Metaphorical Simulation and Legal Reasoning: Discovering the Legal Unconscious

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ABSTRACT
Although there are many competing theories of legal reasoning, just as there are many cognitive mechanisms that are associated with reasoning, the importance of mental simulation is rarely highlighted in the legal literature. Within the research program of embodied cognition, simulation represents a key cognitive mechanism of which we are unaware. If so, assuming that cognitive sciences are relevant to legal theory, it is difficult to ignore the state of knowledge of the simulation mechanism in legal reasoning research. In this text, I point out the connections between research on the nature of legal concepts and legal reasoning on the one hand, and the concept of simulation on the other, paying particular attention to metaphorical simulation, which, in light of one of the most important theories of embodied abstract concepts, is responsible for the processing of legal concepts and is crucial mechanism of legal reasoning.

KEYWORDS
mental simulation, legal reasoning, legal concepts, metaphor theory, legal unconscious

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1. *Introduction*

The way lawyers think is the human way of thinking. Legal reasoning, despite its specificity, at a basic level is simply human reasoning. Regardless of the fact that legal reasoning is largely carried out "in the world of abstractness", where abstract concepts are used and norms come into play, the processes that make up legal cognition are firmly grounded in the physical world. In turn, we function as embodied beings in the world, and it is the nature of our bodies that fundamentally affects how we think about the law, how we interpret the law, and make decisions in the context of the law.

The purpose of this text is to present key aspects of the study of embodied conceptual metaphors and their relevance to theories of legal reasoning. First of all, it should be noted that theories of legal reasoning developed as part of legal theory (see MACCORMICK 1994; STELMACH & BROŻEK 2006; SCHAUER 2009) will not be analyzed in details here, as the aim is to highlight unconscious aspects of reasoning that have received relatively little attention in previous research. What is relevant here are the elements of reasoning (or, more broadly, legal thinking or cognition) that are unconscious. These elements are also prevalent in reasoning outside the legal context. This does not mean, however, that legal reasoning is devoid of certain peculiarities. First of all, due to formalization, but also due to the distinctiveness of the reference point for reasoning, which is—on the one hand—a specific state of facts, and on the other—a normative element. Legal reasoning, thus, is constituted by cognitive processes, the final element of which is a certain decision—this can be both a decision in the strict sense (legal decision-making) and, for example, an interpretive decision. Thus, I will understand "decision" in in the broadest possible sense, embracing all types of decisions, without limiting it to administrative decision or judicial decision, taken as a model example of legal decision-making (about legal decisions see e.g. GUTHRIE et al. 2001; BYSTRANOWSKI et al. 2021).

Of particular interest in this article are the unconscious aspects of legal reasoning which can have a very significant impact on the shape of the final decision. To this end, in the first part I will briefly analyse a key aspect of cognitive processes, i.e. conceptual processing that is pointed out—in the light of many research programs of modern cognitive science—as a fundamental element of cognitive processes (MARGOLIS & LAURENCE 2019; BARSALOU 2008; BORGHI & BINKOFSKI 2014). Of course, concepts can be understood in various ways, which will not be analyzed in detail here (see THAGARD 1992; MACHERY 2009). A way of understanding concepts that, for a number of reasons, seems to be the most adequate (although, of course, not without problems in the context of legal concepts) will be briefly described. I will then outline the most important aspects of the theory of mental simulation, which is a crucial element of

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contemporary research on the embodiment of cognition (Bergen 2012; Barsalou 2008; van Dam & Desai 2016; Roversi et al. 2017).

According to this theory, conceptual processing—and, more generally, cognitive processes—are based on unconscious simulation, i.e. the "re-enactment in the mind" of what we have experienced in the past. This means that when we think about objects, actions, etc., the same areas of the brain are reactivated that are active when we see something, hear something (or experience it with other senses), and perform actions such as moving our hands. Importantly, this theory is supported by many studies, including neuroimaging evidence (Barsalou 2008).

