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Metaphorical Nomination in IT Terminology in Lithuanian and English Languages

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Abstract

Metaphorical nomination is peculiar in every language, it is related to reality and world view perception, it also reveals the traits of nation mentality. However, there are universal models of metaphorical nomination. In both languages, special concepts can be nominated according to similar areas, e.g. human body, its physiological and mental peculiarities, mode of life, fauna, flora, objects of natural world, etc.

The aim of this article is to analyse tendencies of metaphorical nominations in IT terminology in English and Lithuanian languages, reveal universalities and peculiarities of metaphorical nomination models. Research data of Lithuanian metaphorical terms and their English equivalents show that semantic loan-words constitute the major part of Lithuanian metaphorical terms. Consequently, their metaphorical meanings are borrowed but a substantial part of them are fairly motivated in the Lithuanian language and only a small part of them have a doubtful motivation. Having analysed various ways of metaphorical transference it is possible to claim that figurative nomination of concepts is the most universal with reference to flora names and items of mode of life. It is noted that there is a tendency to nominate concepts meaning particular objects in both English and Lithuanian languages whereas analogies of abstract things are less abundant.

Key words: metaphor, conceptual metaphor, metaphorical term, nomination, semantic loan-translation.

Introduction

Traditionally, metaphor is perceived as one of the tropes, as an ornamental aspect of language and play of words. Such perception of metaphor formed an attitude to consider it as a visual tool used only in a fictional text. Basically, scientific discourse is thought to be non-metaphorical. Yet the new attitude of creators of conceptual metaphor theory (G. Lakoff, M. Johnson) expanded the concept of metaphor considerably. According to them, human conceptual system acts metaphorically by nature and only due to metaphors we are capable of perceiving and speaking about abstract senselessly tangible things. This is why metaphor is firstly a phenomenon of thinking, it exists in a language just because we think metaphorically. Relationship between these two areas – specific (source)

domain and abstract (target) domain – constitutes the essence of conceptual metaphor (Lakoff, Johnson 1980). Conceptual metaphor is one of the conceptual forms or cognitive process when new concepts are expressed and formed and without which new knowledge is impossible to obtain (Papaurėlytė–Klovienė, 2005, p. 44). Metaphor correlates with human ability to notice and generalise similarities between different classes of individuals and objects. People think and work under certain schemes – metaphors. The fundamentals of linguistic communication are created of similar schemes of concepts on the basis of which a person thinks and acts. The entire system of concepts is metaphorical. The representatives of cognitive linguistics substantiated a peculiar theory of metaphor (Lakoff & Johnson, 1980). They claim that metaphor is a linguistic reflection of the process of thinking, it is a way of thinking but not a language phenomenon. Metaphors exist in a language only because they exist in a conceptual system.

Thus, the eighties of the last century presented a different understanding of a figurative language, especially metaphor together with the abundance of related researches. With regard to this concept of metaphor, it is claimed that a scientific text is one of the most metaphorised. Metaphorical term nomination of various scientific areas got the attention of foreign (Sweetser, 1990; Boyd, 1993; Kuhn, 1993; Bradie, 1999; D'Hanis, 2002; Knudsen, 2003; Aubusson, Harrison, & Ritchie 2006; Andrade, 2010, etc.), and Lithuanian (Marcinkevičienė, 1994, 2006; Baltrūnaitė, 1998; Marina, 2006; Stundžinas, 2006; Šeškauskienė, 2012; Vladarskienė, 2012, etc.) scientists.

According to Šeškauskienė (2012, p. 66), comparison of several languages or an attitude to a language (most frequently to English) by a non-native speaker exposes many cases of metaphor realisation, in other words – metaphorical expressions peculiar to different languages. Moreover, they reveal conceptualisation inherent for different cultures. Inter-language comparative researches of term metaphorisation enable to present useful insights about metaphorical nomination models determined by different academic cultures. Unfortunately, inter-language researches of metaphorical term nomination are not plentiful either in Lithuania or abroad. Marina (2006, p. 98–108) has researched English metaphorical technical terms and their equivalents in Lithuanian and Russian languages pursuing to find out their common and different semantic peculiarities. Šeškauskienė (2011, p. 46–60) has investigated tendencies of scientific text metaphorisation in English and Lithuanian languages in contexts where lemma „argument", which is very frequent in academic discourse, is discovered. Valiulienė's research (2014, p. 207–219) includes comparative analysis the objective of which is temperature metaphors and their expression in Lithuanian and English languages. Volosnova (2003, p. 39–44) has analysed peculiarities of translation of metaphorical IT terms from English into Russian.

With the globalized world, not only do new ideas, inventions, developed devices, ICT tools etc., influence our lifestyle but the language as well. With the newly invented objects comes the need for finding new terms. Technical communication requires ordinary people to even get acquainted with some technical processes, have certain knowledge of their components and their application. We use computers on a daily basis, therefore, it is not surprising that even non-specialists can operate a number of professional lexical units that could have previously been regarded as purely specialized lexicon. "Metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms we both think and act, is fundamentally metaphorical in nature" (Lakoff & Johnson, 1980).

