Is a “Science of Law” possible? Current state of affairs and outlook for Brazilian legal scholarship.

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Introduction

This paper was written due to our participation in the Forum for Empirical Studies in Law offered by Fundação Getúlio Vargas, in Rio de Janeiro, in August 2012. This short essay aims to verify the possibility of existence of a Science of Law and, from that matter, to critically analyze the current state of affairs in the Brazilian legal scholarship, as well as to inquiry about future possibilities.

1. Ontology and epistemology.

Firstly, in order to base this paper on some fundamental premises, we will argue about some relevant aspects with regards to the nature and knowledge of Law.

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In other words, its ontology and its epistemology.

Philosophically speaking, Ontology refers to the nature of things, to their particular manner of existence in the world. Epistemology means the way through which we know it, which means through the scientific method.

Regardless of how simple it may look, the dichotomy has been responsible for great misunderstandings within our literature, throughout the decades. The ambiguities and consequential mistakes may be, however, avoided by a linguistic and philosophical clarification, what has been defined by the Austrian Philosopher Ludwig Wittgeinstein as “therapy”.

Therefore, let’s apply the Wittgeinstein’s therapy and clarify the dichotomy.

The way things exist may be objective as they may be subjective. When we say that something exists regardless of our conscience or of our language, it means that such object has an objective ontology. On the contrary, when something depends on its observer to exist and make sense, we say it has a subjective ontology. Examples of objects ontologically objective are the mountains, the oceans, the stars and galaxies, which exist regardless of our intentional consciousness. If mankind is extinguished, such objects will continue its course indifferently to us, as they always have.

Examples of objects ontologically subjective, on the other hand, are money, the arts, marriage, mythology, religion, games and Law itself. Its existence, sense, and meaning totally depend on the human mind and, if mankind comes to be extinguished, such objects will share the same destiny. Due to being a product of our rationality, the cultural objects necessarily have a function, i.e., are created for some purpose. In this sense, they are artifacts.

The epistemology, similarly, may be objective or subjective. It is considered objective

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2 Intent means the ability the conscience has of projecting itself in the world, connecting mind with reality.
when the approach and the analysis of the object are made without taking into consideration personal judgment calls or preferences of the scientist. For example, the water boils when it gets to a hundred centigrade degrees in any situation, as well as bodies attract each other in the proportion of its masses, regardless of our liking of such nature aspects. On the other hand, epistemology will be considered subjective when our personal judgments interfere in the knowledge of the object. If while analyzing art pieces, I express my preference for Matisse rather than Picasso, I will be performing a subjective epistemology.

In the same way that it does not make sense to say that the principle of gravity is “unfair and oppressive” (due to the fact that such characteristics show an opinion towards an unconscious entity, unable of acting in a moral way), it does not make any sense to say that justice or Law are “natural”.

Law is a cultural object, what means it is a product of human rationality, built to serve to established purposes. Thus, it is a human artifact, what essentially makes it a tool, like sticks and bones have already served to the first hominids, hundreds of thousands of years ago.

Due to that, its ontology is subjective and depends on the observer, and its commands and its principles are product of the culture and depend on it. Even though it is a social and institutional universal phenomenon, inherent to all civilizations since its origins, it is nonetheless an artifact, with its functions planned and put into practice by intent and by language.

Due to having it existence depending on the human mind, would Law be a phenomenon with an approach inherently subjective, in which the personal judgments and ideologies contaminate any knowledge possibility? My understanding is that it would not.

It is fully possible – even though it is not an easy task – to apply the objective epistemology to Law.
Notwithstanding it being an object enclosed in values, it is viable to analyze and identify it without mixing with those from the conscious individual. In other words, to separate Law from Morality. This is a great contribution given by Legal Positivism, in accordance with what we will see in a subsequent topic.

2. What are the characteristics Law needs to be an authentic “science”?

Briefly, it is possible to list some essential characteristics that the scientific method should guard, in accordance with the following:

a) The scientific method consists in systematic observation of a certain phenomenon, with such data analysis being guided by rational principles. The data will serve as an input to a causal model proposed by the scientist, which seeks to describe and explain the object phenomenon, as well as to foresee its behavior. Science, in this sense, is a knowledge body formed by theories and hypotheses, evidenced by empirical tests. This corpus shall have an internal consistency (its propositions and conclusions cannot be contradictory), as well as to allow experimentation. The logic of language in science, therefore, relies on verification: its propositions may be true (if they correspond to the facts) and false (if they fail to correspond to the facts).

b) The empirical testing of a hypothesis, once it evidences it, shall allow repetition, in any laboratory, given the necessary and sufficient elements to do so. If the experience evidences the hypothesis wrong, it shall be duly disregarded, due to the fact that it has been shown as inappropriate.\(^3\) The empirical test shall, therefore, be embodied in an