In the second part I will indicate the role metaphorical mappings and the related specific type of mental simulation (metaphorical simulation) play in the light of contemporary theories of abstract concepts and reasoning. Metaphorical simulation is a mental simulation that is indirectly—through the mapping process—based on the perceptual experience and bodily action. According to the currently discussed theories of embodied abstract concepts, metaphor—understood not as a linguistic tool but as a cognitive tool—provides a "bridge" between abstract thinking (and abstract concepts) and the bodily experiences we have in the physical world with physical objects (see Jamrozik et al. 2016). Because we do not experience abstract objects with our senses nor interact with them, they cannot be simulated. However, they can be simulated in an indirect way, through the use of metaphorical mappings. If we assume that abstract legal concepts are, at least in part, metaphorical (as research in the cognitive sciences suggests), then unconscious metaphorical simulation plays an important role in legal reasoning.

In the last part it will be shown why the insights of cognitive science should be taken into account in the context of research on legal cognition and—in particular—legal reasoning. Indirectly, I will also hint at some methodological remarks that can be applied to the entire research program (or trend) of cognitive legal studies, in particular to attempts to create theories of legal reasoning that take into account knowledge from cognitive sciences, i.e., theories that are naturalized.

2. *The core of legal unconscious: conceptual processing*

Although the term "unsconciousness" may be associated with psychoanalysis (Lakoff & Jonson 1999; Bargh & Morsella 2008; in legal context see e.g. Bindal & Vashist 2023), unconsciousness of mental simulation (and metaphorical simulation) is simply about remaining outside the realm of our awareness. As Lakoff and Johnson (1999) stated,

«most of our thought is unconscious, not in the Freudian sense of being repressed, but in the sense that it operates beneath the level of cognitive awareness, inaccessible to consciousness and operating too quickly to be focused on».

From the viewpoint of contemporary cognitive science this seems rather uncontroversial. Our cognitive processes are mainly unconscious, including crucial processes that shape our "conscious mind".

Thus, legal unconscious is a group of cognitive processes, relevant to legal cognition, of which we are unaware. This refers not only to negative phenomena noticed in the literature, e.g. implicit bias (see Irwin & Real 2010), but to all mental processes that co-create legal reasoning. Obviously such a formulation is vague, but also enumerating all relevant processes that constitute cognition is, in most cases, impossible.

First, it is worth noting that, according to empirical-grounded theories of cognition, our cognition is overwhelmingly unconscious in nature, and this is not a new idea (see Kihlstrom 1987; Reber 1991, Kahneman 2011; Lakoff & Johnson 1999; Bargh & Morsella 2008; Brożek 2019). In other words, just as we are unaware of most of the physiological processes in our bodies, we are also unaware of the vast majority of cognitive processes. Referring to the metaphor of an iceberg, we see only the top of the iceberg of our cognitive processes, and the

rest remains covered under a sheet of unconsciousness. This observation alone, as long as the legal theorist accepts the findings of cognitive science, is intriguing: even if it seems that lawyers interpret the law in a conscious, formalized way and rely on a (more or less) sophisticated methodology, including also procedural rules, most of the processes that make up legal cognition are unconscious processes. Knowing the importance of the unconscious in cognition allows to take a new perspective on many legal problems that are relevant to both legal theory and legal practice.

As numerous studies indicate, susceptibility to manipulation, reliance on heuristics (KAHNEMAN 2011; GIGERENZER & ENGEL 2006; ENGLICH et al. 2006), nudges (THALER & SUNSTEIN 2008) or the influence of irrelevant environmental stimuli (e.g., the temperature of a drink held in one's hand that influences the attitudes to others—WILLIAMS & BARGH 2008) often turn out to be factors of importance that are, of course, difficult to measure precisely—but impossible to ignore. Also, research on how we use concepts brings a lot of new knowledge in this context. Importantly, the processing of concepts, that is a basic cognitive process, takes place at the unconscious level (BARSALOU 2008; DOVE 2009; LAKOFF & JOHNSON 1999; MARGOLIS & LAURENCE 2019). Thus, as legal concepts constitute a subgroup of concepts, the processing of legal concepts also takes place outside of consciousness. But what are concepts, and legal concepts?

