

Chapter I. Concepts, assumptions and methodology

I.1. General remarks

By the language of the law¹ – following well-established Polish theoretical tradition – I mean the language in which legal acts are formulated (being fully aware of the reservations voiced with regard to such conceptualization – cf. e.g. (Gizbert-Studnicki, 1979, *passim*; Rey, 1995, p. 168). In contrast, legal language is understood as the language in which statements about legal matters are formulated. Meanwhile, common language is understood as a language whose vocabulary is a set of elements of an ethnic language widely available to an average member of a particular ethnic group, and therefore suitable for everyday use. For the sake of simplicity I shall use interchangeably the term “common language” and “general language”, although I do realize different connotations, positions and arguments connected with both terms in linguistics, especially the ones in which special languages alongside common language are variants of the general language (Cabré, 1999, pp. 58–61).

The most fundamental assumption announced here is that the language of the law raises an explicit claim to universality. This assumption is not made by those who examine human languages from a general point of view². It is internal to legal discourse and practice.

¹J. Finnis strongly insists that we should “distinguish between «the law» (of a particular community, the topic of thought by that community’s lawyers and judges) and «law» (a topic of thought of anthropologists, sociologists, other historians, moralists and juristsprudents such as Hart, Kelsen and Dworkin)” (Finnis, 1987, p. 368).

²Linguists cannot even notice the claim I’m insisting on because of its legally normative character. They can only say, like Alain Rey, that “the intellectual and conceptual functions of terminology, which are cognitive and theoretical in most sciences, can have a utilitarian

At the beginning, before explaining the concept of the claim to universality raised by the language of the law, it is indispensable to fight the anticipated first reaction of some readers. They can voice a doubt: How can it be that a language should raise a claim? The answer is: in the same way in which the law can, according to some eminent legal philosophers, such as for example Robert Alexy, raise a claim to correctness (Alexy, 1998). Like for Alexy, for whom a claim to correctness raised by the law means a conceptually necessary assumption that law is connected with morality, for me the claim to universality also means a conceptually and functionally necessary assumption that the language of the law is powerful enough to transmit all necessary information to the law's addressees. Both – Alexy's claim to correctness raised by the law and "my" explicit claim to universality raised by the language of the law – are in my opinion culturally conditioned, but of a very great, even constitutive importance for contemporary Western legal culture.

The explicit claim to universality raised by the language of the law is here understood differently than the universality that is attributed to language in general by the philosophy of language and linguistics (Gadamer, 2000, p. 10; Hintikka, 1991, 1997). It does not mean that

[l]anguage [...] must be equipotential. It must be serviceable for the innumerable new situations we encounter (Fauconnier & Turner, 2002, p. 182)

in the epistemic meaning of the word "must". The explicit claim to universality adopted herein means the claim, or an *a priori* assumption, raised publicly, and even officially and normatively (in the legal sense – as it is articulated overtly for example in the valid legislation), to:

1. the necessity, and simultaneously, the possibility of encapsulating in the language of the law the whole vast and unpredictable wealth of "future worlds" and contexts in which the law in question may be applied and;
2. the necessity, and simultaneously, the possibility of encapsulating in the language of the law issues whose recognition, interpretation and application depends largely on valuation and;

and a pragmatic function in technology and a standardising function in law" (Rey, 1995, p. 57).

3. the necessity, and simultaneously, the possibility of full intersubjectivity of the statements made in the language of the law.

Such a claim to universality is not raised, and definitely not so explicitly voiced, by the general language. It may be said that language in general is universal and that language at large refers to a wide variety of issues, and that in principle it can describe them all. But it is a reflection of a general nature about this language, which in its main part is natural language. In terms of specific language actions, however, it should be noticed that there are relatively few individual statements made in common language that would be intended by their author to be valid for decades or even hundreds of years and for numerous potential audiences, and that would affect so many different areas of social life, as the statements made in the language of the law.

