of integrity. Pugliesi (2009) thinks that a system’s nucleus is formed by elements and systemic relations that must be unaltered, under the risk of a change in its specific characteristics and, therefore, a possible loss of its identity. The nucleus of a system makes its integrity possible in the pursuit of its objectives. The system will stay the same as long as its nucleus stays the same. Any attempt to modify a system without altering its nucleus will be unsuccessful.

The complexity of a system is greater given the number of elements and relations. There are different levels of complexity. Pugliesi (2009, p. 65) claims that all reality can be modeled “in levels of ascending complexity. [...] On each level a system (macrosystem) composed of systems of a different level (microsystems) emerges.” For example, an atom is composed of particles, a molecule of atom and a cell of molecules, and so on, and each one is a system in itself and an element of a more complex system.

An important differentiation is made between open and closed systems. An open system permits matter, energy and information exchanges with others and its environment. A closed system does not permit those exchanges. Some authors, like Luhmann (2011), claim the possibility of certain influences between closed sys-

tems, mainly through irritation. For others, like Pugliesi (2009, p. 60), a closed system is left to itself, heading towards “a state of greater disorganization, under the law of entropy (or thermal death, announced by the second principle of thermodynamics)”.

Given possible exchanges among open systems, it is possible to argue that there are relations among them – actions from one to another, reactions, or even actions mediated by other systems back to the first one – in a form of feedback, which can be negative (stabilizing or homeostatic) or positive (amplifying and transformative). Morin and Le Moigne (2000) claim that negative feedback has a homeostatic systemic function, viz the stabilization of certain parameters; meanwhile positive feedback amplify the parameters, leading to their increase – those increasing cycles must be limited by negative retroactions, or else they can lead to the destruction of a system or a disorganized growth.

Those relations among systems, according to Pugliesi (2009), reveal systemic characteristics of autonomy, subordination and emergency. A system manifests autonomy and emergence in relation to its exterior – the capacity to differentiate itself and its attributes from others. The notion of subordination leads to the construction of a system’s hierarchy – a system can be subordinated to another, in a line of hierarchy, from one that makes rules to others that follow, for example.

Le Moigne (2006) highlights the existence of homologies among systems. It cannot be said that they operate identically, but it is possible to think of similitudes in the functioning of diverse systems, both at structural and functional levels. That comparative study helps the investigation of structures and functions that do not vary from system to system, allowing tracing certain basic common constituents.

This was a brief overview of system’s theory, with the purpose of showing the way this research will follow, i.e. the road of a modelization based on systems, without strictly and dogmatically utilizing systems tools, but firmly guided by a new discourse on method. Systems theory, in this research, serves as the Wittgensteinian ladder – once on top of it, it is possible not to hold on it, or even leave it (Wittgenstein, 1922).

Why modelize?

A new discourse on method guides a theory on systems. This construction has the objective of making some kind of modelization possible. But why modelize? Box *et al.* (2005) said that all models are wrong, but some of them are useful. Every theory is a modeliza-

tion of reality – it works like a map. Reality is extremely complex, therefore a reduction is needed in order to understand it. A theory is a reduction of a complex reality, in order to understand it somehow. Just like a map, it allows one to go to a destination. But a theory cannot be mistaken for reality, just as a map cannot be mistaken for a city – if the map were the city, it would be a city, and not a map – and this applies to theories also.

Every theory, as every map, has the purpose of situating a subject in a complex reality. Physics allows to understand the functioning of certain natural phenomena, as does chemistry; math enables one to reach proved results; theory of law allows to situate a subject in a reality of social regulation.

If a theory cannot reach its goal to guide subjects in a complex space, it must be thrown away, and one has to look for a more adequate theory for that task, a kind of disposal process. There is a problem with ontologizing theories, in other words, taking them for reality itself (even if such a thing does not exist), as this disposal process becomes much more difficult.

This is the argument: Modelizing serves to understand the complex reality through different perspectives by creating models, enabling many kinds of action. The main objective of a model is not to be the correct mirror of nature, but to prove itself to be useful to guide human action in the complex space of reality.