The study of legal concepts belongs to one of the most important strands of the philosophy of law, both at present and in the past centuries (see HAGE & VON DER PFORDTEN 2009).

By "legal concepts" I understand the concepts that, in the form of linguistic expressions (which are symbols), occur in legal language[1]. Legal language is, in a significant part, abstract in nature, as it contains many abstract words. Thus, the conceptual grid of law is also abstract in significant part. Therefore, in the analyses presented here, the relevant concepts are primarily those that constitute the abstract "axis" of the legal system, such as, for example, "intellectual property", "causation", "justice" or, finally, the concept of "law" itself. I thus adopt a definition similar to the one proposed by the Swedish legal theorist Ake Frandberg, according to which legal concepts are those that can usually be found in the catalogue of basic concepts presented to law students (FRANDBERG 2009).

Of course, this definition is imperfect, and it heavily oversimplifies the problem of legal concepts. However, it is not easy to find a good alternative. If we adopt, for example, a broad definition, according to which legal concepts are those concepts that are relevant in a legal context, we must indicate the criteria of relevance. This, in turn, means opening a broad discussion, touching ontological problems. Since legal concepts in a broad sense are relevant for this analysis, the above definition will be harnessed.

So far, the focus has been mainly on the role these concepts play in the legal system in the context of legal language. Legal concepts were presented as inferential links (SARTOR 2009), tools to facilitate the production of normative information (ROSS 1957), "elementary particles of legal discourse" (HOHFELD 1913; CULLISON 1967) or building blocks of "pyramid" that constitutes law (the adherents of *Begriffsjurisprudenz*, see HAFERKAMP 2011). Such an approach is noticeable, for instance, in the famous work *Tu-Tu* by Alf Ross, where the discussion about the meaning of legal concepts takes place in the context of the linguistic analysis of informative functions they perform. Moreover, it is a good example of an analysis in which the distinction between legal concept and legal term is blurred (this is also visible in studies in which Ross's theory is cited, see SARTOR 2009).

[1] This part of the paper is based on a fragment of my book *Metaforyczność prawa* (JAKUBIEC 2022b) in which I analysed the nature of legal concepts.

The meaning of the phrase "legal concept" is unclear not only because of discussions from the field of legal theory, echoing the question of the nature of law (see e.g., RAZ 1983, HART 1961) but first and foremost because the word "concept" occurs in it, to which various meanings are ascribed.

In principle, one can identify two basic ways of understanding concepts—or two perspectives: philosophical and psychological (MARGOLIS 1994). From the philosophical perspective, a concept is the meaning of an expression. The psychological approach, on the other hand, assumes that the relationship between natural language expressions and the world and its features requires the mediation of mental representations—and these are concepts (MARGOLIS 1994). A mental representation is a mental equivalent of an object from the external world. Concepts, therefore, act as a link between the mind and reality—when thinking about the world, we process concepts that represent it.

The idea according to which we possess mental representations, the processing of which is crucial in cognitive processes, can be illustrated as follows: if I think of an object from the outside world, for example, a tree, my mind processes the mental representation of trees. In order to learn about the world, we need something to act as a link between the world (which is outside our brain) and our mental processes—representations.

Within contemporary cognitive science concepts are usually treated as basic mental representations (see CAREY 2009; MARGOLIS 1994; MARGOLIS & LAURENCE 2015; JAKUBIEC 2022a; SUTTON 2004), i.e. basic mental equivalents of objects. This approach, which has so far gone almost unnoticed in legal philosophy, is a transfer of the state of the art from cognitive science to the theory of legal concepts. Cognitive processes are based on the processing of representations (see BARSALOU 2008; FODOR 1975), which allows us to assume that the processing of legal concepts is the basic mechanism of legal cognition.

As a digression, let me mention that there is an intense debate as to the nature of our representations. For example, it is debated whether they are quasi-linguistic and amodal, or rather modal and analogical (see e.g., DOVE 2009; BORGHI et al. 2017).

