



THE SOURCE DOMAIN OF FAUNA IN METAPHORIC REPRESENTATION OF TRANSPORT TERMS

JEĻENA TRETJAKOVA

Riga Technical University

jelenatretjakova@inbox.lv

Keywords: *domain, conceptual metaphor, metaphor, terms.*

Domain is one of the key concepts in Cognitive Linguistics. The branch itself was shaped as a separate trend in linguistic studies in the late seventies – early eighties of the twentieth century. There is no single theory or methods used and admitted unanimously by linguists of the branch, thus the field of Cognitive Linguistics remains rather flexible and open to new approaches. The field of its interests is rather broad and the relationships between the language and thought and these between the world and the human mind are the key issues. Language is perceived not merely as a means of communication but rather as a way of conveying, storing and processing of information. It is understood as a mediator between the world and the mind and can serve as a reflection of the human perception of the objective reality.

The term “domain” has entered Cognitive Linguistics with two meanings and two different purposes. V. Evans in her “Glossary of Cognitive Linguistics” provides the following definition of a domain: “Domain is a conceptual entity posited in Cognitive Grammar. A domain constitutes a coherent knowledge structure possessing, in principle, any level of complexity or organization...” (Evans 2007, 61). According to Evans, the term was brought into cognitive grammar by Ronald W. Langacker, and what he virtually implies by the term is the background information, knowledge structure which provides conditions for word comprehension in a particular context. For example, in order to understand the word “sunny”, we have to have knowledge of the weather system; without this knowledge the word will not be clear or will not be comprehended as it should be. Thus, the domain of “weather” will be crucial for understanding the word “sunny”. This idea is in tune with the encyclopedic view of the meaning that was briefly outlined above and which, in short, claims that the context shapes the meaning and provides proper message delivery. Langacker also distinguishes between basic and abstract domains. Basic domains are the closest to human experience, since they provide the knowledge derived directly from a human’s experience, or embodied cognition. For example, such domains as SPACE or TIME are considered to be basic, thus being understood and accepted by anyone. On the



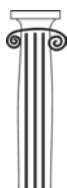
other hand, there are some domains, like LOVE or FRIENDSHIP that can be regarded as abstract domains owing to a more complicated nature and organization. That virtually implies that though being derived from the basic domains, abstract domains may give more specific knowledge for proper comprehension of a word by particular groups of people. The difference between marriage traditions, for example, may cause specific perception of the word “wedding” by different nations. Such approach to domains’ classification provides hierarchy between them, or in other words, the interrelations and interdependence within the domains. We can instantiate the theory by an obvious illustration. When analyzing the meaning of the word “spoon” we should construct the domains’ hierarchy, such as:



Fig. 1. Hierarchy of domains for the word “spoon”

Langacker’s theory of domains is mainly focused on organization of experience and knowledge into concepts that will further provide meaning perception. That means that in order to grasp the meaning of “spoon” we should first start with the basic domain of SPACE. Since it is the starting point for meaning construction and it can be hardly subordinated to another domain, it is placed at the bottom of a hierarchical scale and considered to be basic. As V. Evans states referring to Langacker: “Basic domains derive from directly embodied experiences that are pre-conceptual in nature” (Evans 2006, 233). Abstract domains in their turn are more individualized or, as Evans characterizes them, “subjective in nature” (Evans 2006, 233).