Systemic constructionism on subject and decision

The main objective of this paper, as previously stated, is to work with two problems: subject and decision, with the following questions guiding the research: who is the subject who decides? And does this subject decide? These questions are necessary to work with an even bigger one: how can a decision be modeled on a system of law? Or even, how do they decide? Classical answers to those questions involve philosophy of consciousness and legal rules/principles-based decision-making. Pugliesi's systemic thinking, called systemic constructionism, sees the world not as a given, but as a construct. He has designed a model to work with these complex problems, mainly using philosophy, psychology and game theory. His conjecture can be seen in his *Theory of law* (2009). Pugliesi's main objective is to construct a conjecture of law as a possibility of social transformation, and not only a descriptive theory.

In this conjecture, the guiding philosophical conduct is distrust. Nothing is obvious. The world is often more complex than individuals perceive, and they gen-

erally do not have all the information required to make a decision. One of the objectives in philosophy of law is to construct concepts in order to think about legal phenomena through other (maybe more useful) models. There is no way to achieve total certainty. One can only achieve structured uncertainty about predictions, even in law (Pugliesi, 2009).

Problem formulation is a fundamental tool to achieve this objective. It is important to ask questions about the investigated phenomena, in order to construct useful models to guide actions. The nature of the questions asked predetermines their answers; one has to give them some kind of boundaries, so it is important to first clarify some underlying concepts that support the model (Pugliesi, 2009).

Human actions are given in a situation. Communication is a form of action. It is impossible not to communicate, as stated by the School of Palo Alto when studying the pragmatics of human communication (Watzlawick *et al.*, 1967). When someone remains silent, he is communicating that he does not want to establish a conversation. Having said that, as communication in systemic constructionism is considered a form of action, it is impossible not to act. One can only really know what others think on the basis of actions. There is no possibility of accessing the intentions of a person, the black box that is a person's mind, at least in daily life – only through actions is it possible to know what someone means. The situation pre-configures possibilities in life. The subject is limited to the language and information possessed.

According to Searle (1983), communication is possible on the basis of common traits in alterities – cognitive intersections in Pugliesi's words (2009). These cognitive intersections in different subjects make the establishment of a conversation or a dialogue about a given subject possible. Let's say that a man and a woman are both interested in films. This common trait between them, or cognitive intersection, allows an easier establishment of a conversation. This is only a simple example, for these cognitive intersections can be complex and profound in human subjects.

Comprehension about other subjects, about the world, or even about the subject itself is considered as a possible and infinite task, limited by the subject's atmosphere. In this sense, the world can be read, and every reading is a new reading. The text is closed by the one who reads it, as Eco (1997) once said. The subject in situation reads what is possible given his atmosphere. From this standpoint, a fact can be seen not as a raw element, but as a linguistic description of an occurrence,

mainly because of the different possibilities to read a situation, depending on the atmosphere of the subject. Useful conjectures help in this reading, like maps help to navigate seas. In systemic constructionism there is no truth, as there is no way to really know the truth, only working conjectures that give results. The criterion for measurement of a theory is its utility – conjectures must be useful to guide a subject in complex reality, or else they can be discarded.

Human beings are in permanent conflict, and consensus is transitory. Heraclitus once said that conflict “is the father of all things”. Classical sociology, like Comte’s social physics (Comte, 2009), was generally concerned with universal consensus. Law is sometimes modeled like that – as a way to lead to a sort of permanent consensus. The ascending data-driven society, based on control and information, needs a new model of law not based on that, but on conflict, “the father of all things” (Pugliesi, 2009).

The problem of autonomy and heteronomy in Kant (2002) can be used as an example: through that notion of morality social values are introjected – a man is only truly free following orders for himself – autonomously. Heteronomous behavior occurs as a consequence of something else, not of the autonomous free will, but another factor, like the fact of not being sanctioned by law. To Pugliesi (2009) it is impossible in social situations to completely separate autonomy and heteronomy. Given the constitution of the subject in the world, neutrality is impossible.

The ethical principle that should drive relations in this model is minimum damage. Damages are seen in relation to interests, a kind of damage reduction – causing less damage to the ones involved. This is a negative ethics based on the minimax utility criterion. How do I behave to produce less damage to all (and so the most benefit). This ethical principle deals with a constant search for damage reduction. As it is negative, the most adequate is seen as the less useless (Pugliesi, 2009). From this brief overview of this model, it is possible to begin investigating the subject.