If legal concepts are to be viewed as mental representations, several problems can be easily pointed out. First, this is a different from looking at legal concepts as linguistic elements—or at least elements analyzed as linguistic elements if not equated with words. Second, while it is easy to understand what a mental representation of a tree or a cat might be, it is more difficult to explain how the mind represents abstract objects.

I understand abstractness (following many representatives of cognitive science) as the absence of reference to material, spatio-temporally existing objects (see e.g. CHATTERJEE 2010; BORGHI, & BINKOFSKI 2014; BORGHI et al. 2017; BORGHI & ZARCONE 2016; CHIAO et al. 2009; COWLING 2017; DESAI et al. 2018), such as law, truth, or justice. *A contrario*, concrete concepts are those concepts that refer to material objects, like cat, table or car. The focus on abstract legal concepts stems from the fact that they constitute the fundamental conceptual basis of law. Law, as an abstract artifact (see the detailed discussion of what this exactly means in BURAZIN et al. 2018), is, after all, a "paradise of abstraction". It is not surprising, then, that in previous theories of legal concepts, abstract concepts have been assigned fundamental importance, such as in Hohfeld's theory. Hohfeld, in building his—highly influential—theory of concepts, analyzed the concepts of "right" and "duty" (HOHFELD 1913).

Of course, as I will try to show in subsequent sections of the text, the theories of embodied abstract concepts, led by the theory of metaphors, come to the rescue here, but this does not change the fact that such an account of legal concepts may be counterintuitive.

Most importantly, there is the question of how to determine the relationship between language and concepts. If concepts are not linguistic creations, then why do we think of them in linguistic terms? Legal concepts can be treated both as mental representations and meanings of words. Language, which allows us to express concepts, gains meaning from concepts (JAKUBIEC 2022a). Abstract language enables us to construct abstract concepts—it is highly likely that

without language we would not be able to create abstract law. However, the fact that language is crucial does not mean that concepts are in any sense reducible to linguistic statements.

While the treatment of concepts as meanings is inherent in traditional thinking about concepts, the combination of the two seems something relatively new in the legal context. This is, of course, particularly relevant to the study of legal concepts, but it may also prove significant for debates within the philosophy of law that are *prima facie* not dependent on a view of concepts. This is the situation we face in the case of legal reasoning. Why?

3. *Mental simulation*

Mental simulation—within the framework of the research program of embodied cognition—is one of the key mechanisms of our cognition and thinking, important for decision-making processes. It can be referred to as the mechanism of embodied concept processing. According to simulation theory, it is crucial for our cognition to "re-experience"—unconsciously—what we have already experienced in some dimension (direct interaction or, for example, by gaining knowledge about something), and the processing of concepts is based on the mechanism of simulation, i.e. re-enactment of the relevant brain areas (BARSALOU 2008; O'SHEA & MORAN 2017). Concepts, therefore, being representations of the external world, constitute a base for unconscious "re-experiencing" of what they represent.

Below I will only outline this concept very briefly, referring to the way it is described by Barsalou, one of the cognitive psychologists who is the main author of simulation theory and its later developments. As he stated, simulation represents a «reactivation of perceptual, motor and introspective states» experienced by the subject (BARSALOU 2008). Thus, during the experience, the brain «integrates different aspects of states, creating a multimodal representation that it stores in memory» (BARSALOU 2008). In other words, as O'SHEA and MORAN (2017) summarize this process:

> «motor simulation can occur in the absence of external input, relying on the re-enactment of previously experienced events which are stored in multi-modal representational format (grounded theories)».

Therefore, to put it simply: when we think of a hand movement, a tree, or a cat, the corresponding areas of the brain (responsible for movement, sight, touch, etc.) are reactivated and we simulate (unconsciously) the events when the brain received information about objects from the external world (BARSALOU 2008). Conceptual processing is thus based on simulating interactions with objects or experiences that these concepts represent. It is not the case that concepts are certain symbols, constituting elements of the language of thought, which only arbitrarily link to the external world (for discussion see BORGHI et al. 2017). The link between concepts and real world is not arbitrary, precisely because of the mechanism of simulation (see JAKUBIEC 2022a, 2022b).