Another aspect of the term “domain” application in Cognitive Linguistics is its introduction in the Conceptual Theory of Metaphor. The Glossary of Cognitive Linguistics interprets the term in the following way: “Conceptual domains are relatively complex knowledge structures which relate to coherent aspects of experience... A conceptual metaphor serves to establish correspondences known as cross-domain mappings between a source domain and a target domain by projecting representations from one conceptual domain onto corresponding representations in another conceptual domain...” (Evans 2007, 62). The theory elaborated by G. Lakoff is crucial for both the analysis and formation of metaphor. The basic claim is that metaphor’s meaning is grasped through cross-domain mappings projected from the source domain of knowledge to the target domain. In the analysis of metaphor we should link and juxtapose the meaning from the source domain to the target domain in order to see the correspondences and comprehend metaphoricity. The conceptual metaphor is



established and given the written representation in the form of TARGET DOMAIN IS SOURCE DOMAIN or TARGET DOMAIN AS SOURCE DOMAIN. Thus, in the analysis of the sentence *He has built a brilliant career* can be analyzed through a conceptual metaphor SUCCESS IS A BUILDING and that implies that career is something you can build; the notions related to a building in the source domain should be found correspondences in the target domain. If we make further projections we would be definitely able to find such corresponding elements of the domains as: career is a building, an employee (person) is a builder, career ladder is stairs of the building, etc.; and this in its turn could enable us to make the following statements: *He has worked really hard to build such a brilliant career; Her way up to a career ladder was not always smooth and easy*, etc.

The analysis of the present paper is based upon the theory of domains employed in Lakoff's theory of conceptual metaphor. The construct was further supported and substantiated by various scholars (Levin 1993; McGlone 1996; Low 1999; Kövecses 2010; et al.). Human's background, knowledge or experience provide him with the ability to juxtapose and contrast phenomena belonging to essentially different areas, or, in linguistic terms, domains. Metaphor formation is an extremely interesting case for analysis. Judging it from the conceptual theory's viewpoint makes it possible to draw links between the two domains involved, which contributes to metaphor comprehension. This can schematically be shown in the following way:

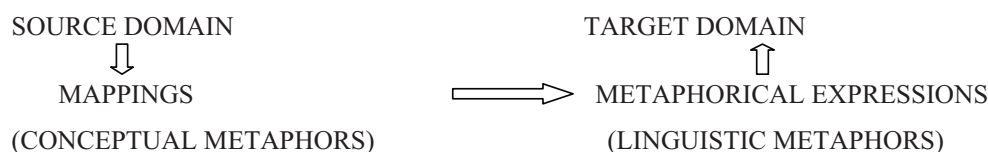


Fig. 2. Metaphor projection from the source domain to the target domain

The source domain lays the foundation for the concept, which in its turn forms mappings, or conceptual metaphors. The conceptual metaphor will further provide a whole number of linguistic expressions, or linguistic metaphors, that finally deliver the idea to the target domain.

Metaphor might seem not appropriate for scientific language, since terminology and scientific language need precision, clarity and unambiguity. Under such a claim metaphor cannot fit the context if it is being viewed at and perceived as a purely literary trope. But having in mind the theory exposed in cognitivists' views and study of metaphor, i.e. the idea of metaphor's ubiquity in humans' life (Lakoff, Johnson 1980), it becomes obvious that metaphor can be present in all spheres of human's activity. This fundamental concept has given a push in linguistic research and thought, metaphor has gained extensive study in various fields with the science of no exception. Research of scientific language is not an easy task and can be carried out in two directions. One is the study of scientific discourse in periodicals or specialized literature (the sphere of functioning), the second is study of terms fixed in terminolo-



gical dictionaries (the sphere of fixation) (Skujiņa 1993). The latter is the object of the present research.

Within the framework of the conceptual metaphor theory much research has been done. One of the tasks is to identify the conceptual metaphor and precisely determine the two domains involved. Linguists have tried to reveal the source domains that more often serve as the conceptual basis for the projection of a notion to the target domain. It might seem self-evident that the most common source domain is human body. In search for reasons for such claims we need to go back to the idea of encyclopaedic aspect of the meaning and to Langacker's theory of domains. It has already been stated in the outline above that the meaning is first gained through human's own experience and knowledge of the world and that the first domain of such experience and knowledge is none other than human himself. That makes it obvious that metaphors derived from the source domain of human body would be the first domain for metaphoric representation of any phenomenon requiring denotation. The world of fauna, names of animals, their body parts or specificity of dwelling would be among the most commonly used source domains, too. This has already been stated by Kövecses who has carried out extensive research of metaphor and has summarized the most common source and target domains (Kövecses 2010).

