Analyzability and institutionalization: Setting parameters in cognitive morphology[1]

Henryk Kardela, Maria Curie-Skłodowska University

Adopting the theory of Cognitive Grammar as proposed and developed by Ronald Langacker (*1987, 1988, 1991, 2008*)*, the paper discusses two concepts of modern morphological research*: analyzability *and* institutionalization. *The claim advanced here is that the lower the degree of institutionalization a lexical item displays, the higher the degree of its analyzability tends to be. This generalization does not hold in the case of highly conventionalized linguistic units; it applies mainly to expressions such as blends and acronyms, which often show a lower degree of conventionalization and thus display varying degrees of institutionalization. The paper discusses two sets of analyzability parameters on linguistic structure: the* signans-parameters *which hold at the phonological pole of the linguistic unit and the* signatum-parameters *which obtain at the semantic pole of the expression. The signans parameters specify the "conditions on form", i.e., constituency, spelling, the degree of shortening, etc., while the signatum parameters involve category extension, metaphorization, metonymization*, *conceptual integration* and *the (degree of) compositionality of linguistic units.*

Key words: *cognitive grammar, acronyms, blends, analyzability, compositionality, institutionalization,* signans- *and* signatum-*parameters.*

1. The model

In Langacker's theory of Cognitive Grammar, a linguistic expression, which is modeled on the Saussurean conception of the linguistic sign, has a bipolar structure consisting of the *semantic pole*—[S] (symbolized by capital letters) and the *phonological pole*—[p] (small letters), as shown in Figure 1:

S	THIS	TALL	TREE
p	this	tall	tree

Figure 1. The bipolar nature of linguistic units

[1] I would like to thank the anonymous reviewer for the helpful and constructive comments and suggestions that greatly contributed to improving the final version of this paper. My thanks also go to Kazimierz Goebel, Przemyslaw Łozowski, Daria Bębeniec and Małogorzata Cudna for their comments on various parts of the earlier versions of the paper. Naturally, for whatever mistakes may appear, I alone am responsible.

Generally, two approaches to the sign can be distinguished: the Saussurean dyadic conception and the Peircean triadic model of the sign. The two models are shown in (2):