\(^3\) The criteria to establish the object, proposed by the Austrian philosopher Karl Popper within the first decades of the 20th century, is still used to distinguish what is and what is not science. To Popper, any hypothesis shall be subject to falsifiability, thus, due to its openness to experiment, the proposition of a natural science will only have a confirmation which is logically temporary. The natural sciences use the inductive method (from the reality to the hypotheses), in opposition to the deductive method used by the formal sciences (from premises to conclusions), and nothing prevents a new empirical data from disregarding that hypothesis (or conjecture) that has been successful until such data was presented (all swans are white until a black one appears). Popper’s “critical rationalism” enables a constant improvement of science (in a more evolutionary than revolutionary dynamic, therefore). Such contribution sought to oppose the criteria proposed by the movement known as Logical Neo-Positivist Theory (originated from
objective protocol, able to be applied universally.

c) From the evidencing of the hypothesis, a scientific principle will be built, which will
describe the causal behavior of a certain phenomenon. For example, Isaac Newton’s
Gravity Principle: “All objects of the Universe attract all the other objects by a force
directed along a line joining the centers of both objects, and that is proportional to the
product of their masses and inversely proportional to the square of the separation between
both objects.”

d) Therefore, the method presupposes a establishing of limits of an object of analysis,
chosen through an “epistemological cut” performed on the reality. Such establishment is
a continuum of successive facts, rich in complexity, caught by our sensitive and
intellectual intuition. The scientist, thus, establishes the limits of the object of its analysis
from reality information. As an example, the biologist worries with the phenomenon of
living organisms, including its structure, function, correlation with the environment and
with other organisms, as well as their taxonomy, their origin, etc. The nuclear physicist,
on the other hand, deals with the atoms and with the subatomic particles, its structure and
relations. It would not make sense for any of them to analyze the nature in all its
complexity, due to the fact that there would not be an object established and,
consequently, any knowledge retention would be unfeasible.4

e) As a correlated of the forth characteristic, science is a simplification of reality. To
reach that, it uses models that seek to explain a portion of nature, which principles are

the famous Vienna Circle), through which the possibility of verifying a hypothesis through the empirical
method would confirm it as true. Such characteristic from nature, however, cannot be found within the
formal sciences, which, in accordance to what has been shown by another Austrian, Ludwig
Wittgeinstein, are in a overabundant manner, due to the fact that the conclusions are implicit in the
premises, what occurs in mathematical theorems. For more information with regards to this matter, see
POPPER, Karl: A Lógica da Pesquisa Científica (Cultrix, 1996) and Conjecturas e Refutações;
4 The short story written by Jorge Luis Borges, “del rigor de la ciência”, perfectly illustrates the simplifier
character, at the same time internal and necessary, of the scientific method. In accordance with the story,
the cartographical science of a certain empire reached such accuracy and detailing that only maps in the
same dimensions of such empire were considered acceptable. The perfect map would reproduce absolutely
all aspects and details of that place. The cost of such accuracy would be the complete lack of usefulness of
such map.
axioms (self-evidenced premises, non-demonstrable and not subject to proof), but that work as starting points to the epistemological project. Having its origins in the formal sciences, such as mathematics and logics, the axioms are not, however, immune to criticism. Within the scientific revolutions dynamic, axioms are replaced by new ones, as a way of being used as basis for other theories more able to describe reality.\(^5\)

Does Law have such characteristics?

Before analyzing that, it is necessary to point out some matters regarding Law.

First, Law, if intends to have any scientific pretensions, would be categorized within *human sciences*, what means to have, as its object, a portion of the ample and extremely complex phenomenon of *human action*.

Second, it is necessary to distinguish “law” as a field of knowledge from “law” as a series of commands or prescribing rules of behavior. This last, the “law-rule” *is the object*: the previous one, the “law” as a jurisprudence (with scientific pretensions) is the *metalinguage or the upper level language*. The jurisprudence, which practice has as its result the doctrine, talks “about” the positive law, not to be mistaken by it.

The difficult part, which occurs also in other human and social sciences, is the quicksand that constitutes the object of analysis itself. Whether it is Economics, Sociology or Anthropology, the specific field, the actual substrate of their analysis, is the human behavior, many times unpredictable, irrational, and passionate.

Such uncertain base, full of passions, certainly makes the scientific project difficult, but certainly it does not make it impossible. As seen above, the object of analysis of human sciences is ontologically subjective, but it does not mean that its epistemology cannot be objective (or, at least, to search, as a principle, for objectivity).