While such an approach may seem counterintuitive—mainly because we are not aware of simulations—it is supported by the results of many experiments, including the ones conducted with functional magnetic resonance imaging (see e.g., BARSALOU 2008; DOVE 2014). Moreover, even given the controversy over the nature of embodied cognition (see MACHERY 2007; MAHON 2015), the mechanism of simulation seems well established in empirical research and its role is difficult to question. As an aside, it is worth noting that here the analysis is limited to unconscious simulation—related to the processing of concepts. From the perspective of legal reasoning, another type of simulation is also relevant—a conscious one, which can be equated with imagination (see BROŻEK 2019).

Of course, this framing of simulation—as re-experiencing something—raises many questions, especially in a legal context. As mentioned earlier, law is largely abstract. Legal language is steeped in abstract words, and the legal conceptual grid is steeped in abstract concepts. These concepts refer to something that is not graspable in the same way as a tree or a cat. None of us, after all, experience—in embodied sense—neither law, obligation nor justice. How, then, can we simulate anything that is represented by such concepts?

4. *Between concreteness and abstractness: metaphorical simulation and law*

Before indicating how this question can be answered, it is worth taking a closer look at the relationship between concrete and abstract concepts—that is, as we assume that concepts are mental representations—between concrete and abstract representations. As mentioned, abstractness may be understood as the absence of reference to material, spatio-temporally existing objects, as in the case of obligation, intellectual property, or justice (see e.g. BORGHI & BINKOFSKI 2014; DESAI et al. 2018). *A contrario*, concrete concepts are concepts that refer to material objects, like a cat, a table or a car. Of course, such a dichotomous presentation has important didactic value, but it is a simplification.

In the context of abstract-concrete distinction, legal concepts constitute a heterogeneous set, but in explaining them one should assume the existence of a certain *continuum*. Let us present a brief typology of legal concepts:

(a) concrete legal concepts (of course not all legal concepts are abstract!)—processed at a basic (cognitive) level through sensorimotor simulations (in line with the results of neuroscientific research; see BARSALOU 2008);
(b) abstract legal concepts with a higher level of detail (e.g. "marriage of Sara and Peter", "contract between Smith and Kowalski")—processed at a basic level through sensorimotor simulations (these may be also simulations of interactions between individuals; on situational simulation see BARSALOU & WIEMER-HASTINGS 2005) and processing of abstract legal language;
(c) abstract legal concepts *sensu stricto* (e.g. "justice", "intellectual property", "rule")—processed at a basic level through metaphorically mediated sensorimotor simulations.

When (b) and (c) are analysed, metaphors—or, more precisely, metaphorical mapping and metaphorical simulation (at the level of mechanism) and conceptual metaphor theory (at the level of explanation)—enter the game.

It should be emphasized, however, that among the theories explaining the mediation mentioned above in (c) not only the theory of conceptual metaphors (LAKOFF & JOHNSON 1999; GIBBS et al. 2004; PECHER et al. 2011; in the context of legal applications e.g.: WOJTCZAK 2017; JAKUBIEC 2022b) is relevant. Other theories that are analysed by legal theorists are, among others: the theory of conceptual blending (FAUCONNIER & TURNER 2002; in the context of legal applications e.g. ROVERSI 2015; ROVERSI et al. 2017), the so-called hybrid theories, e.g. Dove's theory on the role of language in concept processing (DOVE 2009; DOVE 2020) or WAT theory (BORGHI & BINKOFSKI 2014).