It is just the law that can and must be able, under certain conditions specified in the relevant political and legal system, to regulate every aspect of life in any temporal, personal or territorial range. While using the language of the law one is not allowed to say: “This issue cannot be expressed in words”. Legislation must, in principle, be phrased in such a way that it can be understood by every citizen, current and future. It is required that it must be able to be complete³ (and therefore must be able to legally qualify any type of behaviour), that it can be in force indefinitely (i.e. usually without predicting in advance the termination of its validity), must be “continually speaking” and often atemporal (Williams, 2005), and therefore, at least potentially, it can and should be able to be used (and applied) for decades. In addition, the language of the law, much more frequently than general language, must be used to express issues that are inherently associated with the necessity of valuation. Although it is not usually valuation in terms of “good/bad” or “beautiful/ugly”, but rather “legal/illegal”, “right/wrong”, “fair/unfair”, “important/unimportant”,

³ The requirement of being able to be complete (or of being able to legally qualify any type of behaviour) is something weaker, or in fact something different from the requirement of being complete (or the requirement of legally qualifying any type of behaviour). So what I mean is not identical with what Wróblewski described as qualification completeness (Wróblewski, 2015a, *passim*).

etc., still, it is a kind of valuation, which means the differentiation on the “positive/negative” scale (Krzyszowski, 1999, p. 12 ff.).

The capacity and sublimation of the language of the law – on the basis of the assumption of its universality – must be much stronger than the capacity and sublimation of general language; it is so also due to the fact that the language of the law is an instrument of communicating solely the things that are abstract. Every well-educated lawyer knows (and almost every dilettante does not know) that the categories used by law and by the language of the law are not the same categories that are used in everyday discourse and reasoning, even though they look similar. These categories are always legal categories. Even if it seems that a particular law refers to a very concrete, physical reality – world phenomena, things or actions – and even if we use the dictionary meanings or concepts while interpreting the law, such phenomena, things, actions, meanings and concepts only look like ordinary ones. In fact they have been reconceptualized by the law in a more or less visible way. They are legal categories⁴. They are abstract. John Finnis explains it in the following way:

[A] lawyer sees the desired future social order from a professionally structured viewpoint, as a stylized and manageable drama. In this drama, many characters, situations, and actions known to common sense, sociology, and ethics are missing, while many other characters, relationships, and transactions known only or originally only to the lawyer are introduced. In the legally constructed version of social order there are not merely the ‘reasonable’ and ‘unreasonable’ acts which dominate the stage in an individual’s practical reasoning; rather, an unreasonable act, for example of killing, may be a crime (and one of several procedurally significant classes of offence), and/or a tort, and/or an act which effects automatic vacation or suspension of office or forfeiture of property, and/or an act which insurers and/or public officials may properly take into account in avoiding a contract or suspending a licence... etc. So it is the business of the draftsman to specify, precisely, into which of these costumes and relationships an act

⁴ A. Choduń examined a corpus of 52 Polish statutes and showed that in their content there is not even one phrase originating from common (colloquial) language (Choduń, 2006).

of killing-under-such-and-such circumstances fits (Finnis, 2011, pp. 282–283).

If the language of the law communicates solely the abstract, while researching into this language one must take into consideration how it is possible to communicate the abstract. Cognitive linguistics insists that the only possible way to construct, construe and communicate the abstract is by using metaphors or other figurative means of speech (Lakoff & Johnson, 1980)⁵. By the way this means that not all human thought (and therefore language) is metaphorical. Especially

[t]hings that we think of as being straightforwardly physical – rocks and trees and arms and legs – are usually things that we have conceptualized not metaphorically but rather in terms of what we take to be our bodily experience (Lakoff & Turner, 1989, p. 59).

The accomplishment of a claim to universality raised by the language of the law and the necessity to construe abstract legal concepts in the course of legal discourse implies that the lawmaker needs to apply appropriate means of legislative techniques. Special means are demanded not only because legal concepts are abstract but also because they are normative. Normativity is an abstract frame in which the abstract legal concepts present themselves. That is why normativity is an important element of meaning for the transfer of which the language of the law must be powerful enough. In Chapter VI there is a detailed presentation of this issue.

At this point it is necessary to pay attention to another important aspect connected with the means of the legislative technique. According to Polish tradition, expressed in the § 5 of the appendix to the regulation of the President of The Council of Ministers of 20 June 2002 on the legislative drafting measures⁶, legal acts should be edited in a concise and synthetic way, avoiding excessive details (Malinowski, 2009, p. 279). Let

⁵ Cf. A. Kaufmann's words: "[...] virtually all juristic concepts, even the so-called descriptive ones, are analogical concepts, because they never express a meaning which is merely perceptual but always (at least additionally) an intellectual, a specific legal meaning" (Kaufmann, 1966, p. 382).