On the other hand, the traditional human sciences mentioned above still guard an advantage in comparison to Law, due to the fact that its immediate object is human action

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\(^5\) The separation between time and space, with the first being an absolute constant, are axioms of Newton’s physics, replaced by the *continuum* space-time of theory of relativity presented by Einstein.
itself, while legal knowledge is performed having as its substrate particular normative systems. However, Economics, certainly the more developed social science there is, applies universal tools – for example, the student that learns economic science in the University of Chicago or in the University of Paris will be acquiring basically the same theories developed throughout the last centuries. In addition, Economics has formal rigorousness and is open to empirical testing, notwithstanding the fact that such testing is considerably more difficult to be applied in human sciences.

Yet, it is important to say, that it is not completely impossible for Law to reach a science status, given that the criteria listed above are complied with. But the question made is: is it possible for Law to achieve universal forums, proposing hypothesis and the respective confirmations within any particular legal system, through scientific method and unified empirical protocols? That is what we will see next.

3. Natural Law Theory, Legal Positivism and Law Science

The Natural Law Theory or “nature law” is a sort of myth that accompanies the legal scholars and philosophers since the Ancient times. Due to dealing with the most passionate and ancestral values, such as justice, certainty, and peace, Law needed to be seen as a metaphysical, universal and timeless manifestation. Religion and the idea of sacred strongly got into the idea of Law, and that remains even today, in some social systems in which the religious system is mixed with the political system and with the State itself (such as Islamic countries).

Posteriorly, within Renaissance, Modern Age, and, more specifically, within the intellectual movement known as Enlightenment, Natural Law Theory has begun to be identified as Reason. Due to that, men would supposedly be able to know the Law in the same way they knew the universal and unchangeable principles of nature through their intellectual intuition.

The same period has brought, however, Thomas Hobbes, Jeremy Bentham, John Austin and, in the 20th century, Hans Kelsen and H.L. Hart. Apart from several theoretical differences, the common denominator to the diverse “positivist theories” is the
identification of Law as a human construction, artificial and subject to be objectively known, in addition to the separation between Moral and the legal *episteme* mentioned above.

For the epistemological positivist theory, it should not matter – to obtain a cognitive objectiveness – the jurist’s personal values before the particular legal system. One shall be able to investigate a certain system isolating the analysis of moral values and, even so, to be able to identify the rule’s particular axiology.

For example, a supporter of legal positivism that longs for freedom and democracy is fully able to examine the Cuban Law, comprehending how the legal rules that oblige, forbid, and permit within that system work, even though its ideology may be personally unacceptable to him or her. *It regards, therefore, to a separation between Law and Moral that permits the epistemological objectiveness.*

On the other hand, the Natural Law Theory blocks the vision of the legal analyst. When confronted with rules that go against its moral values, the sense of indisposition is such that the ability to analyze the matter becomes unviable, preventing any vision which is impartial and objective of the phenomenon. For example, when a conservative or a libertarian states that the normative system of Cuba or of North Korea “is not actually Law”, it is strictly saying that he or she does not agree with such systems. The same happens when a socialist, supporter of the “alternative law”, manifests his or her dislike of the “unfairness” of legality applied to the so-called social movements, obstinate transgressors of the positive order. The Natural Law acts, as well mocks Alf Ross (2000, p.304), such as a prostitute, equally serving to all ideologies, with the same readiness and clearance. It only does not serve Science.

The Brazilian legal doctrine is considerably positivist, in spite of some legal naturalism stumbling here and there, for example, branding as “unconstitutional” this or that Act or legislation, even though any rulings in this sense have not been made by the Courts.

We have seen that Natural Law does not comply with the requirements for a true Law science, but does legal positivism comply with such requirements?
A long time ago, Gustav Radbruch (1997\textsuperscript{6}, p. 73) has realized, as more recently has also perceived Richard Posner (2003, 0.253), that the positivist conception, at least in its Kelsen’s version, is not properly a “theory”, but a Law definition instead. Kelsen’s Pure Theory of Law is not a scientific hypothesis, which requires empirical testing to be verified or refuted neither is it subject to falsifiability, as required by Popper’s science criteria. The positivist view, mainly the one which is adopted by our legal scholarship, becomes irrefutable (thus, cannot have its falsifiability evidenced by the empirical testing), what prevents it from authentically reaching scientific status.

At the same time that the legal positivism supporter starts from the concept of Law as a system of rules, it also limits him or herself to the exam of matters such as legal validity, force, and effect, denying any examinations of the actual social behavior before the rules in force. Such separation between the legal and the social realm, strictly adopted by the legal positivism, is a direct influence of Max Webber (2004, p. 208-210). However, it takes from legal science one of its most important components to understand the normative phenomenon, the relationship between the legal rule and the human behavior. Any considerations on the actual compliance or not with legal rules have become instantly repulsive, under the claim that such approach is not “legal”, not being a part of the “\textit{stricto sensu} jurisprudence or science of Law”, being considered an object of Sociology of Law or Public Policy theories.