The theory of conceptual metaphors, which has its origins in the work of cognitive linguistics, has become a reference point in many discussions especially since the 1980s, when George Lakoff and Mark Johnson began to publish their work (starting with LAKOFF & JOHNSON 1980, that quickly became one of the most cited books devoted to metaphors). Although the proposals they presented were not a complete novelty—one can notice in metaphor theory some elements that literary critic Ivor Armstrong Richards or philosopher Max Black had put forward decades earlier

(Richards 1936; Black 1955), and the seeds of which can be found already in Giambattista Vico (Brożek 2019)—there is no denying that Lakoff and Johnson caused the understanding of metaphor as a cognitive tool to enter the scientific debate. Nowadays, the theory of metaphors arouses a lot of controversy, especially when it comes to its explanatory power and grounding in neuroscientific research, but it is nevertheless pointed out as one of the most important theories of embodied abstract concepts (Jamrozik et al. 2016; Borghi et al. 2017; Roversi et al. 2017). So even if it is not an approach that can be considered as corroborated to the similar extent as simulation theory, it is still an interesting reference point for further research on abstract concepts. This includes abstract legal concepts.

Painting with a broad bush, according to this theory, when we think about the abstract object, we use patterns of thinking about the concrete objects. Somewhat more precisely, metaphoricity means that we understand many aspects of reality by mapping the source domain to the target domain. What do these terms mean? Mapping is an unconscious process in which certain elements of the inferential structure characteristic of a concrete domain (the inference structure of a given conceptual domain) are transferred to the inferential structure associated with an abstract concept (Lakoff & Nunez 2000). The way we think about the concrete is thus reflected in our ways of thinking about the abstract. In other words, the mental simulations involved in processing concrete concepts, described above, are relevant to processing abstract concepts: even though we cannot directly simulate abstract concepts because we have no bodily experience of the objects they represent, we indirectly use these embodied simulations in processing abstract concepts (see e.g. Jamrozik et al. 2016; Borghi et al. 2017; Bergen 2012; Castano & Caroll 2020). Therefore, it is reasonable to conclude—at least on the basis of the theory of metaphorical embodied abstract concept—that our processing of abstract legal concepts is based on the mechanism of metaphorical simulation. Hence, abstract legal concepts can be representations of legal objects—objects that do not exist in the physical sense, constituting only abstract artifacts (see Burazin et al. 2018), and therefore it is difficult to speak of representation in the strict sense that presupposes a relationship between the representation and the represented object.

Such a brief presentation of metaphor theory may seem vague, and therefore it is worth sketching three examples of legal conceptual metaphors. This will also help draw attention to the heterogeneous nature of metaphorical simulation in law.

(1) Law as a material object

We think of law in terms of something material. Of course, law is not something material, but in thinking about it we use the patterns of thinking about concrete objects. That's why we think—and talk—about breaking the law or circumventing it. As Winter states, explaining the significance of cognitive explanation in law,

> «It is the essence of our concept of law that it operates as an external constraint, much like the impenetrable vegetation of the forest. Yet this very conception already places law in the domain of metaphor and imagination, which is to say in the internal realm of the human mind. We cannot even talk about law without metaphorically treating it as an OBJECT: Courts "make" law; criminals "break" the law; vigilantes "take the law into their own hands". The contradiction is devastating. Because the desired constraint turns out to be internal to the mind, the conventional view is defenseless against the various subjectivist critiques that have been leveled against it» (Winter 1995).

(2) Something more important is higher: embodiment of legal hierarchy

This is one example of orientation metaphors, grounded in our most embodied experiences—which take place because of the nature of the human body. In this case, the metaphorization is evident on the linguistic level—we are talking about a higher authority, a supreme court or a

higher-ranking act that overrules a lower one (see empirical results concerning the role of orientational metaphors—SANTANA & DE VEGA 2011; SCHUBERT 2005). The importance of embodied hierarchy in law is evident on many levels. Legal acts are arranged hierarchically—and contain norms of a higher and lower order. The structure of the judiciary is also hierarchical—with many countries referring to the most important court as the "highest court". The same is true of other organs of the state, constituting public administration.

(3) Intellectual property is property (of material objects)
Intellectual property refers to intangible objects—in particular, works. For this reason, it can be seen as a metaphor for the concept of property, which represents a bundle of the owner's rights over tangible things (JOHNSON 2007; LARSSON 2017). This is an interesting example in that the source concept is visible on a linguistic level - unlike the concept of "law", and somewhat similar to the "more is up" metaphor, which is reflected in various aspects of the hierarchical nature of the legal system.