⁶ Regulation of the President of The Council of Ministers of 20 June 2002 on the legislative drafting measures, consolidated text Journal of Laws of 2016, item 283.

us contemplate this demand taking into consideration Andrew Ortony's opinion:

The expression of the otherwise inexpressible is not the only communicative function that metaphors serve. They also achieve a certain communicative compactness, since all the applicable predicates belonging to the metaphorical vehicle are implied succinctly through the vehicle itself. Thus, even if what a metaphor expresses may have been more or less expressible without the metaphor, its use may be more economical and hence more effective than the long list of predicates it entails (Ortony, 1987, p. 480).

The following analogy can lend credence to the importance of the thesis presented here⁷. The language of ethics should undoubtedly by its definition describe all that refers to ethical valuation. The language of aesthetics is also required to express valuation in an effective and comprehensive way. Both languages – the language of ethics and that of aesthetics – by their nature must not be solipsistic or private. If ethics or aesthetics are to be possible as significant disciplines of human thought, they must be intersubjectively communicated. One of the intersubjectively shared ways of thinking, reasoning and speaking about valuation is metaphor. The second point and at the same time a continuation of the above-mentioned analogy is that the language of the law is an instrument of communicating solely the things that are abstract. The same can be said about ethics and aesthetics – they both use mainly abstract categories – ethical or aesthetic. They often use metaphors specific for these domains, different from those used in every day cognition. Thus both languages – that of ethics and that of aesthetics – are – beyond any doubt – to a considerable extent (higher than trivial) metaphorical.

⁷ The summary of the thesis: (1) The language of the law raises a claim to universality. (2) This claim is the source of the distinctive feature of the language of the law that is its necessity to cope with valuation. (3) This claim is the source of the necessity for the language of the law to cope with expressing and construing concepts that are abstract and in addition normative. (4) The phenomena described in thesis (1), (2), and (3) are the main causes that make the language of the law metaphorical in a way that is far from being trivial.

I.2. The concept of metaphor

While using the cognitive theory of metaphor, the most important thing to remember is the underlying assumption that there is no necessary connection between the actual structure of the world (if there is any relevant at all, of course) and the structure of the categories ordering human knowledge about the world. Our mind (with all its abilities) is not a mirror which only reflects transcendent and independent reality. What we see and what we know about the world, how we see and how we structure our knowledge about the world, depends on our bodies – their attributes and internal processes – and the relations of these bodies to the reality they are surrounded by (Johnson, 1987).

Keeping the above in mind one must also understand that according to Lakoff and Johnson metaphor is not a purely linguistic phenomenon. Its main function is not communication or description, but cognizing, categorizing, reasoning, and achieving new information about the world (Lakoff, 1990b; Lakoff & Johnson, 1980). It is one of the most important tools of human cognition. Metaphors are of conceptual character. Linguistic utterances, which are commonly considered to be metaphorical (or to be metaphors themselves), are only surface expressions of mental processes making use of this tool, i.e. metaphorisation. As people generally share this metaphorical way of cognition, especially within the scope of the so-called embodiment, such utterances are created and used for communication. Lakoff explains it in the following way:

The metaphor is not just a matter of language, but of thought and reason. The language is secondary. The mapping is primary, in that it sanctions the use of source domain language and inference patterns for target domain concepts (Lakoff, 1993).

Thinking with metaphor means thinking about some element of the world (an object, a phenomenon, a relation, an event, etc.) using in a specific way the categories attributed to some other element of the world. Such a method of transferring structures or attributes from one domain⁸

⁸ A domain (a conceptual domain) is a relatively complex knowledge structure which relates to a coherent aspect of experience (Evans, 2007, p. 61). Cf. LOVE, JOURNEY, TIME, SPACE, LAW, JOB, MARRIAGE etc.

to the other is called metaphorical projection or metaphorical mapping. Projection or mapping is always partial, never complete. If it were complete it would create a relation of identity and not of metaphorical mapping. The consequence of partiality of mapping is twofold: first, the elements of the source domain that are transferred to a target domain are highlighted in a way, made more visible; second, the target domain is not completely constructed by the mapping and the metaphor leaves some places hidden or empty. This second phenomenon is strongly connected with the fact that a lot of concepts are constructed and construed by more than one metaphor. Sometimes one concept is influenced by several overlapping or even *prima facie* conflicting metaphors. So what is not filled in the concept by the metaphorical projection from a given source domain, is taken either from another metaphor/metaphors, or from the knowledge about the concept (or the object described by the concept) that a person already has.