Subject

In Pugliesi’s (2009) conjecture the subject is investigated in a systemic way, fleeing from transcendentalism (or any aprioristic notions), as a way to deal with the problem of consciousness. Subject comes from *subjetum* – *jectum* means thrown, while *sub* means what is under; therefore the subject is the one who throws what is under. The groundwork for the constitution of the idea

of subject in modernity was given with the Copernican revolution. The Kantian subject seen in *Kritik der reinen Vernunft*, with *a priori* notions of space and time, is one of the philosophical responses to that scientific revolution. This theory transfers the problem of the transcendent world to a transcendental consciousness. What can be known is inside the limits of human capacity (or *a priori* notions) – phenomena; the *nous* is what can’t be known (Kant, 1956). This kind of understanding deals with the problem of consciousness as did Brentano (2009) and Husserl (1973), which can mainly be seen in two instances: representation and interpretation. To Pugliesi (2009), the object in the world is not the same one represented in consciousness (representation) and every *weltanschauung* is given based on a theory (interpretation). The investigation of intentional structures is not the most adequate answer to systemic constructionism, which prefers a pragmatic way of understanding based on human action.

Systemic constructionism models the subject as a semantic-pragmatic atmosphere, a system of references and meanings, formed by *doxa*, *episteme* and *social representations*. The first one contains opinions, the second some form of scientific knowledge available to the subject, and the latter, according to Pugliesi (2009, p. 80-81), is a specific modality of knowledge, “which has the function of forming behaviors and enabling communication among individuals, constituting an organized *corpus* of knowledge and psychical activity by which social and physical reality becomes intelligible”. In this way, the strange social world can become familiar and friendly, “enabling the inclusion of the subject in a group or everyday relations”. Pugliesi (2009, p. 81), mainly based on the works of Jodelet (1989) and Moscovici (1972), states that “social representations are subsystems which concretize the immaterial ideology and incorporate it to the semantic-pragmatic atmosphere of social actors”. Social representations make familiarity with the world possible. That is an essential part of the enchantment of law by the creation of a language, for example – a juridical language only known to those who study it.

The concepts of objectification and anchorage, as described by Jodelet (1989), can be used to clarify social genesis and the preservation of social representations, according to Pugliesi (2009, p. 81). Through objectification “a transformation of some aspect of social life in representation is performed”, and by anchorage “that representation becomes fixed, transforming itself in a way of living and seeing social reality”. In this sense, “Social representations become social reality when they allow everyday relations to take place, in other words,

they allow that intersections between semantic-pragmatic atmospheres are not empty.” Therefore, social representations allow communication among individuals by the establishment of non-empty intersections.

But again the old problem of consciousness re-uracts: representation is the presentation of an absent, of something missing. It must have a reference, or at least the image of the moment at which the social object presented itself, or else it makes no sense. First Pugliesi (2009, p. 81) states that there might be two possibilities: “(a) the representation would replace something that presented itself and would be either a copy of the phenomenon or, even worse, (b) a deformation of it”. But none of these is a complete answer, as the author puts it:

Social representations are theories of common sense, they are more than opinions or attitudes, and from their structure and systematicness theories about facts or situations are elaborated. It can be noted that social representations constitute the middle ground between scientific knowledge and opinion. They are the bridge that makes it possible to cross from *doxa* to *episteme*: it is systematized common sense which discovers, organizes and makes possible social communication by permeating semantic atmospheres of subjects, who always see the world from their epistemic standpoints.

In this way, systemic constructionism sees the subject as *doxa* (opinion), *episteme* (scientific knowledge) and social representations – the latter enables to cross between the former ones, creating a kind of feedback relation in the constitution of the subject, which is always in constant change. As the Prince of Falconeri states, in Tomasi di Lampedusa’s *Il Gattopardo* (2003), sometimes it is even necessary to change to continue to be the same. Beyond that, some level of semantic pollution in individual atmospheres is unavoidable – some meanings and references that are no longer discussed by individuals or groups, like ideology, beliefs or traditions. Also the communication between individual semantic pragmatic atmospheres is established by non-empty intersections, mainly allowed by social representations. According to Pugliesi (2009, p. 82):

When individual semantic pragmatic atmospheres share general conditions posed by culture and civilization, the majority of individuals will generally be organized for the maintenance of the existing structure of the civi-

lization and its reproduction in systemic homeostasis. More, when social representations predominantly fill semantic atmospheres, individuals in that condition will have more comprehension among themselves and, despite themselves, will compose the basis of sustenance and pacification of this consumer society.

