On relationships between the logic of law, legal positivism and semiotics of law

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Abstract. The issue of reciprocal relationships between the logic of law, positivistic theory of the logic of law, and legal semiotics is among the most important questions of the modern theoretical jurisprudence. This paper has not attempted to provide any comprehensive account of the modern jurisprudence (and legal logic). Instead, the emphasis has been laid on those aspects of positivist legal theories, logical studies of law and legal semiotics that allow tracing the common points or the differences between these paradigms of legal research. One of the theses of the present work is that, at the comparative methodological level, the limits of legal semiotics and its object of inquiry could only be defined in relation to legal positivism and logical studies of law. This paper also argues for a proper position for legal semiotics in between legal positivism and legal logic. The differences between legal positivism, legal logic and legal semiotics are best captured in the issue of referent.

There are several connotations of the notion "logic of law": as Hart would say, the concept of "logic of law" is the realm of penumbrae. An initial difficulty is that the word "logic" is used in more than one way; its definition may naturally reflect its formulator's epistemological convictions. A second semantic reason for the divergence between lay (the vernacular) and the legal constructions of the sense of "logic" resides in the different "connotations" of that word in legal and lay language. In "lay" usage, that is, in ordinary language, the statement "that's logical"

has an equivalent meaning to the common-sense statement "that makes sense". In a discourse of a general theory of law, which contains certain logical considerations, the word "logic" has come to be more often used in a narrower sense in which it refers exclusively to the formal logically consistent systems (Haack 2007: 19–20), even if there are some doubts expressed that the logic is intrinsic to the law itself. A third difficulty is the essential difference between "legal logic" and "scientific logic": the task of juridical logic is not to verify a finding according to the rules of human thought but merely to make a finding appear as such (Ehrlich 1966[1918]: 74). The concept of "logic" in legal discourse deviates from the ordinary meaning of that word. When the lawyer promotes a logical interpretation of law, when advocates accuse each other of not respecting logic, the word "logic" does not refer to a formal logic, the only one practiced by logicians, but to juridical logic, which modern logicians entirely ignore.

Logic, so understood, is a normative enterprise — as distinct, most importantly, from a descriptive study of how people actually reason. "Good", in such a theory, is focused on the avoidance of contradiction and on validity, the capacity of an argument to preserve truth — as distinct, most importantly, from its persuasiveness to this or that audience. This legal logic would be a "material" or "informal" logic — as opposed to formal logic. Even though legal discourse is not formal, it tends, in principle, to appear in the uniform and relatively structured ways, so that its patterns can be made accessible to logical analysis. In a rational discourse, an important delineation of syllogistic or "idealized" logic and practical or "working logic" should be made (Toulmin 1958). Any attempt to create the model that would make it possible to bring together the application of law and the realization of law, would also lead to the logical concept that narrows the conceptual framework of legal decision-making, equating juridical logic with over-simplified subsumption model. Legal theorists have written a lot about the usage of logic elements in syllogistic deductive reasoning of judges, especially appellate court judges, but have paid remarkably little attention to other modes of logical reasoning, such as inductive and abductive modes of

reasoning: the latter ones remain out of the scope of the attention of legal scholars, since these modes of logical reasoning do not cope with the demands of positivists. For them, indeed, logic is merely a tool for ascribing to the practical jurisprudence a "solid" scientific weight.

One of the basic issues of both logic and semiotics is the issue of their interrelations. A. A. Vetrov in his paper *Linguistics, logic, semiotics* (Vetrov 1968) addressed that problem by demonstrating that "contemporary" linguistics and logic do not enter into semiotics as components. At the same time, in its most proper conception, logic falls as a semiotic component under anthroposemiotics as the linguistic level of exchange (Deely 1982: 83). From historical perspective, we may notice, that in the Middle Ages, semiotics (or inquiry into the constitution of signs) became an additional aspect alongside the traditional scholastic disciplines of grammar and logic. Because of its additive character, semiotics supplemented the inquiries into the particular meaning of terms (logic) by inquiring into possible sign combinations, therefore medieval sign theory appeared in particular parallelism to grammar and logic (Eschbach 1983: XIII–XIV).

Due to the limitations of the paper, it is impossible to reveal all theoretical and methodological issues, which arise throughout the study of legal logic. Even within general discussion, one can reveal significant differences in defining the logical element in law. The goal of this article is to bring some of the theoretical issues into the open discussion. This paper concerns the most important topics of logic in its relation to legal "matters" (such as the issues of normative logic, legal calculus, deontic logic, logic of concepts etc.). It also concerns the extent, to which these topics of logic may be supported (or, on contrary, rejected) by semiotic approaches. We pose a range of questions regarding the relations between legal semiotics and logic of law; each of those questions is reviewed and addressed in a subsequent section of this paper:

Section 1 of this article aims to cover the most general introductive topics, related to the nature of the digest of legal logic, norms and their relations to common sense. The section commences with the discussion of common sense. The dispositions of common sense are often

matters of determination of reasonableness and necessity of legal argumentation. In so-called "easy" legal cases, there is no apparent conflict between logic and the considerations of common sense: in these cases, the structure of "common sense" arguments in juridical proof conforms to the structure of "quasi-logical arguments". At the same time, the arguments, which skilled lawyers make in hard cases, are typically based on "common sense" or "practical reasons". Further, in Section 1, we consider the issue of relations between formal logic of law and informal logic of decision-making. It is commonly accepted that logic has a normative function (which allows legal scholars to use logic in normative disciplines), but logical laws themselves are not normative prescriptions, since they do not tell how one should make a judgment. On the other hand, it is claimed that "pure logic" is the foundation of "normative logic": the transformation of "pure logic" into "normative logic" consists in the linguistic transformation of "is"-propositions into "ought"-propositions. From semiotic point of view, this special "normative logic" or "deontic logic" constitutes the grammar or the descriptive level of a particular legal system. The further semio-linguistic transformation of normative logic by replacing "modal predicates" (in the vein of Greimasian semiotics) with "modal values", results in the construction of judicial logic or logic of decision-making. From the perspectives of Peircean semiotics, the same result is achieved with the introduction of provisional and open-ended "judgment signs".

In Section 2, we take into consideration the roles of legal calculus, deontic logic and Peircean logic of relatives in the systematic semiotic account of law. For present purposes, in this section we seek to account for the affinities and distinctions between various types of formal logic used in legal discourse and Peircean non-formal logic of relatives (since the latter, being a formal semiotic study of sign relations, corresponds, as closely as possible, to arithmetic). It is clear, that there is more than one route by which distinctions between "formal" modes of logic and "nonformal" logic might be generated. For the purposes of our presentation in Section 2, we assume that Peirce's unique brand of logic is superior to other models of logic, because it operates with a set of objects

comprising all that stand to one another in a group of connected relations, while the ordinary logic works with classes. The logic of relatives fully endorses the model of dialogic semiosis, which follows the direction from a class to a sign, from the general rule to the particular case. In other words, there is some general thing, which we know as a sign, that is, a name for a class of things, or a system of predicated attributes, or tokens, of the general Type, which equals the sum of the Type, in a non-relative logic. From this point of view, the whole process of legal reasoning is promoted by the emergence of a new legal sign (the decision-as-interpretant sign) concerning the initial problem, rather than by a particular established legal rule. Therefore, the generality and universality of Peircean logic of relatives could compensate for certain critical shortcomings and weaknesses of formal types of logic (deontic and propositional logics).

Such a preponderance of Peircean logic in legal semiotics does not mean, however, that legal semioticians do not make use of other types of logic. As it will be shown in Section 4, the model of syllogistic reasoning, based on the propositional logic, is commonly used in legal semiotics to illustrate the concept of reference (or, rather, the choice of reference). On the other hand, the deontic "modalities" (in addition to Hohfeld's fundamental legal concepts) may represent either "the grammar" of legal systems or the underlying deontic structure of law's descriptive field. In a theoretically reasonable manner, it may be also useful to establish the link between modes of logic and types of legal speech acts. In Section 2, it will be shown that one particular type of legal speech acts — a legal decision — is based on an erotetic logic (which is a logic of questions and answers); whereas the other categories of legal speech acts are dominated by a deontic logic.

In Section 3, we provide a brief account of the logic of values. In particular, Section 3 addresses the issue of the relationship between logic and semiotics. In the course of what is a preliminary explanation, we shall suggest that logic is not concerned with semantic and pragmatic relations, but rather with relations between modalities and between propositions, while Greimasian semiotics represents elements

of semantic relations. Unlike Peircean tradition that has never broken its links with logic tradition, the semiotic tradition of Greimasian school has been criticized as too "logically weak": the "logic" of the semiotic square (which is based on the Saussurean thesis of difference and on the use of binary oppositions) deviates a lot from the rules of modern logic. Nevertheless, in the course of semiotic analysis, this seeming "logical weakness" of Greimasian semiotics turns into "strength", for it allows the generation of universal cultural values of law. One mechanism of generation is what Greimas calls "the procedure of nominalization" or "the conversion of verbal information into nominal information, which transforms the modal predicate into modal value" (Greimas 1976: 78). In the context of Saussurean semiology, the word "value" has come to denote a kind of "purport", "force" or even "valence". In Greimasian semiotics, analysis begins with concrete significations, situated on the narrative plane: the propositions and the modalities of logic are replaced by "the value" of the significations of logic.

Section 4 deals with the range of questions regarding the topics of sense and reference in law, the reciprocal differences/ similarities between legal semiotics, logics, positivism and Peircean and Greimasian versions of semiotics. Semiotic perspectives provide valuable insights into legal thinking: even if they do not generate alternative theories of law, semiotic perspectives allow accepting the dual semioticity of law: that is, the language in which it is expressed and the discursive system (narratives) expressed by that language. In short, law is a discursive system modeled on language. According to Bernard S. Jackson (1990b), legal semiotics is 1) a radical criticism of legal positivism, even if it still privileges the essentialist view of language, and 2) able to mediate critically between legal realism and legal positivism by clarifying the interrelations between sense and meaning. In semiotic theory of law, the distinctions between legal semiotics and legal positivism are recognized to be a matter of preferences. On one hand, as Alan Hunt (1986) pointed out there is still a close intellectual proximity between Greimasian semiotics and Hart's tradition of legal positivism. Due to that proximity, legal semiotics may be regarded as a criticism against

normativism rather than against legal positivism in general, for it shares the same methodological and epistemological assumptions with legal positivism. On the other hand, Peter Goodrich (1984: 183) sees legal semiotics as "the apotheosis of positivism in the addition of a further layer of descriptive metalanguage superimposed upon the dominant belief in the univocality of legal language". While, as it has been previously said, the distinction between legal semiotics (in general) and the core of legal positivism is a matter of methodological preferences, the difference between Peircean and Saussurean semiotics is briefly illustrated in respect to the structure of semiosis and the status of referent in the process of legal reasoning. The Peircean tradition of semiotics admits the referent as an object of outside world, whilst the Saussurean tradition of semiology excludes references to objects existing in the outside world: the things of the "outside" world are included by their mental "concepts" existing in people's mind. From this point of view, the Saussurean model of referent is closer to Hart's version of legal positivism, since Hart admits the referent (that is, the referent of the word "law") as a psycholinguistic concept.