Usually (though there are some doubts about this regularity) we think about some more complicated, harder to cognize, less known element of the world using the categories attributed to less complicated, easier to cognize, or a better known element of the world.

This more complicated, harder to cognize element (or rather our knowledge about it – see the assumption summarised in the first paragraph of this chapter) we shall call, as it is often practiced in cognitive theory of metaphor, target domain. The less complicated, easier to cognize or better known element we shall call source domain. The specific way of transferring the structure (or attributes) from source domain to target domain we shall call metaphorical mapping.

Though in fact the domains (both source and target) are never single entities or objects, or single propositions, but rather coherent structures of knowledge about some element of the world, concepts or models (sometimes quite simple, sometimes very complex), cognitive linguists for practical reasons, mainly to aid analysis give them “names” – labels – which are usually written with capital letters (in this book particular domains coming from the general domain of LAW will be marked with the letter [L] in square brackets).

G. Lakoff explains this method of metaphor registration in the following way:

To make it easier to remember what mappings there are in the conceptual system, Johnson and I adopted a strategy for naming such mappings, using mnemonics which suggest the mapping. Mnemonic names typically (though not always) have a form: TARGET-DOMAIN IS SOURCE-DOMAIN, or alternatively, TARGET-DOMAIN AS SOURCE-DOMAIN. [...] It is a common mistake to confuse the name of the mapping [...] for the mapping itself. The mapping is the set of correspondences. [...] If mappings are confused with names of mappings, another misunderstanding can arise. Names of mappings commonly have a propositional form, for example, LOVE IS A JOURNEY. But the mappings themselves are not propositions. If mappings are confused with names for mappings, one might mistakenly think that, in this theory, metaphors are propositional. They are, of course, anything but that: metaphors are mappings, that is, sets of conceptual correspondences. [...] [W]hen we refer to the LOVE IS A JOURNEY metaphor, we are referring to the set of correspondences [...] The English sentence *Love is a journey*, on the other hand, is a metaphorical expression that is understood via that set of correspondences (Lakoff, 1993).

That is why under a very short and simple phrase⁹:

ARGUMENT IS WAR (where ARGUMENT is a mnemonic-label for target domain and WAR is a mnemonic-label for source domain)

which has innumerable linguistic manifestations in everyday communication such as:

Your claims are indefensible.
He attacked every weak point in my argument.
His criticisms were right on target.
I demolished his argument.
I've never won an argument with him.
You disagree? Okay, shoot!
If you use that strategy, he'll wipe you out.
He shot down all my arguments.

⁹This is a famous example given by Lakoff and Johnson – (Lakoff & Johnson, 1980, p. 4).

one should understand a very complex way of thinking, which can be schematically shown as follows:

SOURCE DOMAIN	TARGET DOMAIN
war	argument
enemies	opponents, parties
position	stance
weapon	arguments, claims
attack	giving an argument
counter-attack, counteroffensive, defence	counter-argument
battle	discussion
conquest	refutation of the other's argument
peace	agreement between parties
victory	proving one's point
surrender	admitting that sb is right

As metaphors are the tool of categorization it is important to remember that – according to Lakoff – human knowledge is organized by means of structures called idealized cognitive models (ICM) (Lakoff, 1990b, p. 68).

An ICM is a relatively stable mental representation that represents a “theory” about some aspect of the world and to which words and other linguistic units can be relativised (Evans, 2007, p. 104).

These are the ICMs that determine the meaning of the words and not the objects in the world to which words are related. An interesting example of the ICMs results, simultaneously drawing attention to axiological aspects of meaning (this problem will be discussed below), is given by T. Krzeszowski. He describes the difference between “father” and “daddy”. According to the traditional view the meaning of these two words is definable by its common component, which is “male parent” and the difference between them is attributed to the emotive charge of “daddy” and the absence of such a charge in “father”. Krzeszowski believes that both words are emotively and axiologically charged but they are

defined relative to two different ICMs. These ICMs differ with respect to such components as “endearment”, “goodness”, “kindness”, which are obligatory in the “daddy” ICM and are optional or absent in the ICM for “father” (Krzyszowski, 1990, p. 149). S. Winter, referring back to Hart’s famous example of “no vehicles in the park”, shows how the interpretation of this and other cases concerning parks depends on the current ICM of the park (Winter, 2001, pp. 205–206, 260–266).