Despite that possibility of understanding, Pugliesi (2009) also sees the subject as quasi-continuous, based on Lacan (1981) and the study of the Freudian unconscious mind – a man or woman is only really a subject at the moment of decision. A subject is the sum of stories that she tells herself about her. The hardest thing is to maintain coherence in that story, mainly taking into account the information and control revolution taking place in the world. In that way, it is necessary to have prudence in decision-making, in the sense of measuring the consequences of a decision. That leads to the investigation of systemic constructionism’s model of decision-making.

Decision-making

The decision-making process in law is a far more complex activity than applying rules (or principles) to a given case. Based on this hypothesis, Pugliesi (2009, p. 185) creates parameters for “the constitution of a pragmatics of law as a strategy for conflict resolution”, in which negotiation is a fundamental element, with the purpose of “optimizing conducts that decide conflict situations, using technics of the decision-making science called operational research, mainly its game theory”. The author refers to Heraclitus, who claims that conflict is the father of all things: “Πόλεμος πάντων μὲν πατήρ ἐστὶ, πάντων δὲ βασιλεύς, καὶ τοὺς μὲν θεοὺς ἔδειξε τοὺς δὲ ἀνθρώπους, τοὺς μὲν δούλους ἐποίησε τοὺς δὲ ἐλευθέρους” (Heraclitus and Kahn, 1979, p. 66).²

The subject commits an action, according to Pugliesi (2009, p. 186), and, based on “the rules of the game and his knowledge of the circumstances, he corrects his actions to affect the system and the environment”. Each decision adds new elements to the individual atmosphere, and these decisions are made in a permanent process in which “constructor/construct permanently interact, re-configuring the limits and the goals to achieve”. The author describes a feedback activity taking place in the subject’s atmosphere, as each decision (and its consequences) reverberates in the subject’s own atmosphere, changing it.

² Heraclitus, Fragment 53: “Conflict is father of all things, king of all things, and to some brought light as gods, and to other men, made some slaves, and others free.” This work chose to use the original in Greek, as Pugliesi did, and to translate his translation from Portuguese into English. This choice was made because most English translation of this fragment translate Πόλεμος as *War*, and not as *Conflict*, as Pugliesi did.

The subject, seen as a semantic-pragmatic atmosphere, acts and corrects his action with the purpose of achieving certain results at the lowest cost in the system, with the information that he has. The situation depends on the subject in situation and his level of information.

In the practice of law, the possible actions of a subject are limited by some procedures, but to constructionism a decision is never true or false, there is no correct answer, only the adequate, useful and possible one within a situational context. Game theory, like the famous theory of Neumann and Morgenstern (1953), is a method to model conflict situations. This theory is mainly used in economics as a guide to make better decisions in the administration of a company, for example, as shown by Baumol (1965), Knight (1921), Raiffa (1977), Simon (1996) and Jones (1980). However, game theory is also applied in social sciences, mainly trying to model conflicts in the social field, as seen in Rapoport (1980). To Pugliesi (2009) it serves as a tool to optimize decision-making in law, searching for utility in the situation.

The *minimax* criterion offers guide to assess utility in a decision, based on the exclusion of uselessness, and offering a path to the minimum of the maximum – which is often not the answer aimed at, but one that the institution can deliver. Utility is seen here in a technical sense: that which is useful to an individual, which he prefers more than something else at a particular moment. Most of the time it is not a social and collective criterion, but refers to the concrete flesh and blood individual. The justice of the institutions (or the courts) is based in what they can give, and not on what ought to be. There is no juridical decision, in this sense, that is not also political. There is no difference between those fields, only what has to be considered (vectors) for making a decision – mainly active factors, groups of interest and the situation at hand, as will be seen shortly.