The issue of metaphorically presented terms in specialized discourses is debatable in writings of various scholars (Deignan, Skorczynska 2006; Siqueira et al. 2009; Musolff, Zinken 2009 et al.). The discourse is more open to the figurative language and metaphor can be used spontaneously. The sphere of fixation presents a different case. The arguable question here is whether the terms used metaphorically can be labeled as solely professional slang words or these are the terms accepted and rooted in the specialized lexicon of particular field. We agree that metaphor can be spontaneously created and consolidate the position in the professional discourse. On the other hand, if the terms used metaphorically have entered the layer of professional lexicon and are introduced in dictionaries, we can analyze them as the inherent part of specialized vocabulary accepted by the branch. The object of our research would be metaphorically represented terminological units of the branch of railway engineering. We have tried to identify and analyze the terms given metaphorization from the source domain of fauna with the purpose of justifying their position in professional lexicon.

The research results have shown that in many cases metaphorization is based on the principle mere shape-to-shape or function-to-function resemblance. The theoretical background of metaphor study has convinced us that metaphor is much a deeper phenomenon than this. We therefore have agreed with the assumption of Gentner and Jeziorski (1993) who have distinguished the category of attributional metaphors – mere-appearance matches, based on shared object descriptions and metaphors based on mixtures of object and relational commonalities (Gentner, Jeziorski 1993, 252). In all objectivity, we may say that the majority of our identified metaphors would most probably belong to this particular category.



Let us analyze some more interesting examples of terms metaphorized through the source domain of fauna.

- *Frog* – the term denotes the crossing point of two rails; it forms a part of a railway switch, and is also used in a flat crossing. We might assume that such naming has been found due to the resemblance the device has to the lying frog. We observe a mere appearance match in metaphorization. Another term related to the same object of the source domain is *frog-leg winding*. The term denotes a specific type of a composite winding consisting of one lap winding and one wave winding, placed in the same slots and connected to the same commutator. The term has certainly been derived from the fauna phenomenon, and metaphorization is justified.
- *Bee line* – the term denotes a direct straight course, which means that metaphorization has been carried out through the similarity to the action and movement produced by the insect bee. Since bees do not usually make any curves in their movements, this might have served the reason for employing such denotation in the technical vocabulary.
- *Bird eye gravel* – the type of gravel which is smaller than the average. Appearance match has served the motive for metaphorization of the term.
- *Bird's mouth joint* – the name of a wood joint formed by a cut into the end of a timber to fit over a cross timber; for example, cut into a rafter. The joint appearance match to the bird's beak, but there might be also the function match implied.
- An interesting case is presented by the term *bull's eye* which denotes a bright signal and we realize that metaphorization has not occurred through the shape or function of the source object. What associations do there occur at hearing the word “bull”? Most probably the word would bring about the image of a bull in bullfighting and all related activities. How do we picture the bull in this event? As an aggressive fierce animal ready to attack any minute. Such metaphoric representation is common in non-verbal communication as well – in cartoons, for example, when the bull is shown with red, fierce eyes, filled with blood. As we feel it this might have been the justification of the term's naming through such metaphoric image. The device produces the signal that is bright red in colour, as it is used for warning the locomotive driver of any obstacle in the road or demanding the stop at the particular place for some justified reason. Thus, we might summarize that the term has received such denotation owing to a kind of stereotype imposed on the source object, i.e. the bull, and leading to our comprehension of it as a fierce animal at seeing which we would not but stop or feel the need to act reasonably.
- *Camel-back truss* – a truss having a broken outline for the upper chord, composed of a series of straight segments, taking the humped shape of a camel's back. The origin of the term seems quite vague. We realize that appearance match has served for the term's metaphorization though we cannot be quite



sure that in this case the source object is the most obvious for metaphorical representation. This might have been the curve, the arc or a rainbow employed for metaphorization as a camel's back has more obvious features that are not explicitly shown in the target structure.