The aim of this research is to analyse tendencies of metaphorical nomination in IT terminology in English and Lithuanian languages, reveal universalities and individualities of metaphorical nomination models of different languages, their expression peculiarities with regard to concept level, identify the most frequent metaphorisation tendencies and areas of metaphor origins. Thus, the methods of this research are descriptive, comparative and analysis of conceptual metaphors. The object of this research is one-word metaphorical IT terms of Lithuanian origin included into *Enciklopedinis kompiuterijos žodynas* 'Encyclopedic Dictionary of Computing' (EKŽ) and their English equivalents in the following sources: *EuroTermBank* (ETB) and *Encyclopedia, The Computer Language Company Inc* (PCmagE) and *Computer terms, dictionary, and glossary* (CTDG). One-word metaphorical terms originated from terminalised words of a simple language are analysed. These terms are to be attributed to nominal metaphors. Such metaphors are primary as nominated scientific objects do not have other nominations.

The analysed *Enciklopedinis kompiuterijos žodynas* 'Encyclopedic Dictionary of Computing' (EKŽ) provides with 4,600 lexical unit descriptions. But it is relevant to mention that not only are computer terms or terms of Informatics described in the dictionary but also other words or their combinations usually visible on a computer screen are defined. They are names of instructions, buttons, notes in dialog boxes, short programme messages, directions, etc. Only one-word terms (nouns) are selected for this research, 917 of them were identified. 58 % of which are Lithuanian terms (not international), only 16 % from which are metaphorical terms. They appeared in terminology by the means of terminologisation when words from common language were provided with a special meaning in IT area. Thus, metaphorisation is not a very efficient way of creating Lithuanian IT terms. In this article, Lithuanian terms are compared with the equivalents found in English sources in order to discover the tendencies of IT term metaphorisation in both languages. The main focus is given on the expression analysis of the aforementioned terms in accordance with nominated word groups in pursuance

of disclosing metaphor source areas and determining the basis of metaphorical transference.

Theoretical background

The approach to metaphor has also changed since the second half of the previous century. It has long been viewed at as a literary trope used as an expressive means to enrich authors' style. It has indeed been studied but seemingly very unilaterally. The shift has occurred with the introduction of Conceptual Metaphor Theory as well as with some other precedent studies. Let us consider some definitions of metaphor of modern linguistics scholars (Tretjakova, 2013). Contemporary metaphor theory is based on the works by Max Black (1955). In his seminal article entitled "Metaphor", the American philosopher introduced the concept of assumptive frameworks or systems of associated commonplaces to describe how intuitively dissonant statements can be explained in understandable words and then shared with others using the traditional rhetorical device known as metaphor (English, 1998). Metaphor has gained overall interest in all spheres of our life: politics, law, military, economics, etc. and even in non-verbal communication (Forceville, 2002; Charteris-Black, 2005; Knudsen, 2003; Boyd, 1996).

Hence, metaphor is one of the means used by scientific community, which helps coordinate a language with the structure of the unknown world (Boyd, 1996, p. 359). Metaphor in academic language is frequently used due to its property to combine two concepts emotionally and logically. It provides with the opportunity to transfer the title of one object to the other object semantically giving the latter a new content. According to D'Hanis (2002, p. 2), one of the most significant properties of metaphorical terms, which have attracted scientists' attention, is that it can extend and enrich vocabulary. There occur cases in scientific language when it is not possible to nominate a new concept with certain new terms. In such a case, new concepts are nominated by metaphors. Baltrūnaitė (1998, p. 38) distinguishes one more major cause of metaphorical term emergence in scientific language, i.e. reduction of memory load and limitation of language tool resources. It is not appropriate to render every concept, which are abundant in a language system, by a different word. The author also accentuates that metaphorical terms are motivated words. Not only do they nominate a desired object but also the object's relation to other objects is determined, and the most important properties of the object are defined (Baltrūnaitė, 1998, p. 39). Consequently, metaphor informativeness is one more reason why metaphorical terms are tolerated in scientific texts. Analysing technological advancements in the area of information technologies and communications, de Andrade (2010, p. 5) noticed that metaphorical terms help the reader to perceive information better, define implicit things or objects, create and interpret their autonomous realities.

Due to frequent usage of metaphors in scientific texts, they are attributed long established meanings. Župerka (2000, p. 181) claims that words employed in the language of special areas become terms. Hence, the term made from metaphor acquires an exact meaning of a term, i.e. it specifies an understandable word or word combination for a specialist the meaning of which is transferred according to phenomena similarity, comparison and the performed function. Baltrūnaitė (1998, p. 38) states that there occur cases when a concept itself provides freedom for title motivation selection, and preference is not always given to essential properties. Nomination can be impacted by accidental associations, vivid imagination of the creator, e.g. *skraidančioji lėkštė* 'spaceship'*, Aristotelio žibintas* 'Aristotle lantern'*,* etc. Baltrūnaitė (1998, p. 38) shares the opinion that creating a metaphorical term the most essential properties possessing the most substantial information are selected. Henceworth, the reader has to be careful in perceiving and interpreting the thoughts of the author, freedom of his/her imagination in choosing style elements. Analysing metaphors in scientific discourse, Bradie (1999, p. 160) follows the opinion that metaphor helps understand what we did not know till then. Metaphor is not only comparison. It contributes to different understanding of reality. According to the author, metaphors are important when we want to express our thoughts and expand scientific theories (Bradie, 1999, p. 160).