1. Legal logic, norms and common sense

What makes "logic" so important in legal discourse? It is usually argued that logic covers the analytical, epistemological and dialectical dimensions of juridical methods of reasoning. The legal logic makes use, essentially, of at least two components: logic and jurisprudence. At the first glance at that problem, one could conclude that the reciprocal and sometimes intense relationships between law and logic benefit both. A closer look at law reveals a highly systemized discourse, which — if it were to be interpreted as a formal system of reasoning — would be suitable for logic as an ideal field for the application of the logic rules. At the same time, the logic lends itself particularly well to law: the element of logic is approved nowadays as a plausible criterion of rightness or truth in the legal sphere, by a wide variety of traditions of thought. The

relation of logic to legal thought is obvious — logic supplies the legal discourse with its instruments for rational thinking — and by virtue of this merit, logic has offered many lawyers and legal theorists necessary tools for assessing the all peculiarities and ambiguities of legal reasoning. Thus, the nature of logical reasoning in law has been governed by purposes legal logic has been oriented to (for example, demonstrating the logical connections between the legal norms or representing a middle way between formal inference and commonsense thinking). As we can see, the modern concept of "common sense" is used to refer just to the sturdy good judgement (the phrase "common sense" was coined by Descartes, who equated a concept of common sense with practical judgement). In jurisprudence, this "good judgement" or "practical reason" quite often become a connotation of "logic" even if there is no proper strict logic proof behind these "good judgements/ reasons". The extent of "sensus communis" is determined by the significance of the assumptions shared in a given legal community (which is exactly the same concept as "sensus communis" or "common heritage of Europeans" discussed in the debate of the European Constitution — see Witteveen 2006: 252). The content of "common sense" is reflected in general principles of motivation and causation, which shape the experience world of human affairs.

The disposition of these shared assumptions and general principles of motivation/ causation has proved useful, being applied to the considerations of a "practical mind" and thus giving rise to so called "quasi-logical" observations. There is no use citing here an extensive corpus of "common sense" examples in legal practice. For our illustrating purposes here it is enough to mention but few examples of that usage in a recent Estonian legal practice. For instance, it is common to refer to the logic of criminal law (in its relation to the principle of evidence collection (Nääs 2010), the logic of criminal sanctions (Sootak 2010), logic of linking fraud and damage, caused by the defendant (Vutt 2009), the logic of "surrogate collateral" (Luik, Kattel 2009). As we can see, in most of cases, the structure of "common sense" arguments in juridical proof conforms to the structure of "quasi-logical arguments".

As a side note, it should be mentioned that we also might come across "hard cases" in which the adherence to the reasoning by "common sense" yielded inconclusive, controversial, if not entirely illogical legal decisions. Let us consider a current example in the regulation of genomic patents. On July 6,2010 the Court of Justice of the European Union ruled against Monsanto Technology LLC in its suit (*C-428/08 Monsanto Technology LLC v Cefetra BV, Cefetra Feed Service BV, Cefetra Futures BV, Alfred C. Toepfer International GmbH*) against an Argentine company called Cetera and several other parties. On the facts of this case, the ECJ held that a gene must have been performing its function at the time of the infringing act to be protected. Under the system established by Directive 98/44/EC of the European Parliament and of the Council of July 6, 1998 on the legal protection of biotechnological inventions, the protection for a patent relating to a DNA sequence is limited to situations in which the genetic information is currently performing the functions described in the patent. That holds true both as regards the protection of the genetic information as such and as regards the protection of the materials in which that genetic information is contained. Here, the infringing act was the importation of the soy meal, by which time the gene was "dead". The controversies around the legal decision arise when court, in its legally binding decision, offered no explanation on what the function of a gene is. From genetic point of view, an obvious answer would be "coding for a protein", but we can hardly ascribe such a function to the "dead" gene (needless to say, that the concept of "a dead gene" is completely unknown in the modern biology and genetics).

Weighing the importance of legal or logical component in legal reasoning, it is possible to cluster specific forms of logic of law (in the broad sense of this term): thus, it is possible to separate so called "*legal logic*" in a proper sense from the *logic of decision-making*, by which is frequently implied classical deductive logic. There is also a logical operation of *subsumption,* which has been *derived* from a special type of syllogism. However, concerning "legal logic", an adjective "legal" may mislead that this logic is a special logic, but the current consensus in legal studies speaks in favour of the fact that in law there exists a more "general

logic", *non-formal legal logic*, which is no doubt more important than the familiar *formal logic (*even if the latter is indispensible device in the assessment of the validity of legal reasoning*)*. It is sometimes difficult to maintain the differences between the logical presentations of jurisprudence, but these outlined differences are essential to our understanding of law. There is *judicial logic*, a term often used in critical approaches to jurisprudence, with the focus on what John Dewey called "a logic of consequences" (Dewey 1924) or a "logic of value judgements" (Perelman, Olbrechts-Tyteca 1958), "which is more like a juridical argument than a mathematical deduction". Taking into account a maximally formalized form of logical studies of law, it is reasonable to recall the vast amount of publications dealing with the topics of juridical logic and logic of law: some of those publications have certain semiotic overtones. Moreover, we can make a valid conclusion that at least one part of these publications belongs to the corpus of the 'classic' publications related to legal semiotics (Jackson 1990b: 420–424).

The range of topics in papers dedicated to juridical logic varies from the pure digest of juridical logic (Kalinowski 1965; Klug 1966; Tammelo 1969) and application of modal calculus (Becker 1952) — to the logical estimation of legal reasoning's methods (Perelman 1969) and deontic logic (von Wright 1951). In the twentieth century philosophy analyses of normative sentences can be found in the works of B. Bolzano (1837), A. Höfler (1917) and E. Husserl (1900). More advanced imperative conceptions of practical discourse in logic were developed by P. Lapie (*logique de la volonté* — Lapie 1902), E. Mally (*logic of will* — Mally 1926), K. Menger (*logic of habits* — Menger 1937) etc. A part of this range of topics in legal logic embraces the problem of the possibility of the logic of norms. Some authors think that there are logical relations between norms, and so they speak in favour of developing a specific logic of norms (sometimes called "deontic logic", though "normative logic" would perhaps be a more appropriate name). Other writers deny the very possibility of such logic because in their view there are no logical relations between norms. According to them deontic logic can "only assume the form of a logic of normative propositions, that is,

(true or false) propositions about (the existence of) norms" (Alchourrón, Bulygin 1999: 383.)

Some legal scholars (Kelsen 1945) reject the existence of the "logic of law", but others would naturally find it difficult to accept that rejection. In support of their argument, there is now considerable hard evidence showing that the logic of law can exist. This kind of attitude makes it possible to reduce such logic to a set of legal premises in a more abstract logic. The claim that a special legal logic exists has run into serious objections. Soeteman has argued forcefully that formal logic can play a significant role in the legal domain, but that there is no need for a special legal logic. Soeteman's primary target, when he made this argument, was Perelman, who argued that in the law formal logic is not sufficient and that formal logic needs to be supplemented with an informal, or material logic that takes the peculiarities of the legal domain into account (Soeteman 1989; Perelman 1963). A radical form of that caveat against "logic of law" is associated with American Legal realists, who claimed that law has no "inner logic" and the underlying "logic" of law is nothing but the ideology of those who make the law of us (Marmor 2001: 144). A more advanced form of this refutal is developed by Critical Legal Studies movement — aiming at the positivist idea that law and politics can be entirely separated from one another, it holds that all law is politics (or politic ideology).

2. Legal calculus, deontic logic and Peircean logic of relatives

The idea of legal logic proper began with the introduction of legal calculus. One of the earliest examples for the use of principles of logical calculus in the law was already conceived in G. W. Leibniz's *Disputatio juridica de conditionibus* (Leibnitz 1665): the young Leibniz proposed the transposition of the axiomatic approach to law, by expressing the legal system in a few propositions (Sartor 2005:389), from which all legal conclusions could be "geometrically'" (*more geometrico*) derived

(this idea in itself is deeply rooted in Cartesian method of the universal *mathesis* — see Varga 1987[1986]: 114–115). Leibnitz attempted to develop a juridical logic — the logic of normative inference; he regarded the reasoning of lawyers in contingent matters as a logic of normative inference (akin to mathematical necessary reasoning). In fact, in 17th-18th centuries for a long period of time the idea of legal calculus had been embraced by lawyers, who were fascinated by an analogy between the logical deduction of a conclusion from a set of axioms, and the judicial derivation (justification) of a decision from legally binding sources. So it comes as no surprise that some researchers also find that there is a fundamental relationship between the contemporary tendency toward the axiomatization (the formalization) of jurisprudence, from one side, and Leibniz's idea of the universal calculation of legal propositions (Canale *et al.* 2009: 96–104).

The history of contemporary logic began just over a hundred years ago with the publication of the works of G. Boole, C. S. Peirce, and first and foremost B. Russell and A. N. Whitehead. *Begriffschrift* by Frege (1879), and *Principia Mathematica* by Whitehead and Russell (1910–13) constituted the turning point in the history of logic: both of the works set the stage for the incredible development of logic in the twentieth century.

The two basic logics elaborated by Frege, Russell and Whitehead are classical propositions logic and first order predicate logic. The propositional calculus takes into account only those forms of argument, in which elementary sentences are basic elements. The elementary sentences can be with just a few exceptions, identified with (grammatically) simple (not compound) sentences. The compound sentences have also a complex logical structure. Because of that, the sentence connectives must have logical counterparts. Those counterparts are called truth-functional factors (or sentential connectives). The Frege-Peirce logic unifies propositional calculus and predicate calculus. Propositional calculus represents valid arguments and logical truths expressible in terms of simple propositions, and compound propositions formed from these by means of extensional, truth-functional operators like "and" and

"not" — for example, the argument from "*p*" and "*q*" to "*p*" — but does not concern itself with the internal structure of propositions.