Pugliesi (2009, p. 205) formally models a conflict situation using game theory as a quintuple – a mathematical model of a generic conflict:

$$\langle F, En (n \in N), S, G, L \rangle$$

The active factors in the situation (F) are those that have influence on it, like matters linked to negotiation, the amount of information possessed by individuals or groups, legal norms, precedents and jurisprudence. According to Pugliesi (2009, p. 202), “actions, behaviors and decisions involved in situations will be called [...] strategies and the set of strategies in a given negotiation N will be designated by En .” A strategy is composed

of a sequence of decisions. Sets of integrated strategies compose a policy.

The situation (S) is the set of “all consequences derived from the implementation of strategies of all parties involved in a conflict”. The situation (S) is a function of the chosen strategies (En) during a period of time. Once the strategies are assumed, the following possibilities can happen: “(1) S is aleatory, and the probabilities of its realization result from En [...]; (2) En may result in a different S [...] or (3) given En , the S set is completely determined. This is the desired consequence to assure the univocality of S and its adequacy to the model.”

Interest groups (G) are also taken into consideration – any group that has a particular interest in the matter. These groups often tend to maintain the system by doing what they possibly can, and not what they ought to. This category also includes “individual participants who may have any claims in reference to the conflict” (Pugliesi, 2009, p. 204).

The (L) function is the profit in a negotiation. All situations (S) in each negotiation (n) have a profit function (L) defined, which is the minimal impairment considering the time of the dispute. Pugliesi (2009, p. 204) states that the “profit in a legal dispute, even when the victory is ‘complete’, consists in the minimum damage taking the time of the dispute in consideration”.

The situation (*situ* = place and *actione* = action) “constitutes not only the locality in which the action takes place, but also the time it gets executed”. In that way, (S) becomes a function of the strategies (En) developed in time by the parties: $S = f(En, t)$. Using that reduction, the quintuple becomes a triplet $\langle F, S, G \rangle$. The profit (L) function gets absorbed by the “identification of the most adequate strategy towards an end”, in (S). All three elements of the triplet are vectors that may have different directions, senses and intensities. A solution of a case can be achieved by the vector sum of the triplet. According to Pugliesi (2009, p. 205):

The representation of this triplet in a tri-orthogonal space will allow, based on identifying the resultant, to find the point of accumulation and an open topological ball in its surroundings, of variable radius depending on the complexity of the conflict (hard cases, in Dworkin’s sense, for example), inside which will be the most adequate decision.

The objective of Pugliesi’s model is to reach optimal decisions. In his conjecture this means “to obtain for each negotiation the maximum value from L or, in real situations [...], the minimal loss, [...] the elimination of useless choices/decisions (in a technical sense: if p rep-

resents the utility of a given decision (1-p) will represent its inutility” (Pugliesi, 2009, p. 205).

Through the application of this model, systemic constructionism offers new ways of understanding how to decide on a system of law, or even how to analyze legal decisions. To Pugliesi (2009), legal precedents work like trails in nature – not only do they result from the passage, but will determine new passages by the same place. This theory allows to trace those patterns of decision and create models, or maps, to better guide human actions and decisions.

Applications of the method

In legal conflicts there are, at least, two parties, two sets of interests colliding. They rarely have the same initial conditions and possibilities for the dispute, considering the available resources (including legal arguments). When the conflict goes to court, institutional decisions are made in an attempt to put an end to it, often within the scope of what can be done, and not of what ought to be. A satisfactory decision to the parties at initial juridical levels often inhibits the continuation of the conflict through appeals. On the other hand, if the decision is unsatisfactory for at least one of the parties, the litigation often continues to higher levels. It can be said that legal decisions have the task to solve real-world problems in real-life situations.

Legal actors often choose their strategies for the conflict based on their experience, a kind of empirical knowledge. They rarely consider the use of probability or graphs for building up a strategy, maybe because of the limited number of possible legal actions. Simon (1996) states that not only mathematical tools, like probability, but also graphical designs, with or without empirical knowledge, are efficient to choose better strategies for solving a problem given a situation.