Metaphorical terms belong to the group of linguistic (lexical, lexicalised, inanimate, dead, normative, etc.) metaphors. In comparison with artistic metaphors, linguistic metaphors are characterised by objectivity, lexical and contextual independence, systematicity, integrity, anonymity. In other words, they are lexical units which are understandable and recreated, used for various communicative purposes, have no fictional function and reflect common material logical relations (Stunžinas, 2006, p. 63). Linguistic metaphors are defined by nomination versatility, their common psycholinguistic quality is transference of the title of one object (phenomenon) to the other object (phenomenon) by similarity. In accordance with Marcinkevičienė (1999, p. 110), linguistic metaphor is very common, universal, constantly used, deeply penetrated into human consciousness, therefore it best reveals the essence of abstract concepts. Such metaphor becomes permanent in a language, however it often loses its expressiveness and figurativeness. This is a context-independent abstraction realised in particular metaphorical sayings (Pielenz, 1993, p. 71). Linguistic metaphor performs the functions of a primary word, i.e. a scientific object does not have another title. This is the difference between linguistic metaphor and metaphor in poetry. Metaphorical terms nominate special concepts according to certain associations (form, function or other similarity). During primary stages of terminology formation, supporters of cognitive theory considered metaphorisation as one of the basic sources of terminology. As Lakoff and Johnson

(2003) state, metaphor is not only the prerogative of writers or poets, it is employed by all language users. We metaphorise numerous phenomena, actions, processes on a daily basis. It is important to emphasize that sayings expressing conceptual metaphor are understood differently from the ones used in fiction where these sayings are not perceived as original, they are not even considered as metaphorical. In most cases, such metaphors are regarded as self-evident.

One of the main functions of metaphor is title transference of one object, action, state, phenomenon or their quality to another object, action, state, phenomenon or their quality. In metaphorisation, one object is named by the title of another object, a property or function characteristic to one object is transfered to another object. Motivation of metaphorical transference is generally based on similarity insight between two heterogeneous objects, phenomena or their qualities which have almost nothing in common in reality and belong to different classification groups. According to Baltrūnaitė (1998, p. 39), metaphorical terms in scientific texts are distinguished by their special meaning. One word or another is chosen as a term not by accident but with regard to certain similarity of phenomena or concepts. Sometimes only external similarity is sufficient for such term transference. It is important that an object (property, phenomenon) would remind another object (property, phenomenon).

Stunžinas (2006, p. 71) analysed metaphorical terms of construction and he determined that metaphorical nomination of attributes in terminology of construction proceeds according to qualities of household items and wildlife items. Features of external similarity to objects are characterised by metaphorical term components and surface properties are nominated metaphorically. Vladarskienė (2012, p. 90) claims that the science of economics does not contain many particular objects, therefore various objects related to phenomena, actions or their relationships are usually nominated. Therefore, metaphors are based on function similarity, various associations, original metaphors are abundant.

It is vital to mention that a substantial part of Lithuanian metaphorical terms is made up of semantic loan-words when metaphorical meaning can be borrowed from terms of other languages. In accordance with R. Stunžinas (2006, p. 68) data, more than three quarters of metaphorical construction terms in Lithuanian terminology correspond to terms of other languages, e.g. [gręžimo bokšto] *koja* – English *leg* [of boring tower], Russian нога [буровой вышки]; *kakliukas* – English *neck*, Russian шейка. Zaikauskas (2014, p. 82) considers metaphorisation as a specific way of translation of terms.

Although metaphorical nomination is diverse in every language and is related to reality perception and world view, it reveals the properties of nation mentality. On the other hand, there are universal models of metaphorical nomination. Both in one and the other language, special concepts can be nominated according to

similar areas, e.g. human body, its physiological and mental characteristics, mode of life, fauna and flora objects of natural world, mythical creatures, colours, etc.

Results of the analysis and discussion

It is essential to mention that analysing Lithuanian one-word metaphorical IT terms and their English equivalents an observation was made that in most cases terms preserved their metaphorical meaning in both languages, i.e. the equivalent of a Lithuanian metaphorical term is a metaphorical term in English. For example, Lithuanian term *krepšys* and English term *bag;* Lithuanian term *kaukė* and English term *mask;* Lithuanian term *lapa*s and English term *leaf* and many others. Only few cases are to be mentioned when metaphorical nomination is more vivid in the Lithuanian language, e.g.:

(1) Lithuanian *grotelės* 'grilles' "nedidelių grotų pavidalo pertvara", 'a partition in the shape of small lattice' (LKŽ),

English IT term *number sign* "in some programming languages, the number sign (#), also called the "pound sign," is used as a not-equals symbol" (PCmagE);

(2) Lithuanian *papildinys* 'add-on' "antrininkė sakinio dalis, kuria pasakomas veiksmo ar būsenos objektas" 'a secondary part of a sentence by which the object of activity or condition is defined' (LKŽ),

English IT term *plug-in* "software that is installed into an existing application in order to enhance its capability" (PCmagE);

(3) Lithuanian *svetainė* 'reception room' "svečių kambarys, salonas" 'a guest room, salon' (LKŽ),

English IT term *website* "a central location of various web pages that are all related and can be accessed by visiting the home page using a browser" (PCmagE) and some others.