The alphabet of propositional logic consists of propositional variables that are usually denoted by small letters *p, q, r*, etc. A prepositional variable denotes an arbitrary elementary sentence. In the alphabet of prepositional calculus one can also find symbols denoting the truth-functional functors (sentential connectives): negation ($\neg$), implication ($\rightarrow$), conjunction ($\wedge$) and disjunction ($\vee$). In order to provide a full syntactic characterization of prepositional calculus it is necessary to recall the rules of forming formulas, the rules of inference and axioms. According to the rules of forming formulas, all prepositional variables are well formed formulas of prepositional calculus. The principle of logical calculus as the tool of the formalization of law in many aspects is consonant to the semiotic principles of formalization: it became a powerful system for manipulating symbols whose meaning is constrained only by number.

Then predicate calculus, or quantification theory, builds on this to include representations of valid arguments and logical truths that do depend on the internal structure of propositions. This internal structure is analyzed in terms of quantifiers (such as *for all x, for some y*), singular terms or names ("*a*", "*b*", etc.) and predicates, as in "*whatever is F is G*", that is, "*for all x, if Fx then Gx*"; so it becomes possible to represent arguments like "*For all x, either Fx or Gx*" and "*Not Fa*" to "*Ga*". Some logicians proposed systems of deviant logic (for example, multi-valued logic — see Łukasiewicz 1920; Post 1921) which restrict the set of logical truths and/or valid inferences recognized by classical logic.

As far as the semiotic function of logical calculus is concerned, Roberta Kevelson argues (1986: 441), with reference to the work of American logician Joseph Horovitz (Horovitz 1972: 49), that the application of contemporary logic methods to the science of law (jurisprudence) should be aligned to the notion of "calculus", that is, the calculation (*Kalkülisierung*) of the existing systems of positive law and underlying deontic structure of law's descriptive field should not be disjoined from a logical descriptive structure of legal signs and sign

relations in law. The issue of the structure of law's descriptive filed is addressed in deontic logic.

The deontic logic is a major strand of logical studies of law commenced with the introduction of the normative (or *deontic*) logic of and the logic of norms. Despite the evident fact that the first formal analysis of the deontic notions was provided by Mally in 1926 (Mally 1926), it is usually held, that the birth of deontic logic took place in 1951, the year of publication of G. H. von Wright's paper *Deontic Logic*. At the same time similar problems were investigated by other two founding fathers of "deontic logic", G. Kalinowski and O. Becker. The former published the results of his research in 1953 (Kalinowski 1953), the latter in 1952 (Becker 1952). Wright and Kalinowski constructed (irrespectively of each other) the logical calculi, which can formalize some normative reasoning (for instance, legal reasoning). It appears particularly promising to utilise the deontic logic on the terrain of legal semiotics. First of all, deontic logic is based on the idea of a "deontic relation" between an agent (or a set of agents) and an action (or a set of actions). Second, the essence of deontic logic of norms can be seen as a differentiation between two structural levels of norm — descriptive and formal levels. In Kevelson's opinion the descriptive level of a norm, or more precisely — the deontic structure that constitutes norm's basis — consists of six elements: an essence of norm, a content of norm, a condition of application, a carrier of authority, subject and guidelines for the application of any given norm (Kevelson 1986: 442). The formal level of norm is its logical form. Underlying deontic structure mentioned above cannot be examined separately from the logical description of legal signs and semiotic relations between the elements of this structure (von Wright 1957, 1963a, 1963b).

Deontic logic was thus originally conceived of as the logic of what ought to or may or must not be done — and not as the logic of what ought to or may or must not be. It was thus the logic of what in German is called *Tunsollen (-dürfen)* (in English: "ought-to-do" *)* as distinct from a *Seinsollen (-dürfen)* ("ought-to-be")(von Wright 1981: 409), — a logic of norms imposing an obligation to perform as distinct from a

logic of norms imposing an obligation to produce a state of affairs. Von Wright's earlier deontic approach to the logic of law (and especially on the logic of *should* and *ought*) could be understood in the tradition of Austin's speech acts as a response to Austin's argument about *if* and *can* (Kevelson 1986: 441). In von Wright's first syntactic system of deontic logic, obligatoriness and permissibility were treated as features of acts. Becker, Kalinowski, and von Wright regarded actions, as the "contents" pronounced obligatory, permitted or forbidden in deontic sentences (in von Wright's system, these "contents" were types of action, such as murder or smoking, and not individual actions (in Peirce's terms — tokens), as for example the murder of J. F. Kennedy). This first system of deontic logic can be characterized as having only syntactic properties (Stelmach, Brożek 2006: 31). The situation significantly changed with the amendment of deontic logic by including Kripke-style possible world semantics. It was found not much later that deontic logic of propositions could be given a simple and elegant Kripke-style semantics, and von Wright himself joined this movement. This "amended" deontic logic has come to be known as "standard deontic logic". The inclusion of semantic dimension enabled one to elaborate a very precise (in sense of law and other normative sciences) notion of obligation. The classic "deontic sentence" Op would then mean in "standard deontic logic" that *it is obligatory* that p is true in the *actual world Wa*. In the context of deontic logic, the enactment of a legal norm implies a choice of reference, such as a legislator choosing, from a set of all possible worlds, a subset of the worlds that are plausibly related to the actual world Wa. In these (chosen by the legislator) worlds things stand as the legislator wishes them to, so this set of chosen worlds has come to be known as a set of "deontically perfect worlds". *Is* has to be a subset of the set M that contains worlds possible relative to Wa. This condition reflects the basic principle of law, that is, *impossibilium nulla obligatio est*. The legislator cannot make obligatory (including deontically perfect worlds) what is not possible (that is, what does not belong to a set of possible world).

Different authors taking the logical approach in legal reasoning, have different opinions as to whether an analysis of legal arguments

requires deontic logic. Following Klug (1966), some authors argue that normative concepts, introduced by deontic logic such as "obligatory", "permitted" and "forbidden" (the analogue of "impossible" in modal logic) can be defined by means of normative predicates, and without the need to postulate a special class of operators, such as "it is obligatory that" and "it is permissible that", and accordingly, that legal arguments can be reconstructed adequately in terms of a predicate logic (see Tammelo 1978; Rödig 1972; Yoshino 1981). Others are of the opinion that a deontic logic, in which normative concepts are analyzed as separate logical constants, is more suitable for analyzing legal arguments (Alexy 1985: 198–199; Kalinowski 1972; Koch 1980; Soeteman 1989; Weinberger 1970). A deontic logic forms a further elaboration of propositional logic and predicate logic, and thus can be used not only for the same types of arguments, but also for other types that these more elementary systems are not capable of formulating (for a more extensive treatment of the arguments for and against a deontic logic with respect to legal argumentation see Rödig 1972, Soeteman 1989).

Another pivotal step on the way to modern logic was George Boole's logical algebra, which could be interpreted as a calculus of probabilities, as a calculus of propositions, or as a calculus of classes. By 1880 — independently, by different routes, and in different notations — Frege and Peirce had developed a new formal logic, unlike anything that went before: a logic in which propositional and predicate calculus is unified, and which can represent the validity of arguments essentially involving relational predicates. Unlike Aristotelian syllogistic, which can represent only the monadic properties expressed by one-place predicates like "horse" or "animal", the Frege-Peirce logic can also accommodate relations, that is, polyadic properties expressed by many-place or "relative" predicates like Peirce's logic — "pragmatism" — is characterized by its 'relative' nature.

It is also important to stress that the constitution of Peirce's "Expanded logic" is significantly different from the traditional composition of logic. Peirce's "Logic" includes, — beside Critics or Formal Logic (which is the central division) — Rhetorics (Methodology, the

highest division) and Speculative Grammar (the syntax of thought —
the base level of a more complete logic). Logic as a whole is governed by
Ethics, which — in its own turn— is dependent upon normative Esthet-
ics. The highest division of Peirce's "Grand Logic" is Methodology, it
"accounts for the degrees of understanding in an evoking thought pro-
cess" (Kevelson 1987: 73), while Critics deals with formal classification
of arguments.

The logic of relative terms is the study of relations as represented
in symbolic forms known as rhemes, rhemata, or relative terms. The
relative logic operates with *set of objects* comprising all that stand to
one another in a group of *connected relations*, while the ordinary logic
works with *classes*. The treatment of relations by way of their corres-
ponding relative terms affords a distinctive perspective on the subject,
even though all angles of approach must ultimately converge on the
same formal subject matter. It is generally accepted that in Peirce's lingo
the term semiotic is synonymous with the term "exact logic"; Peirce's
theory of signs holds that all complete reasoning will, for each case at
hand, utilize all three major modes of reasoning: Inductive, Deductive,
and Hypothetical (Abductive). Each mode of reasoning accomplishes a
particular purpose, and with respect to the dominant purposes of each
kind of discourse, one or another of these modes of reasoning predomi-
nates. In law, where reasoning touches closely upon the actual world of
human affairs, induction is dominant. By contrast, inductive and/or
hypothetical (abductive) argument is more or less "correct" to greater
or lesser degrees of probability.

The basic outlines of Peircean logic in its application to the legal
discourse could be found in Roberta Kevelson's article *Law*, published
in Th. Sebeok's *Encyclopedia of Semiotics* (Kevelson 1986), where she
sought to provide an encyclopaedic account of some devices and modes
of interaction between logic and semiotics within the universe of law.
Laying aside a certain analytical conventionality of the proportional
relationship between elements of semiotics and elements of logic in the
context of positive law, it is possible again to contra-pose the non-rela-
tive logic to the relative logic, which has been introduced by Charles

Sanders Peirce. Under the conditions of a typical "formal" logic, a major promoter of the judicial decision-making will prove to be either analogy (as it is in the countries of the Anglo-American *Common Law*) or a syllogistic reasoning - subsumptio -(a logical operation that lies at the basis of judicial decision-making in the continental Europe's legal systems). However, Kevelson showed, by having recourse to the concept of legal (speech) acts, that in terms of semiotic theories, the actual model of judicial decision-making is far from being based only on analogy or a syllogistic reasoning. Following legal philosopher John Austin (1879), Kevelson established in legal discourse four types of legal speech acts: decisions, rules, orders and commands (example in medieval Common Law — a writ of trespass, which is equivalent to a command plus a statement by indirect discourse).