Game Theory is not a tool to study the conflict itself, its historical or sociological reasons (not that those kinds of studies are not important – they really are!), but to choose better strategies in a given state,

		B	
A		X ¹	Y ¹
	X	(0, 0)	(1, -1)
	Y	(-1, 1)	(0, 0)

Figure 1. Payoff matrix.

in a way that leads to a better situation for the actor. It works with decision possibilities in structured uncertainty, in which future states can be cogitated, but there is no guarantee they will occur. Neumann and Morgenstern (1953) reached the conclusion that an optimal solution that maximizes the profit function of all actors in a situation to the limit is rarely possible. What often can be achieved is a situation of equilibrium of profit, aiming at the maximum of the minimum – minimax, in which none of the parties has the interest to change their conducts, given that any change in behavior leads to a negative variation of the profit function. In legal disputes future states are uncertain, but can be cogitated using certain tools. Empirical knowledge of the day-to-day life in courts is a kind of tool, and so is game theory. Through game theory it can be seen that in legal situations rarely a decision completely meets all interests of the parties. More often an equilibrium situation can be achieved through a satisfactory decision.

There are at least two kinds of game or conflict – the zero sum and the non-zero sum game: in the former one there are limits to the profit function and every gain for one side brings a loss to the other, while this is not a property possessed by the second one. The minimax theorem described earlier is applied to zero sum games. In other words, according to Neumann and Morgenstern (1953), the optimal strategy to be chosen by an actor is the one that optimizes his minimum profit (or minimizes the maximum profit of the other actor in the situation).

In this perspective, games can be modeled using matrixes (Baumol, 1965), and so can legal conflicts. An example of a general, simple and abstract payoff matrix for a zero sum game follows. A and B represent the

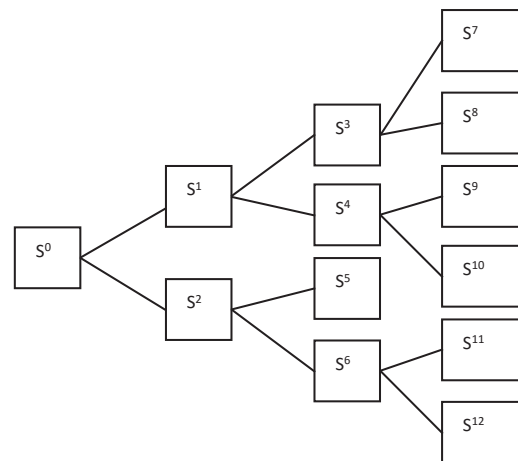


Figure 2. Decision tree.

actors in conflict, while X , Y , X^1 and Y^1 their possible strategies and outcomes (Figure 1).

In this conflict, the optimal strategy for A is to maximize his minimum gain. That being said, when using strategy X his minimum profit is 0, while when using strategy Y it is -1. As a consequence, strategy X maximizes his minimum gain. The same can be applied to B. If the game or conflict is often repeated with the same actors better courses of action that lead to optimal strategies can be achieved.

An example of this situation can be seen in labor law. In labor relations human subjects have roles – employers and employees. Conflicts between them are common. Considering a company, one subject (company) assumes a role (employer), and other different subjects assume the role of employees – a role that is not permanent. Commonly employers have more resources than employees, and thus are dominant in the relation. Therefore, giving the repeatability of conflicts, they often choose strategies that maximize their minimum profit during periods of time, minimizing the maximum profit of employees. In Brazil it is common that subjects are hired as individual service companies, in order to lower costs (and maximize profit); also the most expensive professionals are turned into self-employed workers, for the same purpose; moreover, outsourcing is often used to reach this goal. Those strategies can change if the initial situation is altered: for example, government's intervention to change work policies are made to alter situations, or legal decisions made at higher levels, and actors often adapt to the new situation using different strategies to maximize their profit. That being said, the subject, seen as a system, is capable of adaptation through feedback on their decisions (Simon, 1996), especially given the repeatability of conflicts; in other words, sequential processes of decision allow learning through feedback in order to adapt in an evolving environment.

A strategy is chosen depending on the subject's level of information and initial conditions. Sequential processes of decision change both, allowing new courses of action. Given time and the repeatability of conflict, subjects often choose courses of action to reach a certain point of equilibrium, generally oscillating on this point. Companies and tax law may be used to illustrate this matter. Given the information possessed and their initial conditions, companies choose how to pay their taxes. There are a few possible strategies, depending of the size of the company and its resources, which includes hired lawyers. Tax planning for companies is a service in evidence nowadays in Brazil. These kinds of planning try to minimize tax costs, in order to reach an

optimal strategy to increase profit – the point of equilibrium previously described. This point may be disturbed by external (or even internal) events, and so the subject often tries to come back to the point. New tax policies or laws may be seen such a disturbance, as well as legal decisions or police investigations. Sometimes the event changes the situation the subject is facing and also changes the point of equilibrium, which is dynamic, and the needed strategies to reach it. An example is the “Lava-jato” (“Carwash”) operation taking place in Brazil, involving investigations made by the federal police and legal decisions. The disturbance generated by such an investigation is currently changing the point of equilibrium for innumerable actors, including companies and even politicians. They often need to change their strategies in order to adapt and oscillate on this new point.