On the other hand, the legal positivism should be seen only as an axiom, a starting point for the development of the actual epistemology of Law. From such point, scholars could propose hypothesis to be subjected to empirical testing, building a genuine Science of Law.

4. The current state of affairs of legal theory in Brazil.

The current state of Brazilian legal theory is peculiar. Even though it is highly sophisticated with regards to its philosophical aspects, having a high intellectual nature, it tends to be hermetically sealed to the world of facts. It regards to Weber’s and Kelsen’s

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\textsuperscript{6} First published in 1945.
positivist cut commented above, which do not bring any contributions, unfortunately, to the development of the law science demanded nowadays.

Legal textbooks and other works are usually focused in ruling text analysis, aiming at describing the legal system and explaining legal institutions. Almost all the doctrine produced within our country is limited to legal hermeneutics, understood as a technique of interpretation of legal texts (meaning positive laws), disregarding, however, the empirical basis of its thesis. For this standard, the current legal doctrine is more similar to a technology than to a science, working as an instrument of persuasion within the legal practice. A very useful technology for legal practice, whether to lawyers, whether to judges, but without the scientific character so ironically desired by its supporters.

Why the Brazilian legal scholarship, as it is practiced, does not comply with the requirements to be a science? In spite of seeking to logically systematize the positive law through doctrinaire texts, our usual legal writings do not propose hypotheses neither are they subject to empirical testing. While science language is assertive and bipolar (true/false), the language of our current legal writings fails to obtain its verification function. How is it possible to evidence or refute a legal “thesis”, if there is no possibility of testing, but only the acceptance or not of its rhetorical arguments, whether by doctrine that follows it itself, whether by courts? The criterion becomes pragmatic (in the philosophical sense of the term), thus, the traditional and current Brazilian legal writings may be useful or useless to the persuasive and technological support purposes, but it does not reach the truth or even falsity. By Popper’s criteria, therefore, our Jurisprudence is not science.

5. The poverty of Post-Modernism

The “post-Modernism” is a mediatic expression, which refers to a mixture of philosophical movements and trends known as relativism, deconstructionism, post-structuralism, among similar movements. The similarity between such lines of thought is the repulsion to the main pillars of what has been conventionally referred to as “Western
philosophical tradition”: the objective reality and the correspondence theory of truth.  

The denial of objective reality usually comes through critical positioning to “modernity”, to Enlightenment, to the objective knowledge of reality and to rationality itself. The source of such relativist movements has various origins. Starting with the Greek sophists, passing by German philosopher Friedrich Nietzsche, by Charles Sanders Peirce’s and William James’ Pragmatism, by Structuralism, by the late Heidegger, by the second Wittgeinstein, by Thomas Kuhn, and, finally, getting to the French philosophers of second half of the last century, such as Foucalt, Deleuze, Derrida, Baudrillard, Lyotard, among others.

Even though some of the thinkers referred to above were enormously important to philosophy, certain aspects of their works result in the actual setting of post-modernism and of relativism, regardless of the fact that some of them would hate to be called post-modern.

Statements such as that by Nietzsche that says that “there are no facts, only interpretations”, or that of Derrida, according to which “there is nothing out of the text”, or that of Paul Feyerabend, to whom scientific theories, witchcraft, and primitive myths have the same value when it comes to the search for an objective truth, not only do not help the development of human intelligence and knowledge, but also show a series of vices and fallacies within themselves.

The sentence “there is nothing out of the text” is self-contradictory: the text is a way

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7 For a more extensive criticism on post-modernism, search for our Ficções Jurídicas no Direito Tributário (São Paulo: Noeses, 2008, p. 124-151)

8 A typically relativist doubt, such as “What is the argument to evidence the existence of rationality” evidences the rationality it intends to deny. The notion of argument itself supposes the notion of rationality.

9 The sentence “there are no facts, only interpretations” corresponds to a certain fact in the world or should it be seen as an interpretation of reality? If it is an uncontroversial fact, the content of the sentence is false, due to the fact that there is at least one fact that is objective (and not an “interpretation”, therefore, it is not subjective), the one which says that there are only interpretations. If the sentence only corresponds to an interpretation, what is the reason to take it seriously and to not rebuff it exactly due to what it is, someone’s mere opinion?
through which the messages are transmitted, not having a particular sense or essence within itself. Necessarily, it requires the world as a mediator, thus, the individuals that communicate through it and the objects to which it refers to. The common individual who pays a visit to a post-modern doctor, and carries a diagnostic from its lung radiographies or the unaware driver that lets his car to be fixed by a deconstructionist mechanic would not like to receive the following answers, respectively: “I can’t tell you anything about the radiographies, once that your own disease is nothing but a metaphor”, “I cannot examine your carburetor, because it is nothing but a text, and there is nothing to do other than examining its textuality”. As ironically pointed out by John R. Searle (1993), the author of the examples listed above, the only thing which is certain is that communication has been broken between its interlocutors.