It comes as no surprise that Kevelson was more preoccupied with the investigations of the decisions category, because the problem of legal decisions and decision-making is among the most disputed topics of jurisprudence. It has been correctly observed by Kevelson that the category of decisions is based on an erotetic logic (which is logic of questions and answers) whereas the other categories of legal speech acts are based on deontic logic (Kevelson 1998: 70). The prototype of the judicial decision is based upon underlying hypothetical assumptions (which are indicated by question-answer relations). The "propositional" logic is incomplete, since it only includes an assertion, but does not include a declaration of terms. In Kevelson's model, erotetic and deontic logics are considered more "elemental" in their comparison to both propositional and first order predicate logics, because, as Kevelson pointed out, the former "presuppose a dialogic or relational structure, whereas the classical propositional and predicate logics signify a monologic "authority" (Kevelson 1998: 70). In conclusion, a process of legal-decision, according to Kevelson, is not "a plain propositional calculus" but rather a propadeutic decision-making process, the consequences of a legal judgement (the bailiff, the incarceration of the prisoner etc.) forms a consequential (speech) act of the highest order in law — a continuous predicate (Kevelson 1987: 78–79; 1982b), a predicate leading to conclusions.

Very relevant to these problems of legal decisions is the question raised by J. Frank (1963): whether judges make or discover law? The "hard" positivist jurisprudence, represented by H. L. A. Hart (see Hart 1961), holds that in "hard cases" judges can and do create new law, while R. Dworkin (1963) and his followers — the proponents of "the soft" legal positivism — declare that judges cannot make new law even in hard cases. At the same time, the "naturalist" theories of law get away with this dilemma by attenuating the distinction between the universal principle of law, *jus* (*veritas non auctoritas facit jus*), and different acts of legislative will, which find their expression in the principle of *lex* (*auctoritas non veritas facit legem*). For Kevelson, neither positivist nor naturalist theories can provide best possible solution of this dilemma. Kevelson emphasized the multi-functionality of legal signs and the shifting roles of icon, index, and symbol in the context of legal semiotics. A legisign is a type of signs that dominates the legal discourse. The *legisign* or *type* is distinguished as being general which is, in turn, defined by continuity: "the type has a 'great variety of appearances'; as a matter of fact, a continuous variation of appearances" (Stjernfelt 2007: 26). In case of a type or a legisign, the sign's relation to its object (reference) and its relation to its interpretant (meaning) are not yet conceived, because type is a mere possibility. Each continuity of appearances is gathered into one identity, making possible the repetition of seemingly identical signs but with different meanings.

This "continual possibility of appearances" lends a support for an assumption that judges both make and discover laws in their legal decisions. The decision that Kevelson speaks of, is that which consists of provisional and open-ended judgment signs. These "judgement-signs" "may be symbolic with reference to the context of the particular case; iconic as possible initial assumptions for some future case in another context; and indexical when a decision is similar to or analogical with an encoded rule | thus predicated upon it" (Kevelson 1986: 442). In order to facilitate the comprehension of these problems in semiotic way, one may add that a legal judgement, ruled out using either analogical method of reasoning or subsumption is considered a part of a

symbolic legal code. In relation to its contextual society, the legal code will need a refinement, having been detailed in order to acquire a legal force (which is a predominantly iconic sign function, because legally enforced legal code is referred to as the 'mirror' (*Spiegel*) or 'map' of society — see Kevelson 1990: 359) — as we see below, in the semiotic context of relative legal logic, the existing judgement assumes the functions of the Peircean concept "*type*" in its relation to "token". In such a case, legal logic performs the role of logical syntax within the structure of the formal language, which aims at the description of law. By virtue of its position, legal logic 'couples' the meaning-generative (semantic) units of legal discourse into the single whole. Such an extrapolation of a Peircean logic into legal material leads us to a conclusion that the process of legal reasoning is facilitated not by a particular legal rule (a norm or an established legal precedent), but rather by the emergence of new legal sign (the decision-as-interpretant sign) in regard to initial problem (Kevelson 1986: 441). That is why a legal argument is said to be prototypical of logical argument and rational discourse in general (Toulmin 1958): in the process of legal reasoning, the legal argument adapts the formal argument signification to an informal argument; the informal argument is mapped upon the formal structure. Contrary to that, the syllogistic, traditionally deductive argument of closed legal system becomes a referent, interpretive sign for such arguments which tend to typify legal and other practical argumentation forms (Kevelson 1987).

Thus, the process of legal reasoning can be explained by using the Peircean model of dialogic semiosis (that one of the type "type→token"). The dialogic semiosis follows the direction from a class to a sign, from the general rule to the particular case. For instance, in an argument from analogy we can say, for example, that there is some general thing, which we know as a sign, that is, a name for a class of things, or a system of predicated attributes, *or tokens, of the general Type, which equal the sum of the Type, in a non-relative logic*. Thus in a typical inductive reasoning, what is not known or included among the attributes (tokens) of a general (types) may be inferred; the not-known may be assumed (Kevelson 1985: 206–207). For example, consider the following legal provision "Whenever a person intentionally and with malice aforethought

causes the death of another without lawful justification, that person is guilty of murder". On this view, *X* represents the circumstances *G*, and *Y* represents the legal effect (guilt or liability). The paradigm case of a disputed question of law here is: "What is the scope of X?" If *Y* is inferred as a person guilty of murder and *X* is inferred as a person who caused the death of another without lawful justification; therefore *X* is a murderer. Yet from legal practice of criminal justice, we would learn that reasoning in criminal law (and especially in crime investigations) occurs in form of hypothetical (abductive) reasoning, which is similar to the prototypical structure of the guess (the riddle). A brilliant example of such "detective" reasoning may be found in a novel *The Sign of The Four* by Sir Arthur Conan Doyle. The vivid description of a main suspect *X* in Bartholomew Sholto's murder, provided by Sherlock Holmes may be re-written in a form of hypothetical reasoning: *X has diminutive footmarks, X's toes never fettered by boots, X's feet are naked, X has a stone-headed wooden mace, a great agility and small poisoned darts; therefore, X is a savage.* In Holmes' hypothetical reasoning, we can find several overlapping frames of reference: a stone-headed wooden mace, small poisoned darts and a great agility are signs within a conventional code of "savagery" referring to the cultural "imperialistic" assumptions of the Victorian epoch; toes and feet are signs with a code of ethnology; the diminutive footmarks refer to a code of comparative anthropology.

Another important (for legal theory) feature of a Peircean semiotics is that it rejects aprioristic basis of the universal, abstract propositional truth. It also rejects an aprioristic existence of "actual world". It is the making of Thirdness or habits of thought, which act in Peircean semiotics in place of absolute, abstract or aprioristic universal law and authority. In this respect, such a rejection reminds of the popular theory of coherence, which has its source of inspiration not only in jurisprudence, but also, and perhaps mainly, in the general epistemology: the truth is relational to the coherent set of premises. This similarity can be explained by an obvious fact: the pragmatist theories of "truth" belong to the family of consensus theories of truth, which share with coherentism their criticism of the correspondence theories (Pintore 2000[1996]:

171). Alternative explanation of such a striking similarity is that, as it has been discussed above, Peirce's General Semiotics (Logic) consists of three separate branches, one of which — "Speculative Rhetorics" (Peirce's version of pragmatics) being equivalent to coherence deals with the syntactic rules by which one thought brings forth another. In his work *On Law and Reason*, Peczenik assumed that legal reasoning is supported by reasonable premises, and that a premise is reasonable if and only if the hypothesis "which is not to a sufficiently high degree corroborated and this premise does not logically follow from a highly coherent set of premises" is not falsified (Peczenik 1989: 160; see also Alexy, Peczenik 1990: 130–147). Here the concept of coherence is understood in terms of the unity of principle in a legal system, contending that the coherence of a set of legal norms consists in their being related either in virtue of being the realization of some common value or values, or in virtue of fulfilling some common principle or principles. Concerning the relevance of coherence for the law, Peczenik first refers to MacCormick (MacCormick 1984) according to whom justice requires that legal justification must be embedded in a coherent system. This is an evaluative argument why the premises of legal justification should belong to a coherent theory. The theory of coherence is a focal point of the so-called legal *post*-positivism, represented by MacCormick (1984), Aarnio (1987), Alexy and Peczenik (1990), which appears to be a dialogical approach to legal argumentation from the perspective of the general theory of coherence. In a pragma-dialectical approach to legal argumentation, the argumentation is considered a part of a critical discussion aimed at the rational resolution of the dispute. The methodological devices of Peircean semiotics — relative transforming logic, hypothetical reasoning and dialogic semiosis[1] — being applied to the study of law, give rise to the comprehensive explanation of an ongoing development and evolution of the legal system. For example, semiosis in the context of legal semiotics is a dialogical process between legal systems and their referent social groups:

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[1]   Semiosis of arguments with one premise and two conclusions, in contrast to syllogistic semiosis of ordinary logic.

[semiosis] is a process of a shift of authoritative power between legal actor/ speaker and public actor/speaker, where each in turn assumes the role of legal or public patient/listener. With this shift, a change in legal style takes place; the message exchange is no longer that of legal sentences or sequences of sentences, but is, rather, an interactional, agonistic dialogic transaction. (Kevelson 1982a: 188)

The logic of legal concepts and the square of semiotic values

As we have seen in previous section, Peircean tradition emphasizes the affinity between semiotics and logic. Another major semiotic tradition of legal semiotics — Greimasian semiotics, which is deeply rooted in Saussurean methodology — is less decisive about the general relationship or distinction between semiotics and logic. Despite the use of some quasi-logical devices (such as a semiotic square), it is generally accepted that the main concern of Greimas is rather with basic units of meanings (semes) than with "pure" logical entities such as predicates: "semiotic square" represents the semantic axis of semes (Greimas, Rastier 1968: 91). A similar distinction between semiotics and logic was made by Kalinowski (1976: 11), when he wrote that logic is not concerned with semantic, syntactic and pragmatic relations, but rather with relations between modalities and between propositions. Contrary to that, Greimasian semiotics represents elements of semantic relations through a specially designed formal device, the "*carré sémiotique*". As we can easily observe, this formal device — "semiotic square" has features both in common with and diverging from the square of classical logic. The matter may become clearer when we take into account one further vital innovation introduced by Robert Blanché. He shows that these relationships apply not merely tothe kind of logic derived from the Aristotelian tradition (involving homonymical propositions with a common subject and predicate), but also to simple propositions asserting a quality, such as "it is cold". Blanché adds that this extension transforms the theory of propositional opposition into an instrument by which we may study

the opposition between concepts (Blanché 1966: 31); Greimas goes further in abandoning the propositional form altogether, and by applying the scheme to semic oppositions and their narrative analogues (narrative synatgms) which he constructs as a combination of modalities (or "modal values" on syntagmatic values) transferred by actants with different attributes (Jackson 1997: 91). They constitute an elementary structure that articulates signification.