It was noted that figurative meanings of IT terms nominated metaphorically are unequally different from the original meaning in the researched material. Two groups of terms can be distinguished:

• when a figurative meaning is not greatly different from an original meaning and it is easy to predict what concept a word means. Therefore, motivation of metaphorical transference can be easily substantiated, e.g.:

(4) *lamer* "a stupid, inept, or dull person" (OED),

IT term *lamer* "a technophobic person or neophyte to computers and technology, as viewed by the technically competent who have little empathy for the novice" (PCmagE);

(5) *owner* "a person who owns something" (OED),
IT term *owner* "an owner is the individual, computer, or software program that created a file or document" (CTDG);

(6) *guest* "a person who is invited to visit someone's home" (OED),
IT term *guest* "a person who logs into a network or service that does not have a user account" (PCmagE), etc;

• when a figurative meaning is dissimilar to the original meaning then it is complicated to predict what concept a word means, e.g.:

(7) *thread* "a long, thin strand of cotton, nylon, or other fibres used in sewing or weaving" (OED),
IT term *thread* "a programming structure or process formed by linking a number of separate elements or subroutines, especially each of the tasks executed concurrently in multithreading" (OED);

(8) *fold* "a form or shape produced by the gentle draping of a loose, full garment or piece of cloth" (OED),
IT term *fold* "an inisible line on a Web page that is at the bottom of the first full page on screen" (PCmagE), etc.

Nevertheless, even such cases present certain similiarities between two concepts although in reality these concepts have very little in common. It is important that a subject (property, phenomenon) slightly reminds another subject (property, phenomenon).

As it was mentioned before, one of the essential functions of metaphor is nominative, i.e. transference of nomination of an object, action, status, phenomenon or its property to another object, action, status, phenomenon or its property. Metaphorical nomination occurs according to certain semantic models. As this research comprises only one-word nominative IT metaphors, the focus is allocated to semantic expression of metaphorised terms under nominated word groups.

The researched material principally includes one-word Lithuanian metaphorical terms and their English equivalents nominated with regard to titles of **mode of life, tools or other needs**.

- Titles of **clothing accessories, e.g.:**

(9) Lithuanian *gija* "siūlas, siūlų sruoga" 'thread, yarn strand' (DLKŽ),

English *thread* "a long, thin strand of cotton, nylon, or other fibres used in sewing or weaving" (OED),

IT term *thread* "a programming structure or process formed by linking a number of separate elements or subroutines, especially each of the tasks executed concurrently in multithreading" (OED);

(10) Lithuanian *klostė* "drabužiui pagražinti padaryta raukšlė" 'a wrinkle made for clothing decoration' (LKŽ),

English *fold* "a form or shape produced by the gentle draping of a loose, full garment or piece of cloth" (OED),

IT term *fold "*an invisible line on a Web page that is at the bottom of the first full page on screen" (PCmagE).

- Titles of **mode of life or other titles related to daily life**, e.g.:

(11) Lithuanian *krepšys* "pintinė; kiekis, telpantis į ją" 'a basket; amount that fits into it' (LKŽ),

English *bag* "a flexible container with an opening at the top, used for carrying things" (OED),

IT term *bag* "data structure whose elements are similar type, not proceeded and can be duplicated" (EKŽ);

(12) Lithuanian *rankenėlė* "maž. „daikto ąselė, už kurios galima paimti" 'a tag of an item by which an item can be held' (DLKŽ),

English *handle* "the part by which a thing is held, carried, or controlled" (OED),

IT term *handle* "A temporary name or number assigned to a file, font or other object" (PCmagE);

(13) Lithuanian *šiukšlės* "smulkios atmatos, įvairios nukritusios atliekos" 'small rubbish, various drop waste' (LKŽ),

English *trash* "waste material; refuse",

IT term *trash* "to delete a record or file on the computer" (PCmagE);

(14) Lithuanian *gaudyklė* "slastai, spąstai, pinklės" 'a trap, snare' (LKŽ),

English *hook* "a piece of metal or other hard material curved or bent back at an angle, for catching hold of or hanging things on" (OED),

IT term *hook* "in programming, instructions that provide breakpoints for future expansion. Hooks may be changed to call some outside routine or function or may be places where additional processing is added" (PCmagE).

- Titles of **working tools**, e.g.:

(15) li Lithuanian *raktas* "įrankis spynai, užraktui atrakinti ar užrakinti" 'a tool for locking or unlocking' (LKŽ),

English *key* "a small piece of shaped metal with incisions cut to fit the wards of a particular lock, which is inserted into a lock and turned to open or close it" (OED),

IT term *key* "a numeric code that is used to encrypt text for security purposes" (PCmagE);

(16) Lithuanian *įrankis* "įnagis, prietaisas, instrumentas, padargas" 'a tool, instrument, device' (LKŽ),

English *tool* "a device or implement, especially one held in the hand, used to carry out a particular function" (OED),

IT term *tool* "a program used for software development or system maintenance" (PCmagE);

(17) Lithuanian *purkštukas* "purkštuvo antgalis, pro kurį purškiama" 'a spray nozzle' (DLKŽ),

English *air brush* "an artist's device for spraying paint by means of compressed air" (OED),

IT term *air brush* "a drawing tool whose drawing line is made of tiny dots similar to a real nozzle" (EKŽ);

(18) Lithuanian *suktukas* "įtaisas kam nors sukti" 'a device for something to turn around' (DLKŽ),

English *spin box* "a rapid turning or whirling motion" (OED),

IT term *spin box* "a form field that enables users to increase or decrease the number value in the text field by a specific increment (often by 1, 5 or 10) via clicking an up or down arrow buttons"(CTDG).