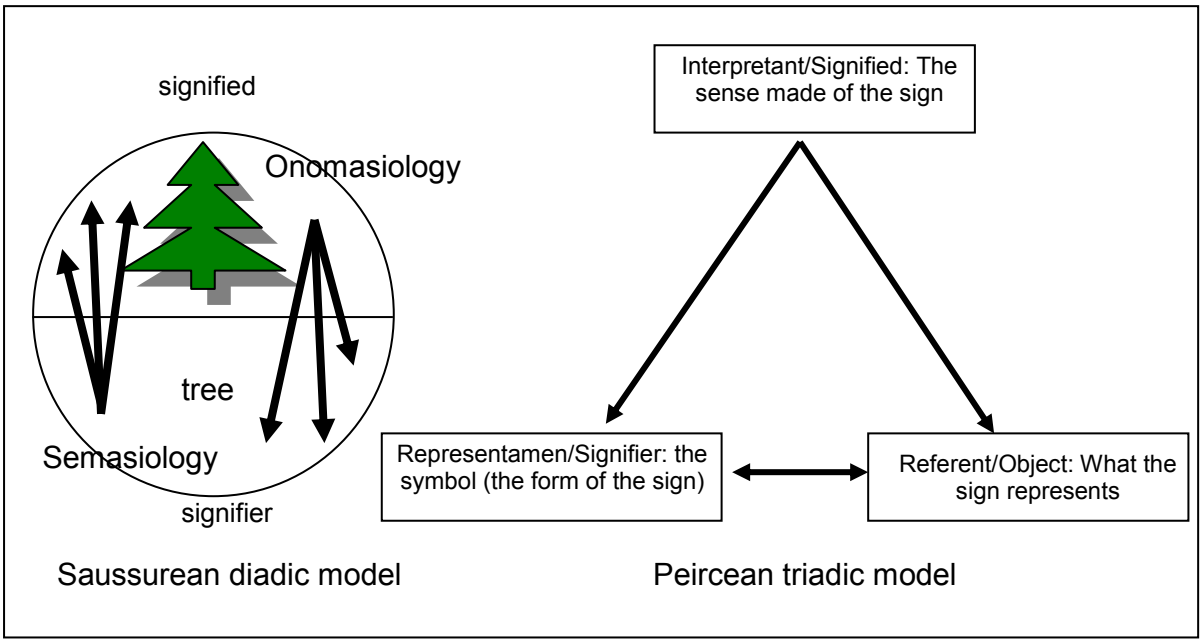

Figure 2. The dyadic and triadic models of the sign

There are important differences between the two approaches. Whereas the Saussurean conception focuses on the structure, the Peircean model lays emphasis on the interpretation of the sign. Also, while for Saussure, the referent (the object in the world) plays no role in linguistic analysis, for Peirce, the object is part of the model. Finally, although Saussure's *signified* is similar to the Peircean *Interpretant*, it differs from the latter in that it is not a sign in the mind of the interpreter but it is a concept of the referent. This has important consequences for the Saussurean-based theory of Cognitive Grammar: while the interpreter is implicitly present in Peirce's model, given the nature of the Interpretant (it is "the sense made of the sign"—(cf. Figure 2), the interpreter in a Saussurean model of grammar has to be introduced into the model. Suppose this can be done along the following lines.

First, let us note that in Cognitive Grammar, the role of the interpreter is assumed by the *conceptualizer*, the general term used by Langacker for the speaker and the hearer. Also note that during the discursive exchange, drawing on world knowledge, the speaker and the hearer negotiate the meanings of lexical units based on what cognitive scientists call *mind reading* (or "the apprehension of other minds," in Langacker's terminology). The mind reading process, which in Langacker's theory is accounted for in terms of the conceptual integration mechanism (blending), is presented in Figure 3 (Langacker 2007: 182; adapted). The diagram represents what Langacker calls the "canonical speech event scenario," a cognitive mechanism based on the conceptual integration of spaces, which accounts for "apprehending other minds" (Langacker 2007: 182). In this scenario, the roles of the interlocutors (speaker—S and the hearer—H) alternate: S says something to H, H listens, and then H says something to S. The dotted lines, called correspondences, indicate that S and H

have a dual role to play: in the blend, the speaker (S) is also a potential hearer (H') and the hearer (H) is also a potential speaker (S').

The mind-reading process takes place in a complex cognitive space called by Langacker the *Current Discourse Space*—CDS, a conceptualization governing discourse. We present the mind reading process and the CDS in Figures 3 and 4, respectively.

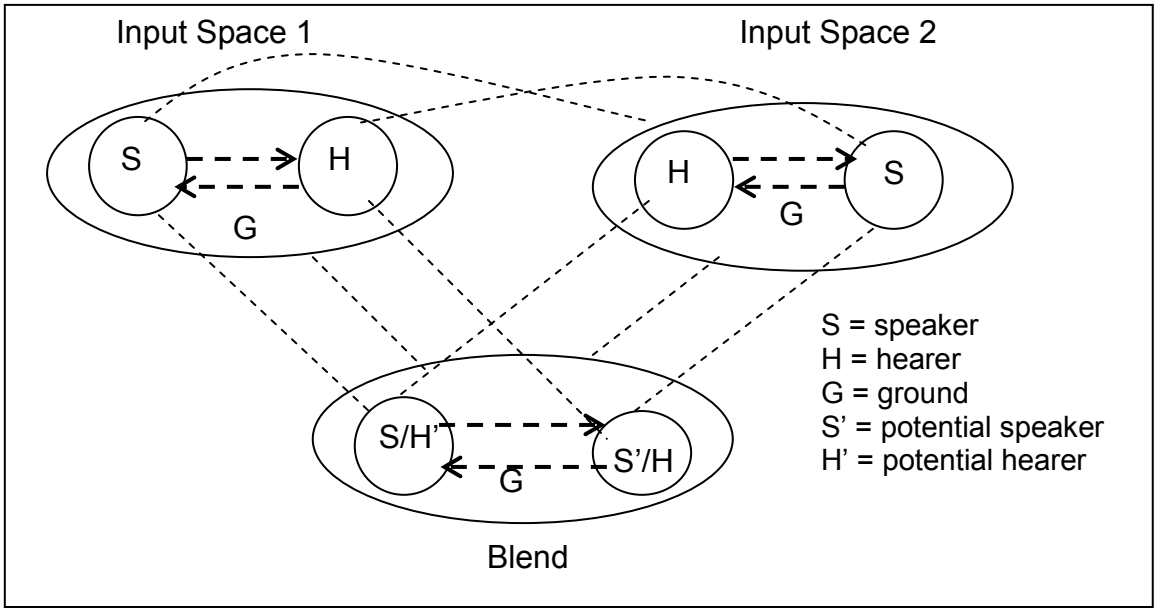

Figure 3 Apprehending of other minds (mind reading)