These "modal values" (such as the fundamental sequence *want — know, that is, how — be able — do*) are results of the conversion of a verbal information into nominal information, which transforms the modal predicate into modal alethic value" (Greimas 1983: 78). This process of transformation is also called the "denomination", which is equivalent (in legal discourse) to the notion of *production juridique* (Greimas 1976: 87–93): the constitution of semiotic objects (as components of the legal lexicon and legal discourse) takes form of transformation from the natural language into the legal discourse — or in other words, through the act of naming them in legislative text. The autonomy of so constituted legal lexicon is total: the language of law represents the entire universe of legal meanings. Nevertheless, according to Carrión-Wam (1992), the semantic universe of law is not as wide as the semantic universe of the natural language. Most of legal propositions are derived from the small set of "deontic" modal operators (such as "prohibited", "permitted", "required"). Thus legal terms (in legislation) used in descriptive statements do not become endowed with juridical "semanticity". Some practical illustrations of this model of juridical production, although in lesser scale, may be found within the doctrine of the German *Wertungsjurisprudenz* (Jurisprudence of Evaluation). The *Wertungsjurisprudenz* or the jurisprudence of values sought for abstractly expressed values in the Constitution of German Republic, which were then "concretized" or "reified" in the realms of private law (such as labour, family, tort law, contract etc.).

As with any device, the semiotic square should be explicitly coherent, representing homogenous "semic categories", belonging to the same universe of discourse (that is, legal discourse). In its very simplified

form, Greimasian square ("*carré sémiotique*") is initially formed by an initial binary relationship between two contrary signs. S1 is considered the assertion/positive element and S2 is the negation/ negative element in the binary pair. The relations within a binary opposition are based upon relations of contrariety (opposition of complex terms — S1 + S2; opposition of neutral terms S2 + ~S1) and contradictions (negation S2 + ~S2, S1 + ~S1) as in the logical square descended from scholastics and Aristotle (~). In addition to the aforementioned, purely logical relations, the relationship of contradiction establishes another possible type of relation — presupposition (implication, or negative/ positive deixes). Here is a point where the model of semiotic square starts to diverge from the classical logic square. Since Greimas became aware that the relationship, which he called "implication", is logically invalid — for it does not form a sufficient ground for the generation of a contrary, he claimed (Greimas, Rastier 1968) that "implication" is neither logical nor linguistic relation, but merely a semic structure of specifically semiotic nature. Another difference in comparison to different types of the logical square is that in the practice of "carrification" one usually starts analysis from the positive term. In the logical square, on the contrary, the order of analysis is easily reversible; one can start from either positive or negative values. Because the semiotic square is selective in the logical operations (the analysis commences always with positive term), some mode of reasoning is impossible (for example, classical syllogistic reasoning in Aristotle's vein).

Additional "shortcomings" of theGreimasian square could be avoided by having recourse to Blanché's hexagon, for both Greimasian semiotic square and Blanché's hexagon (Blanché 1966) descend from the classical scholastic logical square (moreover, as Greimas claimed Blanché's hexagon is isomorphic to "*carré sémiotique*"). As it was said earlier, Blanché is responsible for introducing the simple propositions asserting a quality into logic. Blanché sought to make explicit the relationships between contraries and contradictories. In 1953 he introduced a new approach (Blanché 1953), combining the traditional logical square (*A I O E*) and the triangle of contrarieties (the neutral point of

"disjunction" *Y* and the compound point of "conjunction" *U*) into a new "logical hexagon" (it is interesting to mention here that George Kalinowski, put forward in 1972 (Kalinowski 1972) a deontic version of the Blanché's hexagon, the "hexagon of norms"). The logical hexagon is simply the figure uniting these two triangles, with the emergence of subalternation (in Greimas' words "implication"), arrows between any contrary terms, and the two subcontrary terms, not symmetrical to it by central symmetry. The difference between the contraries and the subcontraries is shown when we add the relationships between the contraries and *U* (which is not the third term of the triadic opposition to which the contraries belong) and the relationships between the subcontraries and *Y* (which is not the third term of the opposition to which the subcontraries belong). Despite the claimed isomorphy of Blanché's hexagon to Greimasian square, it is clear that Blanché's hexagon differs in many aspects from "the semiotic square", especially regarding the compatibility of the compound term, *U*-conjunction with "the semiotic square". Moreover, the relations between the contraries are not equivalent to the relations between subcontraries. This observation undermines the "logical" values of formulae, which are used by Greimas when he deals with the contradictories.

An illustrative case study of employing the "semiotic square" in a semiotic analysis of law may be found in Greimas-Landowski's analysis (Greimas, Landowski 1976) of the 1966 Loi (*La Loi du 24 juillet 1966 sur les sociétés commerciales)*. In their sound analysis of legalization of commercial companies, Greimas and Landowski have sought to account the underlying "modal values" of the narrative syntagm. The very existence of *société commercial* as a semiotic object is qualified by its relation of possession. "Commercial society", as a semiotic subject, seeks to perform the goal of capital acquisition. Thus, an underlying modal value of commercial company is identified as a will to acquire or, to put it in one word, "interest". Using "the semiotic square", Greimas and Landowski provided an account of taxonomic "semantic" relations of the elementary structure of signification, attributed to "commercial

interest" (general *interest, social legitimate interest, social illegitimate interest and personal interest*).

Let us now return to the grammar of legal discourse. Like deontic logic, defined by means of normative predicates "obligatory", "permitted" and "forbidden", the "*carré sémiotique*" provides an account of the normative relations between such concepts as "duty", "permission", "prohibition". From that point of view, the "semiotic square of deontic modalities" could be regarded as a device, analogous to Hohfeld's single scheme of jural relations (jural correlatives and opposites — see Hohfeld 1913). The similarity between Hohfeld's scheme and "deontic modalities" is obvious: they represent typical aspects of the grammar of legal rules. In case of deontic modalities, these aspects are qualifications of behavior within a legal system, while Hohfeld's scheme of jural relations represents "interpersonal" grammar of a particular legal system. As Bernard S. Jackson claimed, these particular "deontic modalities" and "jural relations" are not universal: Islamic and Jewish Law recognizes additional modalities: behaviour may be discouraged without being prohibited or it may be recommended without being mandatory (Jackson 1996: 29)

Another important aspect of Hohfeld's approach is that he advanced his scheme of jural relations away from classical logic by relying on semantic entailment to explain his conceptions. This "divergence" allowed releasing Hohfeldian relations from positivist habituation (typical in Peirce's logic). It also explains the relations contained in groups of concepts not explicable in terms of classical logic, such as the paradigmatic choice between marriage and cohabitation (*living together in a sexual relationship without being married*). Hohfeld defines the correlatives in terms of the relationships between two individuals. In the theory of "*in rem* rights", there is a direct relationship between a person and a thing. The private property consists of *in rem* rights between people in relation to things, thus liable to be exacted against a thing. Real rights are in this respect unlike claim rights or "rights *in personam*", which by nature must be exercised against a person: the best example being when someone owes money to another. Hohfeld demonstrates that this

way of understanding rights in general is wrong. In particular, Hohfeld demonstrates that there is no such thing as a legal relation between a person and a thing, since a legal relation always operates between two people. As the legal relations between any two people are complex, it is helpful to break them down into their simplest forms. Legal rights do not correspond to single Hohfeldian relations, but are compounds of them.

Finally, in order to illustrate this concept, we can recall a current legal debate over legislative regulation of personal genomics services and genomic patents. Body parts ("genetic material" including whole genomes, single genes, or gene fragments) fit within the description of property under the Hohfeldian framework to the extent that a source (the person from whom the biological material was harvested) has rights, privileges, powers and immunities in relation to others. Each person has the right to possess and use of their body parts free from interference from others, leading to a duty on others to avoid interrupting in that person's use. The most famous Common law case which dealt with the issue of property rights in one's own body parts, *Moore v. Regents of the University of California* (*51 Cal. 3d 120; 271 Cal. Rptr. 146; 793 P.2d 479*), was a landmark Supreme Court of California decision filed on July 9, 1990. John Moore underwent treatment for hairy cell leukaemia at the UCLA Medical Centre under the supervision of Dr. David W. Golde. Moore's cancer was later developed into a cell line that was commercialized. The California Supreme Court ruled that Moore had no right to any share of the profits realized from the commercialization of anything developed from his discarded body parts.

The crossing point between the logic of law and the semiotics of law: Sense and reference in law

The true nature of the internal semiotic and logical interrelations between prepositional logic and non-formal logic is best illustrated in *the concept of reference*. The reference here is seen as the part of a

conceptual sense-reference dichotomy, which is derived from M. Black's standard translation of Frege (1952[1892]): by means of a sign, one expresses its sense and designates its reference. In German, Frege's original terminology, the dichotomy sense *vs.* reference was known as *Sinn v. Bedeutung*. Frege, in his famous analysis of the distinction between sense and reference, pointed out that the two expressions Morning Star and Evening Star have the same reference (*Bedeutung*), for they both denote the planet Venus. But these two expressions, Morning Star and Evening Star, are not synonyms, since they have different significations as they denote different properties of the same celestial object: Morning Star is the name of the planet Venus "when it is seen in the morning before sunrise" and Evening Star is the other name of the same planet "when it appears in the heavens after sunset" (Linsky 1967: 129–130).

The described distinction between sense (meaning) and reference (denotation) was echoed in Hans Kelsen's *Pure Theory of Law* (Kelsen 1967), which shows some influences of the Vienna circle of logical positivism (Moore 1978: 29–42). For Kelsen, for whom the meaning is very strongly identified with external reference, the meaning of legal norm is an utterance that, whatever its grammatical form, has the meaning "ought", referring to an extra-linguistic entity, which he called "an individual or collective act of will" (Kelsen 1967: 226): when Kelsen speaks of "ought" (*Sullen*), he refers simply to "an ought sentence" (*Sullenest*). The practical reason concerns prescription ("ought") and is a function of will. Even if Kelsen was rather vague on what the meaning of an act of the legislator's will exactly is, he assumed that the prescribing function of any particular norm can be reduced to the signifying function of language: "signifying is the characteristic function of a linguistic expression denoting-an-object, referring-to-an-object" (Kelsen 1945: 34). Similar referential view on legal semantics has been adopted by a prominent Scandinavian legal realist — Alf Ross. Unlike Kelsen, who found support for his normative theory of law from logical positivists of the Vienna circle, Alf Ross in his criticism of any distinction between "subjective and objective interpretation" adopted a view which is much closer to Saussurean tradition of *semiologie* (Ross 2004[1959]: 115): "the

meaning of a word more precisely if it is compared with other words which can occupy the same place in a sentence and which afford a more comprehensive "field of meaning […] the meaning of a word is a function of the connection — *utterance, context, situation* — in which the word occurs". Almost like Saussure, who emphasized the arbitrariness of the bond between the signifier and the signified, Ross rejected the view, according to which a lawyer can identify a static sense of the legal concepts, independent of their relations. In Saussurean semiology, meaning was defined as the relations between the words in the syntagmatic sequence of utterances and the paradigmatic choice of each word within a linguistic structure defining those words.