I.3. Embodiment

Why do we need metaphors for cognizing and where do metaphors come from? Even if it is assumed that the most important element of being a human being is to reason and to have a mind it must also be admitted that human beings like other creatures of the natural world cannot exist (so cannot reason and use their minds) without bodies. It is the body that lets a human being interact with his external and internal milieu. The shape of the body and the senses that are at its disposal determine the way in which the mind may collect and process information coming from the milieu. If we were not erected warm-blooded creatures, with two legs and two hands, a head, the front of the body and the back, equipped with eyesight, hearing, smell, the sense of touch and taste, but, for example, bats, the image of the world accessible to our minds would be quite different. What is more, we – human beings – are not even able to imagine what such an image could be if it came from a different body, if it were for example a batty one (Nagel, 1991).

Making the above-stated claims the foundation of his conception M. Johnson suggests that:

[H]uman bodily movement, manipulation of objects, and perceptual interactions involve recurring patterns without which our experience would be chaotic and incomprehensible. I call these patterns “image schemata”, because they function primarily as abstract structures of images. They are gestalt structures, consisting of parts standing in relations and organized into unified wholes, by means of which our experience manifests discernible order (Johnson, 1987, p. XIX).

The structures called image schemata are, according to Johnson, of non-propositional, analog nature and have a figurative character (Johnson, 1987, p. XX). Image schemata are not composed of rich, concrete images or mental pictures, but rather of recurrent patterns and shapes with regularity in, or of, activities such as actions, perceptions and conceptions (Johnson, 1987, pp. 23, 29). Because the schema of BALANCE is extremely important for the purposes of this book, let us look at it as an illustration of what image schemata are. Here is Johnson's description of BALANCE:

The experience of balance is so pervasive and so absolutely basic for our coherent experience of our world, and for our survival in it, that we are seldom ever aware of its presence. [...] It is crucially important to see that balancing is an activity we learn with our bodies and not by grasping a set of rules or concepts. [...] We also come to know the meaning of balance through the closely related experience of equilibrium, or loss of equilibrium. We understand the notion of systemic balance in the most immediate, preconceptual fashion through our bodily experience. There is too much acid in the stomach, the hands are too cold, the head is too hot, the bladder is distended, the sinuses are swollen, the mouth is dry. In these and numerous other ways we learn the meaning of lack of balance or equilibrium. Things are felt "out of balance." There is "too much" or "not enough" [...] balance becomes conspicuous by its absence (Johnson, 1987, p. 75).

There are but a few of image schemata, but they play the fundamental role in human cognition. V. Evans lists the following (Evans, 2007, p. 108), though it should be remembered that the number of them is indeterminate (Johnson, 1987, p. 126):

1. SPACE (UP-DOWN, FRONT-BACK, LEFT-RIGHT, NEAR-FAR, CENTRE-PERIPHERY, CONTACT, STRAIGHT, VERTICALITY).
2. CONTAINMENT (CONTAINER, IN-OUT, SURFACE, FULL-EMPTY, CONTENT).
3. LOCOMOTION (MOMENTUM, SOURCE-PATH-GOAL).
4. BALANCE (AXIS BALANCE, TWIN-PAN BALANCE, POINT BALANCE, EQUILIBRIUM).

5. FORCE (COMPULSION, BLOCKAGE, COUNTERFORCE, DIVERSION, REMOVAL OF RESTRAINT, ENABLEMENT, ATTRACTION, RESISTANCE).
6. UNITY/ MULTIPLICITY (MERGING, COLLECTION, SPLITTING, INTERACTION PART-WHOLE, COUNT-MASS, LINK (AGE)).
7. IDENTITY (MATCHING, SUPERIMPOSITION).
8. EXISTENCE (REMOVAL, BOUNDED SPACE, CYCLE, OBJECT, PROCESS).

Image schemas are mutually interrelated; they can form clusters while structuring concepts and they are differentiated with regard to their complexity. Some of them can be subschemata of the others. For example such schemas as UP-DOWN or FRONT-BACK are quite simple, while the schema SOURCE-PATH-GOAL is more complex. The former one structures only an orientation in the space. The other consists of subschemata SOURCE, PATH and GOAL, which may or may not be an element of concrete conceptualization and its linguistic realization (as in expressions such as “his origins are unknown” or “they left yesterday”, where PATH and GOAL are not presupposed) (Krzyszowski, 1997, pp. 109–110).