- Titles of **places**, e.g.:

(19) Lithuanian *podėlis* "vieta, patalpa kam padėti, laikyti" 'a place for keeping, storage' (LKŽ),

English *cache* "a collection of items of the same type stored in a hidden or inaccessible place" (OED),

IT term *cache* "to store data locally in order to speed up subsequent retrievals" (PCmagE);

(20) Lithuanian *laukas* "žemės plotas, dirva" 'an area of land, soil' (DLKŽ),

English *field* "an area of open land, especially one planted with crops or pasture, typically bounded by hedges or fences" (OED),

IT term *field* "a physical structure in a form, file or database that holds data" (PCmagE);

(21) Lithuanian *krūva* "kas į vieną vietą sukrauta" 'a pile, what is put into a place' (DLKŽ),

English *heap* "an untidy collection of objects placed haphazardly on top of each other" (OED),

IT term *heap* "in programming, it refers to a common pool of memory that is available to the program" (PCmagE).

- Titles of **other necessities**, e.g.:
(22) Lithuanian *kaukė* "veido uždanga, ppr. vaizduojanti kokį gyvulį ar paukštį" 'a face veil depicting an animal or a bird' (DLKŽ),

English *mask* "a covering for all or part of the face, worn as a disguise, or to amuse or frighten others" (OED),

IT term *mask* "a pattern used to transfer a design onto an object" (PCmagE);

(23) Lithuanian *plytelė* "plytos pavidalo gaminys" 'a brick-shaped product' (DLKŽ),

English *tile* "a thin rectangular slab of baked clay or other material, used in overlapping rows for covering roofs"(OED),

IT term *tile* "to display objects in rows and columns" (PCmagE).

Titles of various characters are rare in the analysed material:
(24) Lithuanian *nevykėlis* "nevykęs, nenusisekęs žmogus" 'an unlucky man' (DLKŽ),

English *lamer* "a stupid, inept, or dull person" (OED),

IT term *lamer* "a technophobic person or neophyte to computers and technology, as viewed by the technically competent who have little empathy for the novice" (PCmagE);

(25) Lithuanian *valdytojas* "kas valdo, valdovas" 'a person who rules, a ruler' (DLKŽ),

English *owner* "a person who owns something" (OED),

IT term *owner* "an owner is the individual, computer, or software program that created a file or document" (CTDG);

(26) Lithuanian *svečias* "draugiškas namų lankytojas" 'a friendly home visitor' (DLKŽ),

English *guest* "a person who is invited to visit someone's home" (OED),

IT term *guest* "a person who logs into a network or service that does not have a user account" (PCmagE).

Metaphorical concept nomination in computer terminology in Lithuanian and English frequently occurred with regard to titles of **vegetation world**.

(27) Lithuanian *branduolys* "riešuto, slyvos ar kitokio vaisiaus vidurinė dalis, esanti kietame kiaute (kauliuke)" 'a central part of a nut, plum or other fruit in a hard shell (bone)' (LKŽ),
English *kernel* "a softer, usually edible part of a nut, seed, or fruit stone contained within its shell" (OED),
IT term *kernel* "the nucleus of an operating system" (PCmagE);

(28) Lithuanian *lapas* "augalo kvėpavimo organas, dažniausiai plonos žalios plokštelės pavidalo stiebo ar šakos išauga" 'a plant breathing organ usually an outgrowth of a stem or branch in a shape of a think green plate' (LKŽ),
English *leaf* "a flattened structure of a higher plant" (OED),
IT term *leaf* "in database management, the last node of a tree" (PCmagE);

(29) Lithuanian *medis* "daugiametis augalas su kietu kamienu ir šakomis" 'a perennial plant with a hard stem and branches' (LKŽ),
English *tree* "a woody perennial plant, typically having a single stem and bearing lateral branches at some distance from the ground" (OED),
IT term *tree* "a data structure containing zero or more nodes that are linked together in a hierarchy" (ETB);

(30) Lithuanian *šaknis* "augalo dalis, kuria jis įsitvirtina žemėje ir maitinasi" 'a part of a plant which takes roots into the ground and grows' (LKŽ),
English *root* "the part of a plant which attaches it to the ground" (OED),
IT term *root* "the root is the point from which further subsets are branched in a logical sequence that moves from a broad or general focus to narrower perspectives" (ETB);

(31) Lithuanian *kevalas* "kietas kai kurių vaisių apdaras" 'a hard shell of some fruit' (DLKŽ),
English *shell* "the outer case of a nut kernel or seed" (OED),
IT term *shell* "the outer layer of an operating system, otherwise known as the user interface" (PCmagE) and others.