At the same time, in Alf Ross' theory of legal interpretation, the intention of the author (in the context of the legislature) is revealed not only by linguistic usage of words in the statute, but rather goes to work with all the connected/related facts, hypotheses and experiences which can throw a light on what an author (the legislature) intended to communicate. In this respect, this arbitrary "interpretation by connection" can be compared to a study of the "circumstantial evidence reminiscent of the work of a detective investigating a crime" (Ross 2004[1959]: 114–116). Thus, the intention of the author is a matter of the referential choice within each particular context. On particular occasions, the problem of the reference can be reduced to the question of the correlation between two semiotic systems (natural language and legal language): in such cases, like Ross' "interpretation by connection", relationship became a triadic one, involving the interpreter as the third "part" in the act of referring to the referential object.

The lay persons and even some philosophers, normally associate the concept of meaning with the notion of "reference", but as we will see further, in the particular context of legal semiotics, the reference, in most cases, is separated from meaning, which according to Greimas and Courtés (Saussure's followers) remains always inscrutable: there are only meaning effects "produced by our senses in contact with meaning", and this effect is "the sole graspable reality, but one which can not be apprehended directly" (Greimas, Courtés 1982: 187, 298). On

the other hand, in the doctrine of referential inscrutability, the reference is always inherently indeterminate or "inscrutable" (Quine 1960: 80). For the supporters of that doctrine, there is no empirical evidence as such. It is a relevance to interpreting a speaker's utterances that can decide among alternative and incompatible ways of assigning referents to the words used. Hence, there is no fact that the words have one reference or another. This critical approach to the attribution of an objective meaning opened a valuable opportunity for legal semiotics: according to Jackson, legal semiotics is able to mediate critically between legal realism and legal positivism (Jackson 1990b) by clarifying the interrelations between sense and meaning.

The issue of reference became a crucial point in legal semiotics, opening up a valuable discussion of critical issues in law and semiotics. The dispute on reference commenced with Jackson's radical criticism of legal positivism: the main target of that criticism was McCormick's account of the justification of "easy" legal decisions by the normative syllogism. Jackson's paper takes issue with Neil McCormick's understanding and use of the concept of legal justifiability, especially in respect to legal decision-making. McCormick argues that since decisions are "made" and not deductively inferred, the concept of legal justifiability lies outside the frame of traditional deduction, that is, syllogistic reasoning. This concept of legal "justification" or "justifiability" is rooted in rationality, and appears to have a relationship with the concept of "narrative coherence": the adjudicators of fact will be justified in holding a suggested fact to be true, only (1) when it makes sense (in other words, when a suggested fact is normatively coherent), and (2) the suggested fact fits within a rational pattern of action, that would have appeared justifiable to the agent of action (Jackson 1990a: 20).

Despite its suggestive "meaning", MacCormick's concept of "narrative coherence" is not an extension of a "coherence" theory, since MacCormick locates his concept of "narrative coherence" within the paradigm of a correspondence theory of truth. He understands "a narrative coherence" as "a test of truth or probability in questions of fact and evidence upon which direct proof by immediate observation is

unavailable" (MacCormick 1984: 48). Therefore, "narrative coherence" comes into play only in those cases, where the direct observation of truth and inferring from direct evidence are unavailable. This is an instance of those murder cases, when jurors should prove beyond the reasonable doubt all elements of crime in the absence of direct evidence (the body, the instrument of crime etc.), which was intentionally destroyed by an accused person. These cases are decided by judge or jurors only on the grounds of the credibility (the honesty, accuracy or reliability) of the testimony, presented either by witnesses or by experts. The act of legal "reference" in these cases would demand unwarranted correspondence between "the conceptions of justifiability deployed by the agent of action on the one hand and by the Trier of fact on the other" (Jackson 1990a: 20).

In attacking this assumption, Bernard S. Jackson claims that the main difference between legal semiotics and legal positivism (which privileges the use of propositional logic in the justification of "easy" legal cases) consists in the fact that legal semiotics, in contrast to legal positivism, allows the possibility of the individual choice between the acts of reference (for example, act of ascription, ascribing linguistic concepts to the entities of the "real world"). The plausibility of justificatory discourse is not a purely semantic matter. There is no single best answer in terms of the argument (in the abstract) most likely to succeed rhetorically in the legal discourse (Jackson 1994[1990]: 192). Bernard S. Jackson starts his attack on legal positivism by referring to the principle of legal certainty in the "Rule of Law", according to which every citizen should be able to know in advance the legal consequences of his or her actions, that no-one should be punished on the basis of a rule not promulgated in advance (in the criminal law of Commonwealth, in particular, the immunity against retrospective laws extends only against punishment by courts for a criminal offence under an *ex post facto* law and cannot be claimed against prevention detention, or demanding a security from a press under a press law, for acts done before the relevant law is passed). This principle requires also that the general rule stated in advance must already apply to the particular case when any particular course of action

is chosen; it is not sufficient that it be applied retrospectively by a decision of the court. For Jackson, this principle of certainty throws a light on the linguistic character of the relationship between general rules and particular applications of them (Jackson 1996: 247). In order to illustrate that, Jackson adopts Strawson's pragmatic, goal-oriented theory of reference and at the same time, following the Saussurean tradition, assumes that making sense in law and jurisprudence is the result of interaction between two axes: the syntagmatic axis or the natural language system (Saussure's *langue*), where each word has a "linguistic value" (its sense) which is its relationship to other words in that system, and the paradigmatic axis or the language use (Saussure's *parole*), where one can deploy that linguistic system for particular purposes (including the reference — something that human beings do with that already-established "sense" of the signs — see Jackson 1996: 247). It is evident that Jackson draws a clear distinction between semantics and pragmatics, pushing the concept of "reference" into the realm of pragmatics. While (propositional) logic as a system operates without the intervention of "legal decisions" or "judgements", logic in the use of justification is a part of the pragmatic dimension of language, which requires a consideration of the identity and purposes of its users (Jackson 1997: 79–93).

There is also an indication, as Jackson puts it, that under circumstances when the "Rule of Law" is enacted, it is no longer possible to equate the "meaning" of statutes with their "references", for the law cannot refer to the facts of a particular case. The reference is possible only when the natural language is used to point out some known object/event in the real world, but under the "Rule of Law" there is no such *a priori* knowledge of the specific event, which will come before the courts (Jackson 1996: 247). That is why MacCormick's account of the justification of easy cases by normative syllogism is based on shaky grounds when he attempts to "rescue" (in Jackson's words) the principle of predictability of Law and its consequences by indicating that the problem of matching the major premise (for example, *For all men, if a man blasphemes the gods, then that person is liable to be executed*) and the minor premise (for example, *Socrates is a man and blasphemed the*

gods) can be secured by referring to the intention of the historic legislator. Commenting on MacCormick's proposal, Jackson notes that even in "easy" cases the sense is a matter of choice: "the sense of the predicate of the major premise — however literal we may take this sense to be — is not inherent, but, rather is a matter of conventional acceptance" (Jackson 1996: 250).

The principle of certainty in Law can be only saved by rendering the "hard" case "easy", in other words, by substituting "reference" with the concept of "denotation" — such as the words of statute from the moment of its enactment will have a literal uncontroverted meaning; the "denotation" of words is a class of objects for potential reference, while particular members of that class, the individual potential referents (in Peirce's lingo indexical signs), are denotata (Jori 1993). Another fundamental *disadvantage* of the *positivist* method of logic research in law is the complete ignoring of the pragmatic dimension of languages (the lack of pragmatic dimension is usually being shaped by the "background" positivist legal culture). As a solution to this inconsistency, Mario Jori provided a convenient starting "ground" for elaborating an adequate legal semiotics (Jori 1995: 131). As we have already seen, the main tool of legal positivism — the logic of law — alone is insufficient for a valid legal reasoning, thus Jori claimed that "pure" propositional logic is indeed a rigorous calculus that has no semantic dimension, and hence there will be no need for interpretive choice. "'Choices' in logic are whether to apply logic to propositions or not, not in the way logical rules operate once they are applied" (Jori 1998: 62). The rigidity of logical calculus makes logic insensitive to a distinction between semantics and pragmatics.

Bernard Jackson's main argument against legal logical positivism — that there are no decisions to be made in "pure" propositional logic, and that one knows *a priori* that there are such decisions to be made when referring to the "real" world — has been questioned by John Touchie (1997). Defending the propositional logic, Touchie has also advanced a counter-argument against aforementioned Jori's claim that propositional logic is insensitive to a *semantics/ pragmatics distinction* and

has no "semantics". Touchie points out that Bernard Jackson's model of propositional logic is flawed: in order to know whether or not there are decisions to make in legal argumentation, one must first look at the content of "rules" and, in this regard, the degree of abstraction of the reference of a rule has an important role to play. In reply to Jori's critique, Touchie argues that just the fact that logic is "formal" does not imply that it has no content. Furthermore, Touchie rejects Jackson's basic assumptions: Jackson's distinction between the sphere of "pure prepositional logic" and the "real world" and that these two spheres may be linked by means of a semiotic interpretive *decision-making* process of a *referential* nature. Instead, Touchie adopts a referential (or even a correspondent) account of the meaning ("sense") of a legal proposition.

Touchie examined the nature of the "decision choices" that Jackson claims are a necessary concomitant of factual determinations of the predicate, and argues that if Jackson's analysis is correct, then contrary to Jackson's assertions, these "decisions" must also be made within the sphere of "pure" propositional logic. He further argued that Jackson's seemingly unobjectionable claims concerning the "decisions" that have to be made when applying rules have substantial, but frequently overlooked, implications for rule-based conduct governance and the notion of following and applying a rule, one of these being that the question of whether or not there is a "decision" to be made in applying a rule can only be determined by turning to an examination of its content and the environment to which it refers. Finally, a more general argument is made against Jackson's position by relating his claims to the discussions of "the philosophical notion of intentionality" (Touchie 1997: 317–335) and against Kevelson's account of Peircean semiotics by relating her claims to the discussions of "the conventionality". In Kevelson's own words, the propositional meaning of a legal argument is the matter of the conventional symbolization of the making of Thirdness (Kevelson 1998). Since Touchie accepted "the correspondence conception of truth" (that there exists an extra-linguistic reality which can correspond to "Truth", Touchie criticized Kevelson's "shared assumptions" (which is tantamount to Peirce's habits of thought or Thirdness) for excluding

correspondence to the "actual" world and for refusing to acknowledge the dependence of meaning on functionality, environmental situationing, and reference.