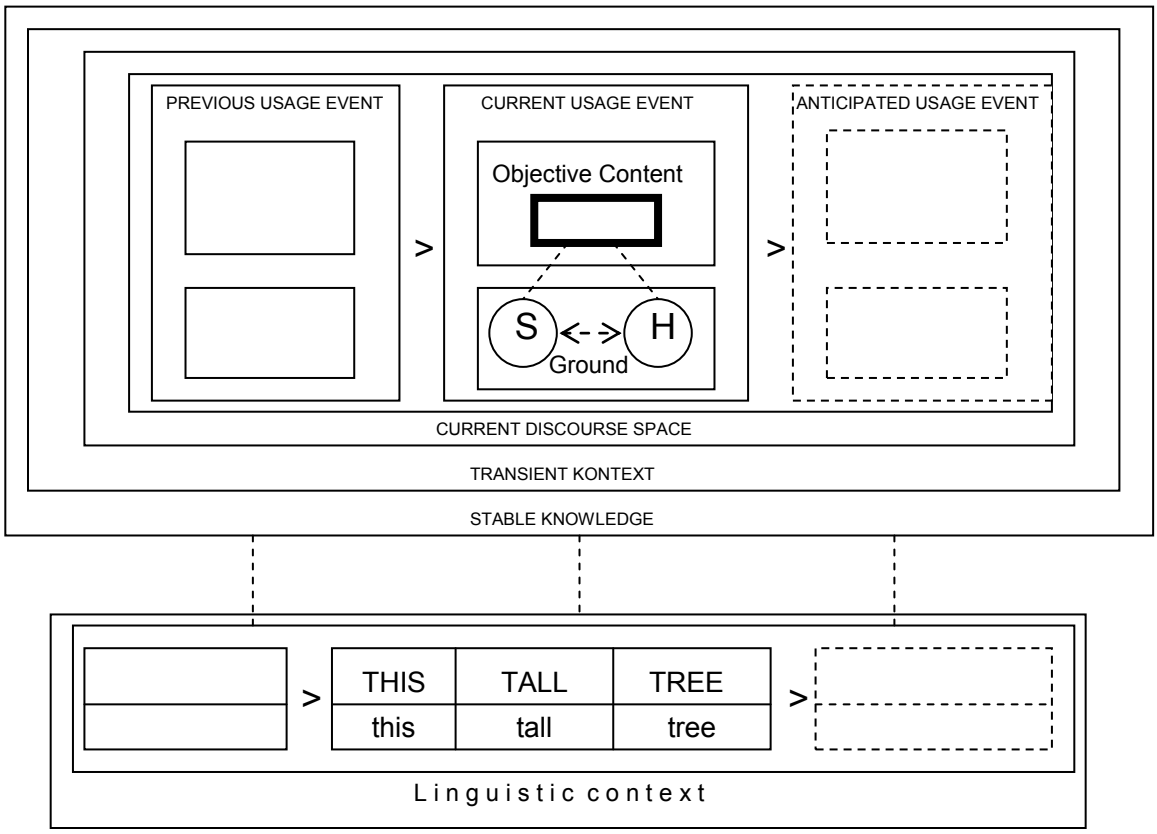

Figure 4. The CDS

Figure 4, which is a modified version of Langacker's conception of *usage event*, involved in the "discursive transaction" between S and H (cf. Langacker 2008: 466), represents a context-based "common interpretational basis," including the CDS (upper box in Figure 4) and the "negotiated" meaning of a linguistic expression (here: *the tall tree*—lower box). The CDS consists of three basic elements: the *current usage event*, the *previous usage event* and an *anticipated usage event*. This arrangement holds at all "levels" of conceptual organization, including all "linguistic levels". The current usage event consists of the so-called *objective content* (OC), i.e. the situation or a thing conceptualized which is communicated between the speaker (S) and the hearer (H). S and H form what is called the *ground*, i.e. persons and circumstances accompanying the production and understanding of utterances. It is precisely between S and H that the mind integration process takes place.

Consider, for instance, a nonce formation such as *canned dolphin-free tuna*. Figure 5 mnemonically represents the meaning negotiation process which takes place in this particular case.