If one seeks to clarify how abstract legal concepts can be embodied, as well as how their representational nature can be explained—which seems essential given the findings of cognitive science—considering the meaning of metaphorical simulation is a necessary step. It is also important from the perspective of understanding the cognitive mechanisms underlying all legal reasoning—or, more broadly, legal cognition.

The importance of metaphor theory, however, goes beyond what I previously highlighted as a possible contribution to the understanding of the legal mind. In the last part, I would like to highlight some practical aspects of the study of the metaphorical nature of law, which show that the importance of this kind of research is not limited to theoretical quandaries and has important implications for the reasoning carried out in the legal context.

First, the analysis of the expressions present in legal language enables us to discover the conceptual metaphors and reconstruct the metaphorical simulations linked to processing of abstract legal concepts. This, in turn, allows us to better understand the aim of certain norms. For instance, in the context of intellectual property law, such analysis allows to discover the primacy that the legislator gives to the protection of creators' rights (LARSSON 2011, 2017; ZALEWSKA 2016). This can be important from the perspective of the interpretation of the law, especially the purposive interpretation, in which we refer to the purpose of legal regulation. Why does it matter? In case of doubts about the meaning of a certain norm, the court may refer to the general concept granting primacy to the rights of the creator over the rights of the beneficiaries. While it is, of course, possible to reach such a conclusion also without taking metaphors into account, their analysis in some cases may prove crucial, for example, when analyzing the court's line of argumentation in drafting an appeal. In a similar vein, Linda Berger, a U.S. legal scholar, notes that:

> «To argue against a dominant metaphor, lawyers must be able to uncover it; to argue for a new metaphor, lawyers must be able to imagine it. Studying the work of cognitive researchers builds such perception and imagination: the more we know about the work of the mind, the use of language, and the means of persuasion, the more critical, insightful, and persuasive we can be.» (BERGER 2004)

Second, as research on the impact of a course of metaphorical mapping on reasoning indicates (such as the experiment on understanding crime—see THIBODEAU & BORODITSKY 2011), specific source concepts shape the processing and understanding of legal concepts in different ways, affecting the assessment of the legal consequences of the events that occurred. This means that seemingly insignificant aspects of how a case is presented are therefore relevant to the decisions made by judges. It also means that by shaping the media message and the implicit

references to concrete objects present in conceptual metaphors, it is relatively easy to manipulate the public's position on the law, which can have a significant impact on legislative action. Also, those who apply the law and perform legal reasoning that results in decisions are not immune to this kind of influence.

In reference to the above first practical "application", it is also worth adding that by analyzing metaphors—or more precisely, by analyzing the language in which a metaphorical simulation manifests itself, it is possible to indicate which metaphor is more common—that is, which metaphorical simulations are more frequently used by people. It can be an argument in favor of a certain interpretation of regulations during doctrinal disputes. Whether such an argument will be justified is a separate issue. After all, the frequent occurrence of a metaphor does not necessarily mean that reasoning based on it is more appropriate than others.

5. *Concluding remarks*

The purpose of this brief paper was to highlight the importance of mental simulation in legal reasoning. Simulation—according to the current state of research within the cognitive sciences—is a key cognitive mechanism. This means that it is necessary to take into account the achievements of cognitive science in the analysis of legal reasoning. As I tried to show, the application of conceptual metaphor theory makes it possible to explain how our mind processes legal concepts, and this, in turn, is crucial for the reasoning carried out in the legal context. Of course, metaphor theory is not the only theory that can be applied in explaining the legal mind, nor is it a theory devoid of controversy. However, this does not change the fact that, being one of the most important theories of embodied abstract concepts (see BORGHI et al. 2017), it can serve as a source of knowledge for naturalization of theories of legal reasoning. There is also no doubt that—even despite questions about its exploratory effectiveness—it makes it possible to draw attention to aspects of legal reasoning that have so far not been the object of research within legal theory. For these reasons, further research on the significance of metaphorical simulation can be a source of knowledge relevant to legal theory.

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