Finally, to compare science to primitive myths or witchcraft (Feyerabend’s famous anything goes) simply does not resist to the smallest and quickest historical analysis. Thanks to Science, we know more about the Universe within the last three centuries that we had known in all our prior existence, without mentioning the uncontroversial advances in the quality of life and in public health. It is good to keep in mind that the life expectation in medieval England was only thirty years old, and nowadays it is of eighty years old. Only the knowledge produced by Science, including Medicine, Biology, Chemistry, among others, was responsible for it and not any witchcraft or myths;

The natural sciences or “hard sciences” have not suffered any perceptible influence of post-modernism or relativism\(^{10}\), with the contamination being left to the human and social sciences. Disciplines such as Literature, Linguistics, Anthropology, Sociology or even Pedagogy have perished from the unfortunate relativist contamination, while, fortunately, post-modernism has obtain little space within Economics or even within Law.

It is important, however, to maintain legal science as unscathed as possible to this dangerous subjectivist view, which paralyzes the journey to knowledge. The basic

\(^{10}\) Please, do not mistake the philosophical Relativism with physics theories, such as the Theory of Relativity and Quantum Mechanics. Both logically assume the existence of an external reality that is the object of scientific investigation.
structure of metaphysics and of western cultures, based on the Greek scholars, assumes, necessarily, an external reality independent of our minds, as well as it assumes our ability to objectively know it.

In this sense, legal science will only prosper if the notions such as that of facts that exist regardless of legal language that aims at evidencing or refuting them, of the possibility of existence of objective comprehension of legal institutes by a part of their recipients, as well as the important notion of individual responsibility, a necessary condition to the existence of a sense in the institution of rules and sanctions, are maintained.

6. *Fiat justitia et pereat mundus? Deontology and Consequentialism*

This Latin aphorism represents the essence of an ancient legal tradition, which translates important ideals such as the search for justice, moral integrity and unrestricted adhesion to ethical principles. On the other hand, the “let there be justice, though the world perish”, if taken to the extreme, also denotes lack of realism and even irresponsibility by its proposers.

Deontology is the moral philosophy that is more similar to the aphorism transcribed above. Developed mainly by German philosopher Immanuel Kant, it means the practical reason coordinated by prior moral principles. Thus, actions are considered good or bad in accordance to a precise and integrated code of moral rules, with the main ones being Kant’s categorical imperative, regardless of the consequences.

There is no doubt that the deontological ethics is important for the rule of law. The assertive “treat others as ends within themselves and not as means to reach the ends” (second formulation of the categorical imperative) is the one that basis the idea of the supremacy of individual rights. However, there are situations in real life in which is not possible or even recommendable to act in a way so unqualifiedly compromised with Ethics. For example, for a deontological ethics supporter, to lie is always wrong, regardless of the reason why the subject was lying.

It is interesting to notice that on our day-to-day actions, we automatically take the consequences of our actions into account. Using the example given above, several times
we lie, because we understand that this is the best action to be taken in certain contexts. Would it be worth to be always sincere and tell a acquaintance that he looks awful, when he excitedly asks us for our opinion? Would we snitch a colleague to his superior, for some innocent default he has committed during work?

Cost-benefit analysis applied by our rationality, sometimes unconsciously, others in a very calculated way, requires the consideration of the possible and probable consequences of our choices. Whether a simple estimate with regards to the possibility of surpassing a car on a road, whether more careful calculation related to the purchase of a real estate property, whether the acceptance of a job offer or of a business proposal, we always consider the pros and cons of our decisions, taking into account the consequences coming out of it.

The philosophy that judges the morality or immorality of actions due to their effects is the Consequentialism. One of its main branches is the Utilitarianism, which had as its creator and most famous proponent the English reformist philosopher Jeremy Bentham, to whom an action is morally correct if it reaches “the greatest happiness of the greatest number of people”. Consequentialism itself, on its side, analyzes the effects of the actions, without necessarily incurring in a normative view such as Bentham’s.

Several moral dilemmas, some without solutions, result from the clash between pure Deontology and pure Consequentialism. Is it right or wrong to tell the truth about your own son’s hideout to the police that is pursuing him? Is it fair or unfair to sacrifice an individual to save the life of several others?

The most balanced way is, within our understanding, to seek for a conciliation between both views, preserving the importance of morality based on principles and rules of conduct, but also to bear in mind that many are the times in which its unrestricted adoption, therefore, inconsequent, may put those same values in jeopardy. Summarizing, deontological moral values are primal to put up any civilized society, herein a concept understood as a sum of responsible individuals. However, the responsibility, on its side, will only fully exist, if the citizens take into account the consequences of their actions.
Thus, why should not the jurist take into account the consequences?