As we can see, Touchie's central argument against semiotic theories of law (which he labeled as "closed systems" semiotics) is that meaning is inseparable from the purpose of communication. As a fellow follower of legal positivist model of "rational communication" and "the correspondence conception of truth", Touchie insists that Jackson cannot argue both that reference always requires individual choices, and at the same time that 'pure' propositional logic, being a rigorous calculus, does not require such choices or decisions (Touchie 1997: 330–335). In legal doctrine, such "volitional positions" have a pernicious effect, in encouraging the opportunistic view "that it is simply the "will" of a judge — or their "pragmatic" practice — that determines the content of a decision, in opposition to a view that judges are hedged in by the various significant constraints imposed upon them, one of these being the degree of abstraction or specificity of the rules governing the sphere in question" (Touchie 1998: 209). From the viewpoint of legal positivism, Jackson's "volitional argument" contradicts the principle of Common Law — *stare decisis*, that is, the legal principle by which judges are obliged to respect the precedents established by prior decision". For Touchie, his issue has fundamental implications for analyses of conduct governance and is intimately related to the issues of justice and the Rule of Law, because it is important to know to what extent a decision-maker's "decisions" could be restricted by adding specificity to rule-governance systems, and the various techniques one might employ to do this. Touchie also stressed that there are no good reasons for accepting a distinction between "logical decisions" and "social decisions", because logical decisions are not independent of, or different from, "social decisions" (Touchie 1998: 202).

These critical points from Touchie's article were further re-examined in Jackson's reply (Jackson 1998): this time, defending his views, he reproached them from the position of "Chomskian distinction between competence and performance". He claimed that Touchie's critique

overlooks Jackson's fundamental starting point in his original critique of MacCormick's account of the justification of legal decisions (once rendered "easy") through the normative syllogism. This starting point of Jackson's critique was the (typically) semiotic distinction between semantics and pragmatics, where the concept of "reference" resides within the realm of pragmatics. While logic as a system (or *langue* in terms of Saussurean semiology) operates without the intervention of "decisions", logic in use (*parole*) is part of the pragmatic dimension of language, which requires consideration of the identity and purposes of its users.

In a follow-up to Touchie's review (Touchie 1997), Jori (1998) also re-examined Touchie's central argument — that Jackson cannot argue both that reference always requires individual choices, and at the same time, that (pure) propositional logic, being a rigorous calculus, does not require such choices or decisions. As Jori (1998) pointed out, on the contrary, Jackson said that interpretive decisions are required only by reference, the applying, interpreting, or ascribing words and sentences to facts. Pure formal logic is indeed a rigorous calculus involving no choices apart from accepting the rules of the logic game. On the other hand, Jori agreed with the other part of Touchie's argument, that the amount of choice required by concrete acts of reference can be variably reduced by making the language more precise. Such interpretive choices can be reduced to a practical nil for the normal purposes of particular kinds of descriptions (the easy cases in jurisprudence and the normal cases in ordinary life and language — see Jori 1998: 59–65). According to Touchie, Jackson can neither be "sceptic" or "non-sceptic" about both logic and reference: it is reference to the world that proves to be essential in addressing difficulties of "rule-acceptance in law".

The position of syllogism in the Peircean semiotics is described at its best in Kevelson's article published in the same issue of *International Journal for the Semiotics of Law/ Revue International de Sémiotique Juridique* (Kevelson 1998). She concurred with MacCormick in the opposition to Jackson's refutation of this point; but her agreement was for rather different reasons than those offered by MacCormick: she

disagreed that the concept of legal justifiability lies outside the frame of traditional deduction, that is, syllogistic reasoning. Instead, Kevelson claimed that the underlying logic of decision-making — the logic of hypothesis — in law or in other discourse is distinctly different from that which characterizes syllogistic reasoning (Kevelson 1998: 69–70).

According to Kevelson, Peircean semiotics would have denied Jackson's position, which is that the pure propositional logic may be connected deictically (or referentially) with the real world. In Peirce's view the purpose of the syllogism is not to deictically point to the actual world of actual things; rather, its purpose is to show how one thought (or rather a habit of thought) is inferred from its predecessor in the argument inquired into. The syllogism belongs to the domain of third division of Peircean logic, Logic Proper, which is the study of the conditions of truth of the propositions (Kevelson 1998: 71) so, in order to show how exactly one habit of thought brings forth another, a legal syllogism would have to satisfy these conditions.

Hence, as it has been pointed out by Kevelson, the symbolic form of the syllogism (despite of its pure logical content), has become a rhetorical device, which persuades that it is truth bearing. This seeming controversy between logic and rhetoric is rooted in Kevelson's scepticism about the separation of the three approaches (logical, rhetorical and dialogical) in research of legal argumentation. She wrote: "in law the closed fist of logic and open hand of rhetoric became reciprocal acts such that neither logic nor rhetoric alone, in their traditional senses, is complete in themselves" (Kevelson 1991: 240).

Kevelson tackled Jackson's claim regarding the essence of "syllogistic reasoning" and restated Peirce's view in its clearest an unambiguous form: the term "a logically valid" argument may be appropriately applied only with the reference to the syllogistic reasoning (Kevelson 1998: 69–71). In this regard, Kevelson's semiotic theory of legal reasoning significantly deviates from the central dogma of legal positivism, which states that the legal and logical validity are intimately inseparably interconnected in any particular legal discourse: thus, for legal positivists, it makes no sense to talk about "syllogistic validity" as a

completely separate notion. According to Kevelson, Touchie's reason for rejecting Jackson's position is correct in itself: even pure propositional logic presupposes and/or requires decision. The problem with legal positivism is that positivism does not accept the existence of the logic of question and answers in decision-making (Kevelson 1998: 67–68). Jackson's dependence upon the assumption that will is required in order for syllogisms to point to the actual world, is the mistake of conflating that which manifests intentionality with the property of intentionality itself.

Thus, according to Kevelson, in Jackson's model (which follows Greimas and Saussure), a lawyer establishes an arbitrary "external semantic relation" between "a legal argument" and "Truth", which lies somewhere outside the frame of legal discourse, thus "endowing legal argument with the symbolic prestige as "truth-bearer" which is traditionally connoted by the formal, syllogistic model" (Kevelson 1998: 71). One of the fundamental tensions that are symptomatic of the differences between Jackson's semiotic theory of law and Kevelson's account of legal semiotics, was made explicit by Jackson, who claimed that "an abstract law" or "universal truth" is *a priori* established to an asserted syllogistic proposition. Yet, as Kevelson pointed out, in Peirce's semiotics the universal proposition (such as "Truth" or "validity of argument") is an *interpretatant (or an interpretation)* of the assertion, which signifies, in Peircean semiotics, an *intention to effect action in the world*. Kevelson's view of the "validity" seems to be clear: as an interpretation proceeds always in "a provable manner", it is only "logical provability" (not "an abstract logical validity") that makes a judgment or an argument "valid" or "invalid". Kevelson seemed to accept that the meaning of the terms of a syllogistic argument hinges around the shared conventionalized significance that is held in common by the community or context in which the argument occurs. As it has been shown in Jackson's version of legal semiotics, the ascription is rather a result of decision-making; the consequential ascription, produced by the "decision" provides a referential connection between the universal proposition and the "real world". According to Jackson, decisions are implied — even logically entailed by ascription. Thus a proposition becomes referential to the actual world,

that is, the "real world", if and only if it has been decided, thus and so, by an ascriptor, or an interpreter. But in a Peircean semiotics, the notion of interpretation does not point to a *person* who interprets, but rather to the manner and method by which one sign, that is, one concept, interprets another and thus evolves and develops the meaning of its referent. For Peirce, whatever is predicated about the world is an idea, a thought. In Peircean semiotics, there is a special reason for limiting the "deictic or referential" connections of syllogistic arguments only to shared assumptions (concepts, conventionalized symbolic signs, ideas) in a given community within any a particular universe of discourse (such as the discourse of legal reasoning). The "actual world" is not distinguishable, in Peirce's own words: "the actual world cannot be distinguished from a world of imagination by any description" (CP: 3.363). Our "actual world" is a world of the symbolic sign displacement.

In legal reality, only the closed ('formal') subsystems accept either inductive or deductive (or even syllogistic) mode of reasoning, based on a relatively small, fixed set of given premises (known as legal propositions), which does not allow alternative conclusions to evolve. In closed formal systems, there is only one correct answer and it must refer to the source of derivative authority (that is, the divine will, sovereign, parliament, sacred scriptures etc). Open legal subsystems ascribe to the legal reasoning new value of innovative and hypothetical reasoning (abduction), based on dialogism, which admits a choice between two or more possible and sometimes unpredictable solutions for the problem in focus. It must be said here, that innovative dialogic reasoning in non-formal open systems tolerates both formal legal arguments of jurists, as well those outside the formal system of legal reasoning ('reasons behind law'), dictated by other public socio-economic groups or popular customs (Kevelson 1987: 76). The changes of power-balance within the society, the ideological shift within any given legal culture or any particular legal community, the emergence of new socio-economic forms and cultural identities, result in evolutionary changes within the legal system.