- *caterpillar* – metaphoricity is based on the function resemblance, i.e. the ability to crawl slowly by means of re-reeling the specific type of track.
- *crocodile clip* – a simple mechanical device for creating a temporary electrical connection, and it is named for its resemblance to an alligator's or crocodile's jaws. We assume that the shape is not the only motive for metaphorization, this might have been also the function, as similarly to a source object, the target one provides a fast strong grip. The next term though being metaphorized from the same source object employs its different aspect.
- *crocodiling* – the term denotes a specific device. The Latvian equivalent is not found in the dictionary although our assumption is that it would be a descriptive non-metaphoric term. It is to be noted, two various aspects of the target object (i.e. the crocodile) have served the motive for metaphor creation. If in the first example, the function of the crocodile's jaw implying and extremely sharp and strong grip of something has been the grounds for metaphor's creation, in the second example, it is the type of crumbling of the surface that in the results reminds of the pattern of the crocodile's shell. Thus, one and the same object from the source domain of fauna has served for metaphorization but through consideration of its various aspects.
- *Butterfly bolt* – a specific type of bolt with two wings screwed in to fasten the detail; another term for the device is *wing-headed bolt*, which is metaphorically oriented, too.
- An interesting case is presented by the term *dovetail* – the term denotes a fan-shaped tenon that forms a tight interlocking joint when fitted into a corresponding mortise. Thus, we observe the appearance match in this case of metaphorization.
- *Donkey engine* – the term denotes a small auxiliary engine, such as one used for pumping water into the boilers of a steamship. The term *donkey* has been found in other collocations, too, e.g. *donkey compressor*; *donkey pump*. The term has most probably got its metaphoric nature due to the function and type of operation the device performs. Similarly to a donkey that may be used for assisting in accomplishing some physical demanding tasks, the donkey engine originally was a small secondary engine used to load and unload cargo and raise the larger sails with small crews, or to power pumps. Thus, we observe function coincidence that has served the motive for the term metaphorization.

The world of fauna can be employed in metaphoric representation of terms in a related form as well. This is the case when the objects of animals' habitats or usual surrounding can be used for such purposes. Consider the following case:

- *Birdcage aerial* – the term denotes a cylindrical type of an aerial that visually bears strong resemblance to the birds' dwelling in captivity. Similar to the source object, the target object has cylindrical shape with long vertical thin metal rods along it.
- *Squirrel-cage armature* – the term has gained its metaphoric nature due to the resemblance the device bears to the object from the source domain. We might assume that this particular case advocates the aforementioned idea of metaphor being a cognitive agent in delivering the notion to the target audience more efficiently. For a non-specialist, the terms provided non-metaphorically can make no sense while the juxtaposition of the term to the source objects might create an image thus contributing to the better term perception.

Some other terms presented metaphorically through the source domain of fauna are as follows:

- *Fish bolt, fishplate; dolphin; dog hook; dog-leg traverse; derrick crab; crow-fly distance; crow's nest; cat ladder; cat's back.*

The examples provided above can advocate for our hypothesis that the source domain of fauna can and does serve for projection of terms belonging to various technical fields. This can be explained by different factors. Humans tend to apprehend the world through their visual perspective and this by all means leaves its mark on the way a human thinks, understands and perceives the world. The source domain of the human body would be undoubtedly in the first place in metaphorization as it is the domain humans would perceive equally easily in any part of the world. The source domain of fauna would be among the next set of common source domains of metaphoric representation. The world of animals is the closest to human existence, something that he knows well, he contacts and lives close by; this could not but contribute to the worldview and phenomena perception, and formation of terms is not an exception.