The adoption of radical deontological postures in Science of Law is frequent, and, on the other hand, very few consequentialism is applied. Our jurists are used to mistaken consequentialist decisions in courts, even though they are rare, with decisions that they call “political”\textsuperscript{11}, condemning them as such.

On the other hand, consequentialist decisions, mainly those originated from hard cases, are very important to maintain the legal system functioning. Within limit situations, such as those in which there is a collision of legal principles, the most recommendable legal decision is the application of consequentialist calculation. What are the possible scenarios created by the adoption of this or that solution to the dispute? What will be the results, within medium or long term, of privileging legal certainty over fairness or the right to free speech over the right to privacy? To decide like that is to decide in a responsible manner, even though it may sound to some as a “political” and not a genuine legal solution. It is necessary that our Jurisprudence and our legal literature understand and defend such view.

The scholars that frequently sustain naively deontological solutions, based on their own notion of justice, ignore that even the values considered by them as so elevated can suffer due to that. The legislator that institutes amnesties for the tax debts all the time that there is incompliance with the taxes by the taxpayers, needs to realize that, by giving amnesties and moratoriums, it is creating incentives to more incompliance\textsuperscript{12}. Why should the

\textsuperscript{11} A difference between Utilitarianism and Consequentialism is easily verified when we differentiate a consequentialist analysis from a utilitarianism proposition. For example, an utilitarianism proposition would justify the modulation of effects in the judicial reviews given by the Brazilian Supreme Court (provided for by Law number 9.868/99), under the argue that, in certain situations, the non-granting of \textit{ex tunc} effects may be the only way to prevent the generation of a State financial crash. The crash, therefore, would reduce the general welfare of the population, which would not be able to use the public services (diminishing the greater happiness possible to most people). On the other hand, the consequentialist analysis would say that if the Brazilian Supreme Court uses such tool without proper care, it would be signaling to the State that it is free (non costly) to enact unconstitutional taxes at any time, given that it will not be accountable for that, thus, will not have to pay the citizens back.

\textsuperscript{12} Notwithstanding the fact that can be argued that the intention behind such fiscal benefits is based on collection interests, and not on fairness or something else. Through such line of thought, it is better for the State to receive less and in installments the credits that it holds against the taxpayers, than receiving nothing.
taxpayers comply with their tax obligations, expending important financial resources, many times important for the continuation of their enterprises, if from years to years there is a new benefit and fiscal amnesty Law being enacted? Does the judge that inadvertently grants an expensive treatment to the plaintiff in a lawsuit, regardless of the fact that the public health system does not cover it, not realize that such decision may prevent hundreds of other citizens from obtaining medical assistance, once the resources are scarce?

Nevertheless, if the “world perishes” due to doctrines and decisions that worry only about the actual cases, limiting to the parties involved in them, without taking the bigger picture into account, that is, the rest of society that is invariably affected by these same choices, there will not be any possibility of justice, or any individual that can take advantage from it.

7. Law and science. The importance of interdisciplinarity to legal epistemology.

For Law to reach the standard of an universal science, which hypothesis may be evidenced through empirical protocols practicable at any place in which there is a legal system, it is primal to pass the particular ramifications of the law (civil law, criminal law, tax law, etc.) and to reach the level of a general theory of law.

While classic legal theory worries with specific segments of the particular systems, such as those referred to above, general theory approaches universal concepts to every and all legal systems: rule, legal relationship, Law subjects, etc. Where there is a legal system, there will be such characteristics because they are universal. As a consequence, the method for analysis shall be equally universal. Such method shall follow, at the same time, the criteria to be considered scientific, and the help of interdisciplinarity is also present, due to the fact that there are not enough epistemological tools within the traditional legal theory.

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13It is appropriate to remind the reader that, within less than ten years, four federal laws for financing of debts have been created (popularly known as “refis”, having been first instituted by Law number 9.964, from April 10th, 2000, and last, by Law number 11.941, from May 27th, 2009).
Theoretical movements from the beginning of the last century, such as the American Legal Realism, the Free Law School and the Jurisprudence of Interests, within the German literature, have built the way for an opening of legal theory to reality, under the argument that Law is not a closed system, in which the propositions would be enough within themselves to solve actual conflicts. They are not. Actual cases or disputes would not be solved only through the provisions contained in the laws and statutes, or in the legal textbooks, but also through a series of other factors and influences, including ideologies.

Even though in several occasions they are exaggerated\textsuperscript{14}, such manifestations have had the important function of opening the legal theory to other fields of knowledge, traditionally strangers to Law. Disciplines such as Anthropology, Sociology, the theories of language, and Economics started to be applied not for the construction of legal concepts or institutes, but to explain why several real situations are caused or affected by the law.