Another tool of game theory may be used to model this evolutionary process of adaptation – the decision tree (Simon, 1996) (Figure 2).

In this simple decision tree each square represents a state of affairs, having compossible future alternatives. When a strategy is chosen (even in a non-rational way), each action or decision leads to another state of affairs, discarding some compossible alternatives. If the initial point is S^0 , acting in one way leads to S^1 , while acting in another to S^2 . If the S^1 path is taken, the whole set of possibilities resulting from S^2 is discarded. The model serves to illustrate the previous example about tax planning. A small or starter company, for example, may have several tax benefits or the right to a government incentive program. The activity of tax planning, done often by lawyers and accountants, has the task of choosing the most effective strategies to lower costs and maximize profit, leading to a more probable and beneficial evolution in the often changing state of affairs. Most of small or starter companies do not have resources to hire the best consultants, which often leads to poor information and hinders the best choice of strategies.

However, this model does not clarify the factors a subject ought to consider in order to make a decision, especially when it comes to legal or political decisions. The model of Pugliesi (2009) deals exactly with this problem. It was previously stated that from this perspective the triplet $\langle F, S, G \rangle$ serves to model a conflict. (F) represents the active factors in a situation – legal norms, precedents and jurisprudence play this role in legal decisions, and also the amount of information possessed by the subject; (S) stands for the situation, which is a function of the strategies developed in time $\langle S = f(En, t) \rangle$. This can be clearly seen with the help of

the decision tree – each decision (based on a strategy) leads to a new situation; and (G) means interest groups, in other words, any group that has a particular interest in the matter. Those three elements behave like vectors, having different directions, meanings and intensities depending on the case, which may be solved by a vector sum of the triplet.

This triplet can be modeled in a three-dimensional space, which may be adapted to two dimensions (paper), but sometimes a number of aspects get lost in this translation, especially for the reader. This paper proposes a *Gedankenexperiment* (thought experiment) to picture this three-dimensional model and its possible applications. Imagine a three-dimensional cube. Inside this cube there is a ball. Three lines going to different directions come from inside the ball. Each line has its own intensity, meaning and direction. Depending on the strength of the line, the ball grows to the directions the line is facing, in other words, the radius of the ball varies depending on the strength of the lines, pending to the stronger side. The triplet <F, S, G> corresponds to these three lines. For example, if the active factors are strong in the situation and there is no strength in interest groups, the ball will grow towards vector <F>. A satisfactory decision is often inside the ball, which is called a topological ball. Generally in more complex cases this topological ball is larger, and in less complex ones smaller. Therefore, harder cases generally have one of these three following aspects, or some combination of them: a larger number and more intense active factors; more possibilities of action, leading to different compossible situations; a larger number and more intense interest groups.

Some legal cases can be observed on the basis of this model. In law most of the cases have a small topological ball; therefore they have few active factors, interest groups and/or possibilities of action. Take for example cases of social security law – there are few possibilities of action for each case, given that strong active factors (generally legal norms, precedents and jurisprudence) often lead to one way; interest groups are often few and weak, having no power of persuasion inside legal institutions. In this way, the topological ball grows towards the active factors (legal norms, precedents and jurisprudence), having little growth towards the other directions. As said before, satisfactory decisions often are inside the topological ball, and in those mentioned cases the decision is commonly guided by these active factors. Satisfactory decisions at lower levels often inhibit appeals to higher levels, ending the litigation.