Scientific language is no longer solely a prerogative of specialists. Modern lifestyle brought the world of technologies nearer to laymen, ordinary people, and for this particular group of people such metaphorized terms are of greater value. When facing such a term, a human tends to draw parallels, and this happens non-deliberately. This is what Lakoff and his associates have emphasized, the idea of metaphors being inseparable part of our everyday life. The fact that people tend to juxtapose and compare something from technical terminology to the source domain (as they feel it) might contribute well to the comprehension of a phenomenon. This might be also the reason for allocating such terms to scientific phenomena – with the purpose of making their functioning, designation or purpose clearer to the broader audience.

As concerns the role metaphor bears in technical language we assume that it provides better term recognition and comprehension. This might be due to the way we perceive metaphors as such. At receiving any message we are prone to visualize the whole picture which would go far beyond the single piece of information received.



If someone tells you that a man has crossed the ocean alone in a boat, you would subconsciously construct images, details of everything that might any way refer to this information, i.e. the ocean, the boat, what equipment he might need for such an event, etc. These details are given by Ortony as “mental images”. He stated that “this process of filling in the details between the linguistic signposts present in the message I call “particularization” and I take *this to be an essential component in many normal instances of successful language comprehension*” (Ortony 1975, 47). The principle works successfully with metaphorically represented information, too. The metaphoric component in a metaphorically presented message creates an image in the mind of the information recipient, which would further lead to the juxtaposition of the objects or phenomena involved into the metaphorization. This stage is also rather interesting for linguists as provide the ability to see the grounds for metaphor formation. The successful juxtaposition would result in successful term comprehension. We can schematically summarize the assumption in the following way:

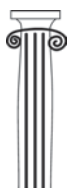


Fig. 3. Stages of metaphor comprehension

Metaphoric utterance enters the stage of visualization at which our mind is able to create the image of the metaphoric term within the frames of the domain of the source object. Then we juxtapose the image from the target domain to that of the source domain and the comprehension is achieved.

References

- Boyd R. Metaphor and theory change: What is “metaphor” a metaphor for? Ortony A. (ed.), *Metaphor and Thought*. Cambridge : Cambridge University Press, 1993, 19–41.
- Deignan A., Skorczynska H. Readership and Purpose in the Choice of Economics Metaphors. *Metaphor and Symbol*, 21(2), 2006, 105–20.
- Evans V. A. *Glossary of Cognitive Linguistics*. Edinburgh: Edinburgh University Press Ltd, 2007.
- Evans V., Green M. *Cognitive Linguistics. An Introduction*. Edinburgh: Edinburgh University Press, 2006.
- Kövecses Z. *Metaphor: A Practical Introduction*. Second Edition. Oxford: Oxford University Press, 2010
- Lakoff G., Johnson, M. *Metaphors, We Live By*. Chicago: University of Chicago Press, 1980.
- Levin S. R. Language, Concepts, and Worlds: Three Domains of Metaphor. Ortony A. (ed.), *Metaphor and Thought*. Cambridge: Cambridge University Press, 1993, 112–124.
- Low G. “This paper thinks...”. Investigating the acceptability of the metaphor AN ESSAY IS A PERSON. Cameron L., Low G. (ed.). *Researching and Applying Metaphor*. The Cambridge Applied Linguistics Series. Cambridge University Press, 1999, 221–249.



- McGlone M. S. Conceptual Metaphors and Figurative Language Interpretation: Food for Thought? *Journal of Memory and Language*, 35, Academic Press, Inc., 1996, 545–565.
- Musolff A., Zinken J. (eds.). *Metaphor and Discourse*. Palgrave Macmillan, 2009
- Ortony A. Why Metaphors are Necessary and Not Just Nice? *Educational Theory*, Volume 25, (1), 1975, 45–53.
- Siqueira M. et al. *Metaphor Identification in a Terminological Dictionary*. www.aelfe.org
- Skujiņa V. *Latviešu terminoloģijas uzstrādes principi*. Rīga: Zvaigzne, 1993.
- Briedis J. (ed.). *Polytechnic Dictionary*. Jelgava: Senders R, 1999.
- Cambridge Dictionaries Online. <http://dictionary.cambridge.org/>.
- English-Russian Railway Dictionary, eds. Kosmin, A., Kosmin, V. Moscow: Marshrut, 2006.
- Jaunā autotehnisko terminu vārdnīca. Izdevniecība “Antilope”, 1997.
- www.eurotermbank.com