Terms nominated under titles of **animals or related to animals** are rare:
(32) Lithuanian *kirminas* "pailgas minkštakūnis bekaulis gyvis" 'a long soft body boneless creature' (LKŽ),

English *worm* "any of a number of creeping or burrowing invertebrate animals with long, slender soft bodies and no limbs" (OED),

IT term *worm* "self-propagating malicious code that can automatically distribute itself from one computer to another through network connections" (ETB);

(33) Lithuanian *pelė* "smulkus graužikų šeimos gyvulėlis" 'a small rodent' (LKŽ),

English *mouse* "a small rodent that typically has a pointed snout, relatively large ears and eyes, and a long tail" OED),

IT term *mouse* "he primary pointing device on a desktop computer" (PCmagE);

(34) Lithuanian*. lizdas* "kiaušinių dėjimo, perėjimo ir vaikų auginimo vieta" 'a place for egg laying, breeding and chicken growing' (LKŽ),

English *socket* "a natural or artificial hollow into which something fits or in which something revolves" (OED),

IT term *socket* "a receptacle that receives a plug" (PCmagE) and others.

The presented data indicate that particular items or titles of vegetation or animal world are most often nominated metaphorically in IT terminology in both Lithuanian and English languages. Metaphors of **actions, status or other phenomena** are much less common:

(35) Lithuanian *paveldėjimas* "paveldėti, gauti kaip palikimą" 'inherit, obtain as inheritance' (LKŽ),

English *inheritance* "a thing that is inherited" (OED),

IT term *inheritance* "in object technology, the ability of one class of objects to inherit properties from a higher class" (PCmagE);

(36) Lithuanian *patikėjimas* "padavimas kam nors savo reikalo; patikėti" 'giving someone their own affairs, trusting' (LKŽ),

English *trust* "firm belief in the reliability, truth, or ability of someone or something" (OED),

IT term *trust* "in network directories, a trust is the passing of the rights of one group to another" (PCmagE);

(37) Lithuanian *silpimas* "pajėgumo, galios sumažėjimas" 'reduction in power, strength' (LKŽ),

English *attenuation* "the reduction of the force, effect, or value of something" (OED),

IT term *attenuation* "loss of signal power in a transmission" (PCmagE);

(38) Lithuanian *žingsnis* "žengimo judesys" 'a stepping motion' (LKŽ),

English *step*. "an act or movement of putting one leg in front of the other in walking or running" (OED),

IT term *step* "an ISO standard for product modeling. It is designed to provide a vendor-neutral and computer readable definition of a product throughout its life cycle" (PCmagE);

(39) Lithuanian *darna* "darnumas, dermė, harmonija"'harmony' (DLKŽ),
English *consistency* "consistent behaviour" (OED),

IT term *consistency* "consistency of data and their qualities present in the same system, coherence with each other" (EKŽ);

(40) Lithuanian *apgaulė* "veiksmai, elgesys ar žodžiai, kuriais sąmoningai norima apgauti, suklaidinti" 'actions, behaviour or words which are deliberately used to cheat, misinform' (DLKŽ),

English *hoax* "a humorous or malicious deception" (OED),

IT term *hoax* "a hoax is a term that describes anything that is not real. For example, many hoax e-mails are distributed to cause false fears" (CTDG);

(41) Lithuanian *lūžis* "didelis pasikeitimas, persilaužimas" 'a huge change, breakthrough' (DLKŽ),

angl. *break* "an interruption of continuity or uniformity"(OED),

IT term *break* "to temporarily or permanently stop executing, printing or transmitting" (PCmagE);

(42) Lithuanian *netiesa* "neteisybė, melas" 'injustice, lie' (DLKŽ),
English *false* "not according with truth or fact; incorrect" (OED),

IT term *false* "in programming, false is a Boolean value that is used when the result of a logical statement is false" (CTDG).

Generally, metaphorisation of general word meanings in technical terminology takes place as per external similarity of nominated objects, whereas function similarity cases are less frequent (Griniovas, 1993, Stunžinas, 2006). Although it was observed that metaphorisation of general word meanings in the group of the analysed one-word IT terms appeared according to function similarity and it is inherent for metaphorical terms of all groups, e.g. Lithuanian *maišiklis* / English *mixer,* Lithuanian *suktukas* / English *spin box, spinner,* Lithuanian *raktas* / English *key*, Lithuanian *lūžis* / English *break,* Lithuanian *valdytojas* / English *owner*, etc. Transference of metaphorical nomination under form similarity is rarer, e.g.

Lithuanian *pelė /* English *mouse,* Lithuanian *medis /* English *tree,* Lithuanian *rankenėlė /* English*. handle*, etc.

Surveying metaphorised computer terms it became clear that special concepts are nominated according to similar, aforementioned areas in both Lithuanian and English languages. It proves the existence of universal models of metaphorical nomination. Only few mismatching cases of metaphorical nomination were discovered, e.g.:

(43) Lithuanian *slapukas* "kas slapstosi" 'the one who hides' (DLKŽ),
English *cookie* "a sweet biscuit" (OED),
IT term *cookie* "a small text file (up to 4KB) created by a website that is stored in the user's computer either temporarily for that session only or permanently on the hard disk (persistent cookie)" (PCmagE);

(44) Lithuanian *įsilaužėlis* "įsibrovėlis, kas įsibrovęs, įsiveržęs" 'a burglar, trespasser' (DLKŽ),
English *cracker* "a light crisp made of rice or tapioca flour" (OED),
IT term *cracker* "a person who breaks into a computer system without authorization, whose purpose is to do damage" (PCmagE);

(45) Lithuanian *aselė* "indo auselė paimti" 'a tag of a dish to hold' (LKŽ),
English *tab* "a small flap or strip of material attached to or projecting from something, used to hold, fasten, or manipulate it, or for identification and information" (OED),
IT term *tab* "a visual identifier that appears in a row on screen and serves as a menu. Clicking the tab opens that dialog or page" (PCmagE) and some others.