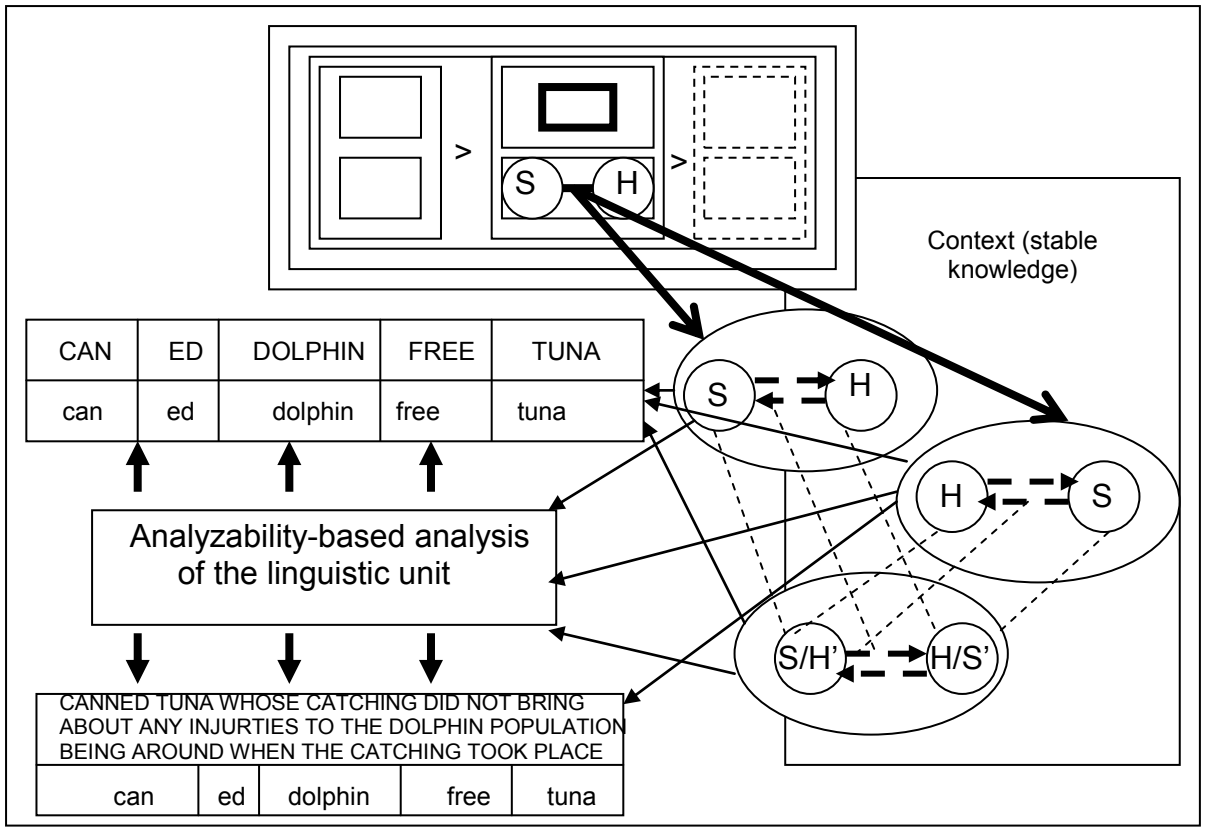

Figure 5. The CDS and the speaker-hearer discursive negotiation of meaning

If, as suggested in Figure 5, the meaning of *canned dolphin free tuna* is 'canned tuna whose catching did not bring about any injuries to the dolphin population being around when the catching took place' (see Fauconnier and Turner (2002:25) for their analysis of a similar example), this meaning can hardly be arrived at unless the whole context relating to the catching of tuna is taken into account (i.e. the knowledge that when tuna is caught there are often dolphins around which incidentally can get injured). In Figure 5 the upper box symbolizes the CDS in which the meaning negotiation between S and H takes place, based on the conceptual integration of the speaker's and hearer's minds. (Long arrows in bold indicate that the mind reading process takes place within the CDS). The (bipolar) linguistic structures are used to (en)code the negotiated meaning of the expression, following the analysis of the linguistic structure carried out by the conceptualizer to yield the requisite linguistic meaning of *canned dolphin-free tuna*.