Jeļena Tretjakova

FAUNOS IŠTAKŪ SRITĪES METAFORINĀI TRANSPORTO TERMINAI

Santrauka

Pagrindiniai žodžiai: *sritis, konceptualioji metafora, metafora, terminai.*

Praėjusio amžiaus aštuntasis dešimtmetis pateikė kitokių vaizdingos kalbos, o ypač metaforos, suvokimą ir tyrimą. Sričių teorija, pirmiausia pristatyta R. Langackerio (1987) darbuose, sparčiai vystėsi ir pateikė naują reikšmės perspektyvą. Buvo teigiama, kad žodžio reikšmės negalima suprasti be konteksto; žodžiai gali būti suvokiami tik per ištisa rinkinį tarpusavyje susijusių sričių, kurios pateikia pilną supratimą, ką tam tikras leksinis vienetas reiškia tam tikrame kontekste. Mintis, kad metaforos skverbiasi į mūsų kasdieninį gyvenimą (ją pirmieji pristatė G. Lakoffas ir M. Johnsonas (1980)), buvo patvirtinta kalbos tyrimais įvairiose mūsų gyvenimo srityse, t. y. politikoje, teisėje, medicinoje ir t. t., taip pat ir mokslinėje kalboje. Metaforinis terminų, vartojamų įvairiose technologijos šakose, pateikimas domino ir tebedomina daugelį kalbininkų (Hoffman 1980; Boyd 1993; Kuhn 1993; Mayer 1993; Knudsen 2003; Aubusson, Harrison et al. 2006; Siqueira 2009). Jie įrodė metaforos stabilumą techninių disciplinų kalboje. Tyrimo tikslas – parodyti, kad faunos ištakų sritis yra plačiai taikoma metaforizuojant transporto terminus.



IEGULDĪJUMS TAVĀ NĀKOTNĒ

This work has been supported by the European Social Fund within the Project
«Support for the implementation of doctoral studies at Daugavpils University»
 Agreement Nr. 2009/0140/1DP/1.1.2.1.2/09/1PIA/VIAA/015

Jeļena Tretjakova

THE SOURCE DOMAIN OF FAUNA IN METAPHORIC
REPRESENTATION OF TRANSPORT TERMS

Summary

Keywords: *domain, conceptual metaphor, metaphor, terms.*

1970's of the previous century have introduced the shift in comprehension and study of figurative language, and in metaphor in particular. The theory of domains first dwelled upon in the researches of R. Langacker (1987) has been given substantial development and presented a new perspective of the meaning as such. It has been claimed that meaning cannot be grasped through a mere knowledge of the word as used out of the context; words can be comprehended through a whole set of interconnected domains that comprise the full understanding of what a particular lexical unit means in the particular context. The idea of metaphor's pervasiveness in our everyday life as well first announced by G. Lakoff and M. Johnson (1980) has been substantiated by serious researches in the language of various spheres of our life, e.g. politics, law, medicine, etc with the scientific language of no exception. Metaphoric representation of terms used in various branches of technology has been in the scope of the interests for many linguists (Hoffman 1980; Boyd 1993; Kuhn 1993; Mayer 1993; Knudsen 2003; Aubusson, Harrison et al. 2006; Siqueira 2009). They have proved metaphor's stability in the language of technical disciplines. The aim of the present report is to show that metaphor is indeed present in the specialized vocabulary and in transport terminology in particular. The aim of the research is to show that the source domain of fauna is quite widely applied in metaphorization of transport terms.