On the basis of the presented data it is possible to claim that the majority of simple Lithuanian computer terms of metaphorical origin are semantic loan-translations although externally they are made by means of their own language. These loan-translations occured under the example of other languages, e.g. the English language, as it is common knowledge that terminology of Informatics was formed on the basis of the English language. Thus, their metaphorical terminological meaning is borrowed. Moreover, it was noticed that metaphorical terms coincide in several languages, e.g.:

(46) Lithuanian **krepšys** – English *bag*, French *sac*, Russian *корзина*;
(47) liet. **raktas** – English *key*, pranc. *clé*, German *Schlüssel*, Russian *ключ*;
(48) Lithuanian **žingsnis** – English *step*, Russian *шаг*;
(49) Lithuanian **lapas** – English *leaf*, German *Blatt*, Russian *лист*;

(50) Lithuanian ***medis*** – English *tree*, French *arbre*, German *Baum*, Russian *дерево*;

(51) Lithuanian ***šaknis*** – English *root*, German *Wurzel*, Russian *корень*;

(52) Lithuanian ***kirminas*** – English *worm*, French *ver*;

(53) Lithuanian ***pelė*** – English *mouse*, French *souris*, Russian *мышь*;

(54) Lithuanian ***kaukė*** – English *mask*, French *masque*, German *Maske*, Russian *маска;*

(55) Lithuanian ***svečias*** – English *guest,* French *invité;*

(56) Lithuanian ***laukas*** – English *field*, French *champ*, Russian *поле* ir kt.

Hence, the rendered examples enable to declare some insights that metaphorisation of IT terminology in accordance with the example of the English language took place not only in Lithuanian terminology but also in terminology of other languages. On the other hand, in order to clarify under the example of which language a specific metaphoric term is created, a diachronic analysis of each term is essential which is not the aim of this research.

Conclusions

Metaphorical terms belonging to the group of linguistic metaphors are distinguished by objectivity, lexical and contextual independence, systematicity, integrity and anonymity. While metaphorising, one object is nominated by the title of the other object or the property or function characteristic to one object is transferred to another object. Thus, one word or another is selected not by accident but with regard to a certain similarity of phenomena or concepts. It is noted that external similarity is sufficient for such term transference, i.e. it is important that an object (property, phenomenon) would remind another object (property, phenomenon).

Analysing Lithuanian one-word metaphorical computer terms and their English equivalents, it was determined that in most cases terms maintained their metaphorical meaning in both languages. Only few cases were observed when metaphorical nomination is only distinctive to a Lithuanian term.

Having analysed various ways of metaphorical transference it is obvious that one of the most universal methods is figurative nomination of concepts on the basis of titles of flora world and mode of life. It was observed that there is a tendency to nominate concepts meaning particular objects in both English and Lithuanian IT terminology, whereas analogies of abstract objects are less common. In the group of one-word terms, metaphorical title transference prevails according to function similarity whereas metaphorisation under form similarity is less frequent.

Special concepts are nominated by similar areas in both Lithuanian and English languages. Only few mismatching cases of metaphorical nomination prove the

existence of universal models of metaphorical nomination which is basically determined by regularities of universal thinking and similar experience.

Conformity of metaphorical terms of Lithanian and other languages enables to state that the majority of Lithuanian metaphorical computer terms are loan-translations (most often from the English language). Thus, metaphorical meanings of most of them are borrowed. Nevertheless, the majority of them are sufficiently motivated in the Lithuanian language as their terminological metaphorical meaning can be clarified by the former non-terminological meaning.

In Lithuanian IT terminology, unlike in English, the method of metaphorical concept nomination is not an efficient method of term creation as a majority of terms are semantic loan-words created under the example of the English language. Original Lithuanian terms constitute only several per cent of all one-word metaphorical IT terms.

Comparative studies of several languages disclose conceptualisation of certain peculiarities of metaphor realisation cases in different languages, which is inherent to different cultures. Inter-language term metaphorisation researches presented beneficial insights about models of metaphorical nomination, revealed both common tendencies of metaphorisation and distinctive ways of conceptual metaphor expression in IT terminology.

Sources

(CTDG) Computer terms, dictionary, and glossary, http://www.computerhope.com/jargon.htm.

(DLKŽ) *Dabartinės lietuvių kalbos žodynas* ('The Dictionary of Contemporary Lithuanian'). 2011. Managing editor Keinys, S and etc. Vilnius: Lietuvių kalbos institutas, http://dz.lki.lt.

(EKŽ) Dagienė, V., Grigas, G., Jevsikova, T. *Enciklopedinis kompiuterijos žodynas* ('Encyclopedic Dictionary of Computing'). 2012. Vilnius: TEV, http://ims.mii.lt/EK%C5%BD/.

(ETB) *EuroTermBank*, http://www.eurotermbank.com/default.aspx.

(LKŽ) *Lietuvių kalbos žodynas* ('Lithuanian dictionary'). 2008. Managing editor Naktinienė, G. and etc. Vilnius: Lietuvių kalbos institutas, www.lkz.lt.