The foregoing discussion clearly points to the pivotal role of the conceptualizer in the meaning assigning process: the grasping of a linguistic unit's meaning requires full contextual knowledge in which the unit is used.[2]

[2] An example which, just like *canned dolphin-free tuna*, requires a great deal of contextual knowledge for its proper interpretation, is the expression *patriotic pole climber*, discussed in Langacker (1987). Says Langacker,

> Roughly [...] the conventionally determined meaning of *patriotic pole climber* is 'patriotic person who climbs a pole'.
>
> But does this compositional value adequately represent the actual meaning of the expression? I argue that it does not, if the term "meaning" is interpreted in any linguistically appropriate way: the compositional value gives an incomplete account of how a speaker understands the expression,

There are interesting parallels between Cognitive Grammar and Pavol Štekauer's Cognitive Onomasiological theory. Just like Langacker's model, Štekauer's theory:

> (a) lays emphasis on the active role of language users in the process of giving names to objects instead of presenting word-formation as an impersonal system of rules detached from their objects named and from language users;
> (b) […] naming units do not come into existence in isolation from factors, such as human knowledge, human cognitive abilities, experiences, discoveries of new things, processes and qualities, human imagination, etc. […] the naming act is a cognitive phenomenon relying on the intellectual capacities of a coiner;
> (c) [Cognitive Onomasiological theory] stresses a close interconnection between *linguistic* and *extra-linguistic* phenomena (Štekauer 2005: 212-213).

The two approaches to language structure are given in Figure 6 and Figure 7, respectively:

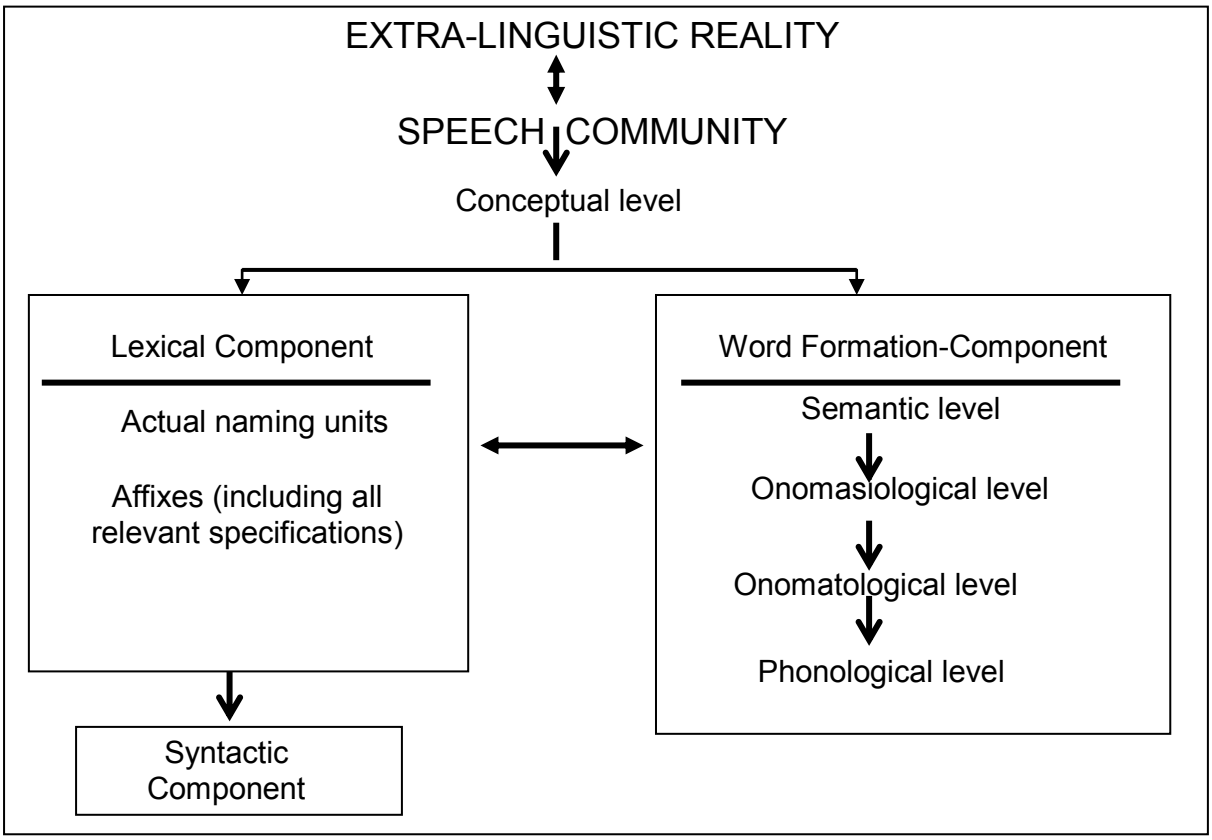

Figure 6. Cognitive Onomasiological theory (Štekauer 2005:213)