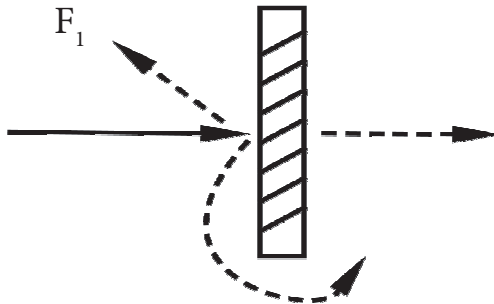
Image schemas are used by human minds in different ways. Among others they are used as source domains in constructing and construing metaphors; they are extended and elaborated metaphorically to connect up different aspects of meaning, reasoning, and speech acts. (Johnson, 1987, p. 65).

For example, an Aristotelian notion of a concept is based on the image schema of CONTAINER (CONCEPT IS A CONTAINER), where the concept is a container, the objects belonging to the denotation are inside the container, the objects that are not named with the concept are outside the container, the walls (boundaries) of the container are the set of necessary and sufficient conditions.

Another significant example just from the legal field is the concept of law and normativity, which is constructed and construed by different extensive elaborations of the image schema of FORCE, especially the image of BLOCKAGE (LAW IS AN OBSTACLE). This schema is described by Johnson in the following way:

In our attempts to interact forcefully with objects and persons in our environment, we often encounter obstacles that block or resist our force. When the baby learns to crawl, for instance, it encounters a wall that blocks its further progress in some direction. The baby must either stop, ceasing its exertion of force in the initial direction, or it must redirect its force. It can try to go over the obstacle, around it, or even through it, where there is sufficient power to do so. In such a case the child is learning part of the meaning of force and of the forceful resistance in the most immediate way. This experience of blockage involves a pattern that is repeated over again throughout our lives. The relevant gestalt can be represented as a force vector encountering a barrier and then taking a number of possible directions (Johnson, 1987, p. 45).

It can also be represented in a visual way:



This schema represents the duality of the legal assessment expressed by the terms legal/illegal. The barrier being the part of this cognitive gestalt when mapped into a legal domain is a symbolic border between two worlds: that of the legal and that of the illegal. This barrier, being originally a physical object, is metaphorically mapped to the domain of duty, but – in this case – a special duty whose source is the law (or the rule, or the contract). This mapping from the physical barrier to the duty, having a source in the law (or the rule, or the contract), is a part of the more compound metaphorical mapping BREACHING THE LAW (THE RULE, THE CONTRACT) IS BREAKING A PHYSICAL OBSTACLE (A PHYSICAL OBJECT). In this metaphor the domain of breaking a physical object gives the partial structure to the domain of BREACHING THE

LAW (THE RULE, THE CONTRACT). The act of using physical force to overcome a physical object (being an obstacle for that force) is used to construct and construe the act of doing something, which is against one's duty, which is not allowed, or is prohibited by the law (the rule or the contract). Such a cognitive operation is indispensable because the notion of doing something that is not allowed, or is prohibited by the law (the rule or the contract), is an abstract notion and cannot be cognized in the same way as physical actions are, even though some of its tokens may be in the form of physical actions.

Let me insist that this analysis of the legal cognition of the concept of "breaking the law (the rule, the contract)" is strongly coherent with other legal concepts and their cognition, coming from the field of the binding law, jurisprudence, or legal sciences. In the Polish tax law, for example, and in other legal systems too, there appears the institution of the circumvention of the law, which can also be clearly explained in terms of the image schema of BLOCKAGE¹⁰.

It is further important to notice that the thesis of embodied cognition was experimentally verified and that related experiments have provided massive evidence for its relevance (Lakoff, 2012).

I.4. Metaphors – random or systematic?

Metaphors serve mainly (though not only) two strictly connected functions – they are both creative and heuristic.

Conceptual metaphors construct the concepts (understood as representations and fundamental units of knowledge), which can then be (but do not have to be) encoded in certain lexical concepts. That is why metaphors are one of the basic means of conceptualization, as thanks to their being a cognitive tool, it is possible to conceptualize this part of human experience that is not the brute physical experience of an interaction between a human body and the external world. It is worth mentioning that even our physical bodily but internal experience is in its majority conceptualized and then verbalized through metaphors. For

¹⁰ More about the metaphor LAW IS AN OBSTACLE see (Wojtczak et al., 2017).