(OED) *Oxford English Dictionary,* http://www.oed.com/.

(PCmagE) *Encyclopedia. The Computer Language Company Inc,* http://www.pcmag.com/encyclopedia.

References

Aubusson, P. J. A., Harrison, G., & Ritchie, S. M. (2006). *Metaphor and analogy in science education*. Springer, http://www.academia.edu/4469332/6909399_Metaphor_and_Analogy_in_Science_Education.

Andrade de, N. G. (2010). Technology and Metaphors: from Cyberspace to Ambient Intelligence. *Observatio* (OBS), 4, 121–146, DOI: http://dx.doi.org/10.15847/obsOBS412010279.

Baltrūnaitė, R. (1998). Metaforiniai terminai. *Terminologija,* 5, 36–47.

Black, M. (1955). Metaphor. *Proceedings of the Aristotelian Society,* N.S., 273–294.

Boyd, R. (1996). Metaphor and theory change: What is 'metaphor' a metaphor for? *Metaphor and Thought Cambridge* (pp. 481–532). Cambridge University Press.

Bradie, M. (1999). Science and metaphor. *Biology and Philosohpy*, 14, 159–166. Kulver Academic Publishers.

Charteris-Black, J. (2005). Politicians and Rhetoric. *The Persuasive Power of Metaphor*, 28–51. Palgrave MacMillan.

D'Hanis, I. (2002). The Use of Metaphors in Scientific Development. *A Logical Approach. Logical and Computational Acpects of Model – Based Reasoning,* 21–35. Kulver Academis Publishers.

English, K. (1998). Understanding science: when metaphors become terms. *Théorie et pratique des discours spécialisés*, 19(22), 151–163, https://journals.openedition.org/asp/2800.

Forceville, Ch. (2002)*. Pictorial Metaphor in Advertising*. Taylor & Francis eLibrary.

Knudsen, S. (2003). Scientific metapors going public. *Journal of Pragmatics* 35 (8), 1247–1263, DOI: https://doi.org/10.1016/S0378-2166(02)00187-X.

Kuhn, T. S. (1993). Metaphor in Science. *Metaphor and Thought*, 533–542. Cambridge: Cambridge UP.

Lakoff, G., Johnsen M. (1980). *Metaphors we live by*. London: The university of Chicago press.

Marcinkevičienė, R. (1994). Metafora nemetafora. *Naujasis židinys*, 4, 76–81.

Marcinkevičienė, R. (1999). Atminties labirintuose: Kognityvinės ir tekstynų lingvistikos sąveika. *Darbai ir dienos*, 19, 109–124.

Marcinkevičienė, R. (2006). Konceptualioji metafora vertime. *Darbai ir dienos*, 45, 109–118.

Marina, V. (2006). The analysis of English metaphorical terms and their Lithuanian and Russian equivalents from the perspective of linguistic relativity. *Tiltai*, 2, 98–108.

Papaurėlytė–Klovienė, S. 2005. Probleminiai konceptualiosios metaforos EMOCINĖ BŪSENA ir ASMUO atvejai. *Žmogus ir žodis*, 1, 43 – 47.

Pielenz, M. (1993). *Argumentation und Metapher*. Tübingen.

Stunžinas, R. (2006). Metaforiniai statybos terminai. *Terminologija,* 13, 62–75.

Sweetser, E. (1990). *From etymology to pragmatics: Metaphorical and cultural aspects of semantic structure*. Cambridge: Cambridge University Press, DOI: https://doi.org/10.1017/CBO9780511620904.

Šeškauskienė, I. (2010). Who discusses: the paper or the author of the paper? Inanimate subject + active verb in Lithuanian linguistic discourse as compared to English. *Respectus Philologicus, 18*(23), 83–99.

Šeškauskienė, I. (2011). The language of research: argument metaphors in English and Lithuanian. *Vertimo studijos,* 4, 46–60.

Šeškauskienė, I. (2012). Metaforų tyrimo klausimu, arba kaip nustatyti metaforas. *Darbai ir dienos*, 58, 65–79.

Tretjakova, J. (2013). Metaphor in Terminology: Visualization as a Way to Term Perception. *World Academy of Science, Engineering and Technology International Journal of Cognitive and Language Sciences*, 7(4), 891–894, https://waset.org/publications/3910/metaphor-in-terminology-visualization-as-a-way-to-term-perception.

Valiulienė, E. (2015). Temperature metaphors in lithuanian and english: contrastive analysis. *Verbum,* 6, 207–219, DOI: https://doi.org/10.15388/Verb.2015.6.8819.

Vladarskienė, R. (2012). Metaforiniai ekonomikos terminai. *Terminologija*, 19, 83-92.

Zaikauskas, E. (2014). Terminų vertimo būdai Europos Sąjungos teisės aktų vertimuose į lietuvių kalbą. *Terminologija*, 21, 71-89.

Župerka, K. (2000). Kalbotyros terminai publicistikoje. *Darbai ir dienos*, 24, 175–182.

Волоснова, Ю.А. (2003). Особенности перевода метафорических терминов в сфере информационных технологий. *Лесной вестник*, 4, 39–45.

Гринев, С. В. (1993). *Введение в терминоведение*. Московсий Лицей.

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