Antisocial acts, legally understood as crimes, for example, can also be explained by Psychology or by Anthropology. Mass phenomena, such as riots or strikes, may be better understood by Sociology. The indetermination and polysemy, responsible for major barriers in the legal interpretation and communication can be analyzed by philosophy of language, as it is the case of Semiotics. And, finally, choices and decisions, as well as its concrete manifestations through verifiable objective behavior, can be investigated by Economics\textsuperscript{15}.

It is important to notice that the substrate, as we can call, of Law science is human behavior. Rules, which are the main object of the “Science Law” (at least in its legal

\textsuperscript{14} In this sense, it is famous the sentence said by Jerome Frank, a famous American legal realism proponent, which asserts that “the decision of a judge is determined by what he has eaten in breakfast”. On the other hand, it is fair to legal “realism” to assume that “law is what the courts said it is”, typical of proponents of this line of thought.

\textsuperscript{15} Notwithstanding the fact that the behavioral Economics is counting more and more on experiments and testing with individuals (normal and blind testing, when the subject does not know that is being tested), the economic mainstream counts on observation of past behavior, through which is called “revealed preference”.

positivism approach), only exist to serve a purpose, to regulate the inter-subjective behavior. To summarize, the main worry of any and all human science, as the name says, is the human being. How can we not use the several disciplines to which it is the object, given that its peculiarities and methods are respected, as a way to put up with an authentic interdisciplinary method?\footnote{Not forgetting that “interdisciplinary” presupposes, logically, a gathering of several disciplines, around its isomorphism, of its categories that are applicable to all the particular objects of knowledge. In this sense, economic theory is, possibly, the most general of all human sciences, due to the fact that its object of analysis is, essentially, human choice. Therefore, diverse categories of Economics apply to diverse other human and social sciences, such as, for example, the concepts of balance, of cost-benefit calculation or of incentive.}

The Brazilian traditional Law theory, however, limits its efforts to intra-systemic examinations, topics such as basis for the validity of certain rules, its horizontal relations within the legislation, or matters regarding the interpretation and integration of rules. Other interesting themes (not to say crucial themes), such as the actual effects of normative commands in its recipients, with possibly dramatic consequences to the legal system, are understood by legal scholars as relevant not to a strict legal theory, but to Public Policy or Sociology of Law. Once the reactions of citizens with regards to the rules that aim at regulating their actions may be vital or fatal to the maintenance of the legal system, it is not possible to permit them to be ignored by our jurists.

Therefore, it is necessary that the traditional legal theory opens itself to the contributions of other disciplines, without, by doing so, however, ceasing to be an authentic scientific discipline. The interdisciplinary idea is to amplify the scope of legal science and not mixing it with other disciplines. Due to that, it is understood that it shall break the usual limits of legal rule analysis, centered only in its logical-semantic structure, reaching also the consequences that are brought to the social world.\footnote{Or, as the Speech Act Theory teaches us, to concentrate the analysis also in the perlocutionary acts, thus, in the reactions of the receptors of the human communications, which result in behavior that can be empirically observed.}

8. Are Lege data and lege ferenda incompatible?

It is common to hear the comment that says that certain matters are inappropriate due to being lege ferenda and not being lege data, thus, for referring to opinions or judgments
regarding how the Law should be and not how it is.

For the strong adepts of legal positivism, only *hic et nunc* propositions are relevant, thus, only analysis of valid rules are relevant, disposing, therefore, any considerations regarding changes in the legislation. Other human sciences, such as Economics, however, have applied not only the *positive analysis*, but also the *normative analysis*. The interdisciplinary knowledge field known as Law and Economics or Economic Analysis of Law equally applies both approaches to its investigations.

By positive analysis it should be understood the examination of Law as it is, thus, the group of valid rules *here* and *now* and how they effectively affect human behavior. As normative analysis, we understand the propositions to change the legal rules, as a way of obtaining the aimed specific results by the legislator or by society.

One of the serious mistakes of Natural Law Theory was that of mistaken the domains referred to above. By denying the status of Law to the systems considered morally illegitimate by them, in accordance with their own (several) criteria of justice, the Natural Law theorists self-sabotage their own scientific project (if there were any), by doing a normative analysis without performing a positive one, a necessary condition for such. However, if we want to change the rules, it is necessary to know them first.

The American law literature, on the other hand, is a prodigy in the efficient and precise use of both analyses. The American legal scholars analyze the status of their systems first, aiming at understanding the problems that they intend to approach, so they can, then, propose changes that enable improvements to those institutes and rules.