More complex cases can be modeled from this perspective. The case about abortion of anencephalic

fetuses, decided by the STF (*Supremo Tribunal Federal*, Brazil's Supreme Court) in ADPF 54, can be used as an example. In this case, certain active factors from the Brazilian Criminal Code in the situation prohibited the abortion of anencephalic fetuses, as well as almost any kind of abortion, with some exceptions. Other active factors protected human rights, the human life of the fetus, the personal right to the body (which involves the right to stop pregnancies when the offspring is not viable or in risky situations), among others (almost all of them based on the constitution), leading to many possibilities of action and decision, and therefore many compossible futures. There were several interest groups aiming to direct the decision toward their goal. The role of *amicus curie* allows interest groups to act directly in the legal procedure. Religious groups, human rights protection groups, among others, actively played the role of interest groups. It can be seen, from this simple overview, that this was a complex case, given the intensity of the vectors involved. A satisfactory decision ought to attend to all these vectors, staying inside the topological ball formed from them. In this way, the Supreme Court decided for the permission of abortion of anencephalic fetuses, but never discussed the matter of abortion itself (even having the chance to do it), maybe in order to not challenge the interest of powerful groups. The same can be observed in Brazil's legislative institutions regarding this matter.

Another case that can be viewed as an example was the one decided by the STF in ADI 4277 and in ADPF 132 which had to do with same-sex marriages. It was also a complex case, given the active factors present, the situation and the interest groups. STF decided for the permission of this kind of marriage, despite the hardness to make this decision, causing some interest groups to become dissatisfied and generating debates until today.

It is important to mention that these models are not, nor are intended to be, the mirror of nature. They are just like maps to work with real-life problems, just like every other model. In this perspective, the attempt to show their application in this paper is not meant to exhaust the theme or to offer a complete and full study of the mentioned cases. They are more like a brief overview of the method's capabilities – an overture, maybe to guide future research on the topic.

Conclusion

This work aimed to work on two problems: subject and decision-making. It interwove two ques-

tions in order to do that: Who is the subject who decides? And how does this subject decide? These questions were necessary to work with a bigger one: How to model a decision in a system of law? The research used Márcio Pugliesi's systemic constructionism to work with this problem.

First a new discourse on method was investigated. It was seen that the classical method is insufficient to work with complexity. Its precepts became a hindrance to seeing reality from different perspectives, to reaching other goals. This paper was proposed, based on the works of Le Moigne, Morin, Pugliesi, among others, a new discourse on method, applied in a systems theory, in order to enable a modelization of objects. This serves to reduce the world's complexity, allowing its understanding, always from a standpoint. Models are useful if they can guide subjects in a complex reality. If they are not able to do that, they can be freely exchanged. There is no commitment to truth. Modelization substitutes the truth criteria for utility in the acceptance of a scientific conjecture. Reality is not given, but in constant construction.

In Pugliesi's model the subject is investigated in a systemic way, fleeing from Kantian transcendentalism. Systemic constructionism models the subject as a semantic-pragmatic atmosphere, formed by *doxa*, *episteme* and *social representations*. This atmosphere is capable of establishing communication with different atmospheres using non-empty intersections. The atmosphere contains an irremovable level of semantic pollution – unquestioned meanings, ideologies and traditions peculiar of individuals and groups.

As for the decision-making process, Pugliesi's constructionism escapes from legal positivism, with a pragmatic and strategic perspective of conflict resolution in law, founded on game theory, in order to optimize acts of decision in conflict situations. The subject, seen as a semantic-pragmatic atmosphere, acts and corrects his action with the purpose of achieving certain results at the lowest cost in the system. In the practice of law, certain procedures limit the action of the subject, but to constructionism a decision is never true or false, only useful or useless within a situational context. The minimax criterion offers guidance to assess the utility of a decision, based on the exclusion of uselessness and offering a path to the minimum of the maximum – which is often not the answer aimed at, but one that the institution can deliver. Pugliesi formally models a conflict situation using game theory as a quintuple:

$$\langle F, En (n \in \mathbb{N}), S, G, L \rangle$$

In this model the situation (S) is a function of the strategies (En) developed in time by the parties. The active factors in the situation (F) and interest groups (G) are also taken into consideration. All situations (S) in each negotiation (n) have a profit function (L) defined, which is the minimal impairment considering the time of the dispute. Using a method of reduction, this quintuplet may be turned into a triplet $\langle F, S, G \rangle$, which serves as a map to model conflicts in legal situations. Through the application of this model, Pugliesi's constructionism offers new ways of understanding decision-making in a system of law.

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