There is a marked element of idealization in the way in which legal positivism refers to the concept of "legal system": such an ideal legal system cannot be used for the description of a continuing process of legal communication, legal interaction between different 'codes' representing different semiotic groups, different rhetorical and logical modes of reasoning (different legal subsystems, since this ideal legal system would be a Type in Peirce's sense. It was Jeremy Bentham who was first to insist that *Rule of Law* is safeguarded by that code of law (or legal system), which is complete in every aspect. Peirce's position would be diametrically opposed to that of Bentham: since the universe is infinite, a code of law must be always open, indeterminate and incomplete. At the same time, as we can see in Peircean semiotics, these modes of reasoning and appropriate type of logic underlie each particular type of legal system (open or closed). Noteworthy here is Kevelson's work on conflicts of law and conflict in law, especially the part concerning the creation of new referential norms (Kevelson 1990). A relatively closed system — in our case, a closed system of law — attempts to resolve apparent indeterminacy and to subordinate one member of the indeterminate or conflictual situation to the other. A relatively open system wants to sustain the paradoxical structure; at the same time, it may act in only one direction at a time, since that is all that is possible in any practical sense. Kevelson proposes that the creative role of paradox should be privileged:

> It is suggested here that there are all variations on the basic problem of paradox — that the problems of conflicts of law deal with the need to resolve distinctly different frames of legal reference between different legal systems. The problem of conflict in law involves different kinds of choice-of-law procedures and justification of such choice. At the forward border of all fields of inquiry today, we find the problem *of* the paradox. Nevertheless, following Peirce, we realize that this is at such critical juncture or crossroads between semiotic systems or frames of reference that new value emerges. At such points the creation of new referential norms and rules becomes possible. (Kevelson 1990: 37)

Conclusion

Due to the complexity of approaches, the differences between three large traditions of legal discourse analysis — legal logic, legal semiotics and legal positivism — could be accessed at a number of different levels. We acknowledge that the limits of inquiry are bound to a pragmatic question: by the use of what kind of comparative criteria are we best able to delineate the differences between legal logic, legal semiotics and legal positivism? In the course of this article, various (and somehow unrelated) matters of both legal positivism and legal semiotics have been taken into the consideration. Many of those discussed matters lead us to the obvious conclusion: legal logic, legal semiotics and the positivist theories of law are inherently different, for they address different issues of legal discourse. From the most general perspective, we can describe the observed differences using classical semiotic dimensions (semantic, syntacic and pragmatic).

In its purest form, legal positivism (as presented by Kelsen and Hart) seeks to compromise the pragmatics of legal meaning with the synactics of legal validity (that is, the recognition of a proposition as legally valid in terms of its form). For some legal positivists (notably Austin), law is a matter of a referential choice. Then, the meaning of legal norm would be a part of a legislator's will (or a part of legislator's message), which is invested into the creation of norms. And the legal language, which is used to express the normative prescription, is taken to refer to the outside "realist" world, as opposed to the world constructed in legal language and discourse. This is a place where legal positivism diverges from both Peircean school and Greimasian semiotics. Positivism privileges the syntactic dimension of legal discourse and accepts the existence of extensional connections between legal discourse and the outside world. Notwithstanding that we may observe that some "soft" versions of legal positivism (with external and internal point of view on law) remind of Peircean theory of "vague referent", there are also some parallels to Saussurean psycholinguistics ("law" is a psychological concept that exists in people's minds). However, as we see later, the real

difference between legal semiotics and various positivist theories of law consists in the conceptualization of "reference".

At the same time, with different types of legal logic (propositional, deontic and first order logics), we encounter typically formalist accounts of the legal discourse. Almost all types of legal logic regard the syntactics of legal discourse within the framework of reciprocal relations between propositions, norms and modal values. For instance, the logical subsumption may be regarded as a reciprocal *syntagmatic relation* between basic logical units (propositions, or states of being, such as "deontic modalities"). In Hohfeldian "logic" of legal dispositive concepts, civil rights (that is, real rights) are defined as mutual arbitrary *relations* between two persons; finally, in deontic logic, the range of normatively regulated behavior is described by mutual relations of "deontic modalities". There is one semiotic point at which this difference in theoretical orientation between classical legal positivism and legal logic is of the greatest importance. From the semiotic point of view, some forms of legal logics (especially syllogistic logic) are insensitive to a semantics/ pragmatics distinction and have no "semantics" (or rather, they are associated, in some derivative forms, with truth-conditional semantics). "Reference", being used in the context of legal logic, is only an attribute of the relationship between the propositions and the "outside world". Here, again we may observe that different types of logic come closer to the semiotic tradition of Peirce than to Greimasian semiotics.

We suppose that discrepancies between legal logic, legal semiotics and the positivist analysis of legal discourse (as discussed earlier) can be eliminated by employing the modified version of Peircean semiotics, which takes a different view of the logic relations and the status of the referent.

As indicated earlier, the relative logic of Peirce operates with a *set of objects* comprising all that stands to one another in a group of *connected relations*, while the ordinary logic works with *classes*. Moreover, in comparison to the ordinary logic, Peircean logic is directed to the multi-functionality of legal signs and the shifting roles of icon, index, and symbol in context of legal semiotics. The "recursive" logic of triadic

relatives (predicates) in such a particular form, in which it was developed by Peirce, rejects any aprioristic basis of the universal, abstract propositional truth (so it does not include truth-conditional semantics). Unlike the classical logic, in which the analogical decision would be evaluated just as a specification of the general law, or type; in Peirce's relative, or metamorphosing logic, the decision-as-interpretant sign would be, in effect, a new idea, or new sign of judgment, with the latter now standing in the same relation of the initial premise (judgment) to the object as did the initial premise. This recursivity of sign relationships eventually leads to the process, which has been described as "unlimited semiosis". In some cases of semiosis (such as an ideal communication), a new judgment-as-interpretant will be almost identical to the initial judgment. However, since the main task of interpretative practice is rather to produce differences (new interpretation) not sameness, then in most cases a new interpretant will deviate from the initial premise-as-interpretant. Another important difference, which follows from the previous observation, is that Peircean semiotics denies that the pure propositional logic may be connected referentially with the real world, because "real world" is unreachable due to the process of "unlimited semiosis".

Kevelson's semiotic theory of legal reasoning (based on Peirce's theory) also significantly deviates from the central dogma of legal positivism, which states that the legal and logical validity are intimately inseparably interconnected in any particular legal discourse — in Kevelson's theory logical operations appear to be vested with some kind of rhetorical value (for example syllogism persuades that it is truth-bearing). These logical operations of Peirce's exact logic are subordinated to the "pragmatics" or, in Peirce's own terms, Speculative Rhetoric: the major task of Speculative Rhetoric is the analysis of the growth of an initial premise in all of kinds of speculative discourses, which presume certain rhetorical practices (methodologies). Speculative Rhetorics operates on Grammatica Speculativa or grammar of speculative discourses (such as legal discourse) — it is the general theory of the nature and meanings of signs, whether they be icons, indices, or

symbols. Speculative Rhetorics permits to indicate particular minimal units of signification in the legal universe of discourse or signs that may be symbolic with reference to the context of the particular case (definitions); iconic as possible initial assumptions for some future case in another context (dispositions); and indexical when a decision is similar to or analogical with an encoded rule thus predicated upon it (norms) etc. To sum it up, Speculative Rhetorics represents the basic structures of argument used in legal reasoning and in legal discourse.

Greimasian semiotics claims that the minimal units of legal discourse are actants (which can be an abstraction or collective character) and functions (lexemes), which are modeled upon nominal phrases and their predicates, and constitute the legal grammar (the system of lexemes) in the course of *production juridique*. The regularity of legal grammar permits a semiotic analysis of legal discourse, since the legal discourse is regarded as a discourse with a particular content or "semantic investment" and "legal grammar" is itself a part of the message, conveyed by the text. Rhetorics, justification, validity of statements are also included into the structure of message. This message is thus conveyed through the transference of modal values with their particular semantic investments. The specificity of legal discourse resides primarily at the level of claims, made by the discourse, legal discourse at most represents a "secondary modeling system of law", which has three specificfeatures. First, it is capable of generating "semiotic objects" (legislators, judges etc), which in their turn are capable of producing other semiotic objects of legal discourse. In legal decision-making, the judge constructs a new reference to the legal text in the world of actual litigation.

A second important feature of legal discourse implies that the legal *acteur* (the particular semantic investment of an actant), constructed within the legal discourse is a signal for action, which is also a part of the message that the text conveys. A third remarkable feature of legal discourse is that legal discourse (in comparison to the ordinary discourse), far from being self-sufficient and allowing individuals the choice of reference, is focused rather on "states or modes of legal

existence" than actions. Finally, in Greimasian semiotics, the concept of "reference" may be also regarded as a part of the textual message. A given "verdict" in judicial justification presupposes that it is acceptable for a particular legal tradition to interpret a text of law as if it were referring to the case. That is why legal semiotics (developed in Saussurean tradition), in contrast to legal positivism, allows the possibility of the individual choice between the acts of reference (for example, act of ascription, ascribing linguistic concepts to the entities of "real world"). The reference to objects in some universe of discourse, is mediated by system-internal relations of difference. Legal positivism takes quite a different view, which is more akin to that of Peircean semiotics, accepting the existence of extensional connections between legal discourse and the outside world and claiming that "meaning" and "reference" are inseparable from the purpose of communication, with only one important difference. In Peircean semiotics, cognition is independent of what actually exists in the physical world and the "actuality" is an indexical category, based on the particular type of signs (indices).

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О взаимоотношениях юридической логики с позитивистскими теориями права и юридической семиотикой

Проблема взаимоотношений между позитивистскими теориями права, юридической логики и юридической семиотики является одной из важнейших проблем современной теоретической юриспруденции. В данной статье не ставилась задача систематического изложения современной юриспруденции и юридической логики. Вместо этого основное внимание было уделено тем аспектам современных позитивистских теорий права, юридической логики и юридической семиотики, которые позволяют выявить

сходные положения и отличия между вышеупомянутыми тремя парадигмами анализа правового дискурса. Одним из ключевых тезисов данной работы является тезис о том, что на сравнительном методологическом уровне, методологические границы и объект исследования юридической семиотики могут быть определены только посредством реципрокных связей юридической семиотики и позитивистских теорий права, а также логического анализа права. В данной статье также была предпринята попытка определить методологическое место юридической семиотики между юридическим позитивизмом и юридической логикой. В статье показывается, что различия между юридическим позитивизмом, юридической логикой и юридической семиотикой наиболее четко отражены в вопросе о статусе «референции» в юридическом дискурсе.

Seaduse loogika, õiguspositivismi ja juriidilise semiootika seostest

Seaduse loogika, positivistlike seaduse loogika teooriate ja õigussemiootika vaheliste suhete küsimus on üks kaasaegse teoreetilise õigusteaduse tähtsamaid probleeme. Käesolev artikkel ei püüa esitada moodsa õigusteaduse (ja seadusloogika) ammendavat käsitlust. Selle asemel keskendutakse ennekõike nendel positivistlike õigusteooria, seaduse loogilise analüüsi ja õigussemiootika tahkudel, mis võimaldavad välja tuua nende paradigmade erinevusi ja sarnasusi. Üks käesoleva töö põhiväiteid on, et võrdleval metodoloogilisel tasandil saab õigussemiootika ning selle uurimisobjekti piire määratleda vaid selle suhete kaudu õiguspositivismi ja seaduse loogika uurimustesse. Artiklis rõhutatakse vajadust paigutada õigussemiootika õigele kohale õiguspositivismi ja seaduse loogika vahele. Kõige paremini avalduvad õiguspositivismi, seaduse loogika ja õigussemiootika erinevused referendi küsimuses.