That is the path that our scholars should follow. Interesting themes and topics present themselves to the researcher when the researcher looks farther – for example, instead of concentrating solely on the increase of a tax, why not to investigate the possible consequences of its institution to the market? Or, even, will the enactment of a criminal law, with its corresponding sanctions, have the power to deter the individuals from committing such crime? Depending on the result, what are the measures to be taken as a way of obtaining the results desired?
Old prejudices and clichés that accused the propositive scholars of being mere “Law politicians” have lost their strength within this new millennium. The successful jurist will be the one capable of performing positive analysis of the Law, comprehending not only the rules, but also its actual effects within the social world, as well as that capable of proposing changes that effectively reach the aimed social outcomes.

9. The empirical and quantitative methods.

It is curious and even keen to note that, while the American legal scholars usually do not consider their discipline as an authentic science, even so apply to it something similar to the scientific method. On the other hand, our jurists, who frequently call themselves scientists, rarely apply the scientific method in their researches.

Summarizing what we have seen above, the scientific method consists of a process formed by: 1) observation of the object; 2) verification of certain phenomenon regularity of the object’s behavior; 3) proposition of a hypothesis regarding some of its aspects; 3) empirical testing; 4) (from the evidencing through empirical testing) creation of a scientific principle or rule, which describes certain aspects of such object, as a way of foreseen its future behavior.

If the experiments confirm the hypothesis (or if they do not refute it, within Popper’s method), it will be valid. However, the experiments shall be subject to repetition by other scientists, within the same conditions (instruments, environment, etc.), and they shall get to the same results for the hypothesis to maintain valid. In other words, an actual science must be able to present universal valid protocols, available to any scientist who wants to repeat the experiment that verified the original hypothesis, either to confirm it either to refute it.

However, there is no doubt that the traditional natural sciences methodology is problematic in its applicability to human and social sciences. In accordance with what we have seen, in a last instance, the object of human and social sciences is the human action and its behavioral manifestations, and that occurs within a cultural context (what does not apply as cultural relativism because there are invariables within the culture and within
human behavior over the centuries).

Even so, it is entirely possible to project an objective epistemology in human sciences, within which Law is included. Going beyond the legal positivism, which is limited in defining Law, the scientific method would enable the creation of hypotheses. However, it is primal for the correct construction of a scientific thesis, the connection with the world of facts.

In other words, it is not possible to limit the legal doctrine to a mere system of rules (more proper to a philologist or a grammarian’s work), without leaving the realm of legal texts. It is primary for a jurist to come to reality and to see what is there. But, to do so, the jurist will need to dominate instruments that are mainly mathematical.

Mathematics is becoming more and more present in contemporary science. By the end of the 19th century, anyone who was reasonably educated, with intermediate mathematical knowledge, would be able to have a complete and profound comprehension of reality, at least the one which was known at the time. However, from the two great scientific revolutions of the beginning of 20th century, the theory of relativity and the quantum mechanics, a large understanding of mathematics became necessary because, otherwise, it is not possible to understand the physical reality in a profound level.

Human behavior can also be empirically investigated, through mathematics, using the quantitative methods. In this sense, to propose any hypothesis, such as “the increase of a tax sanction (e.g. a higher fine) will reduce the level of incompliance with ICMS”, it will require statistic method, filled with empirical data, collected from the observation of a sector which is taxed, and of the behavior of the economic agents. Once the data are collected, statistic and econometric models can be used, as a way of supporting (or refuting) the hypothesis presented, with a high probability level.

In the United States, the quantitative methods are largely applied in Law, while in Brazil only recently the discipline called “Jurimetrics” has been presenting results, even though it is still been used only by few pioneer academics.

Conclusions
Now, finally, the question which names this essay can be answered: *yes, a Law Science in Brazil is possible.*

However, to reach that, the Brazilian legal doctrine needs to be rethought, to avoid becoming a byzantine discipline, which is not used to true scientific research. Therefore, our legal academics must adopt a scientific methodology to their researches, through an effective observation of reality, and proposition of hypotheses which are open to the empirical method. Summarizing, to practice science and not merely a persuasive technology.

Also, concerns regarding human behavior before the authoritative power of Law, as well as the consequences coming from the law and from court decisions, are crucial factors for the development of a legal discipline with genuine scientific status.

Moreover, the Brazilian legal doctrine shall become a general theory of Law, applied to all the specific segments of the legal system: civil Law theory, criminal Law theory, constitutional Law theory, etc., as a way to reach the boundaries imposed by the events and characteristics of each particular legal system and reach the category of an universal discipline, such as the other human and social sciences.

That is the only way a universal Law scientific community can be built, connecting the Brazilian Jurisprudence with the rest of the world.

The release of Brazilian Law Science of its traditional and old chains will take place only through an interdisciplinary education for its students, which unifies legal theory with current contributions from other Scientific fields, such as Economics, Sociology, and Neuroscience, as well as an approach that truly puts our scholars within the intersection between Science and experience as well as between descriptions and propositions.

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