---

as either a novel form or a familiar conventional unit. […] Nothing in the previously established conventions of English allows a speaker to deduce that *patriotic pole climber* designates a beautiful woman dressed as a Dallas Cowgirl, that the pole in question is a flagpole, the climber kisses the American flag before sliding down the pole to the accompaniment of fireworks, the opening of NFL football games. […] all this is part of the contextual understanding of the expression by every fan exposed to it. (Langacker (1987: 454-455)

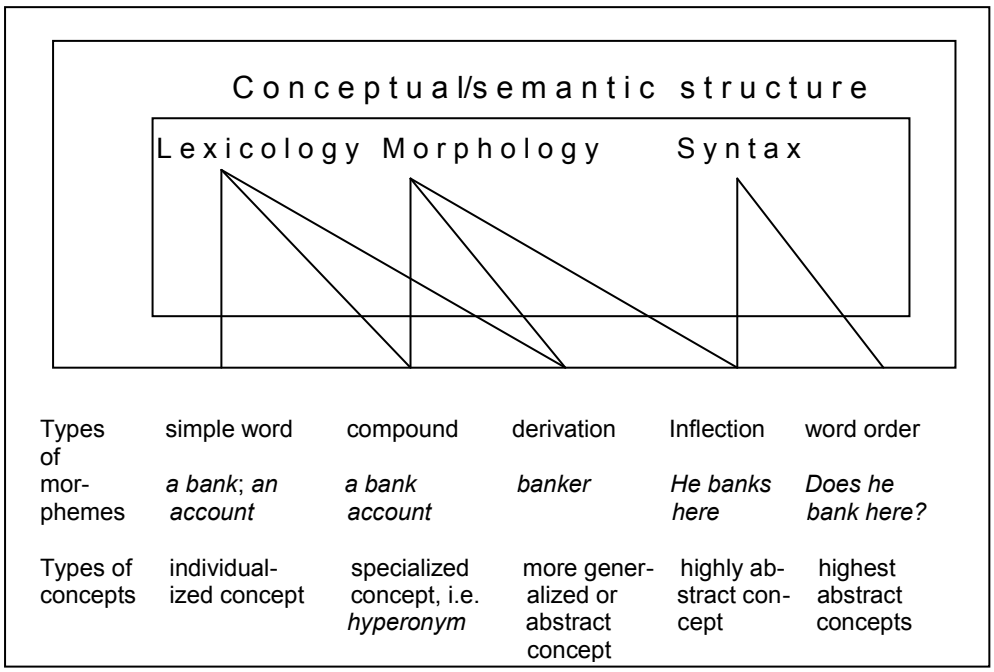

Figure 7. A cognitive linguistic model (Dirven and Verspoor 2004:70; modified)

As Figures 6 and 7 show, however, there are important differences between the two models. Whereas Štekauer's Onomasiological theory represents "a modular approach" to language, Cognitive Grammar is essentially a non-modular, holistic approach to linguistic structure, in which the areas of language overlap.

Another difference between the two approaches is that Štekauer's Cognitive Onomasiological theory deals primarily, as its name suggests, with the onomasiological aspect of linguistic meaning, whereas Cognitive Grammar and other cognitive models of language pursued in the paradigm of Cognitive Linguistics, have concentrated on semasiology rather than onomasiology. As Grondelaers and Geeraerts (2003: 88-89) note,

> the choice of a lexical item as the name for a particular referent is determined by the degree of prototypicality of the referent with regard to the semasiological structure of the category, by the onomasiological entrenchment of the category represented by the name, and by contextual features which interact with these principles. Of these three components, only semasiological salience has enjoyed some theoretical attention in main-stream Cognitive Linguistics, though predominantly in the shape of prototypicality effects, never in the context of lexical selection. The importance of onomasiological perspective has mostly been neglected, and interfering contextual factors are—incorrectly assumed to be outside the scope of Cognitive Linguistics.

Indeed, it is only during the past decade or so that the onomasiological study of lexical structure has been seen to regain its due place in today's mainstream morphological research (cf. Geeraerts 1988, 1997, 2002, Geeraerts and Speelman 2010, Lipka 2002, Grondelaers & Geeraerts 2003, Grondelaers, Speelman & Geeraerts 2007, Štekauer 2005, Körtvélyessi 2009, Körtvélyessi, Štekauer & Zimmermann 2013).

2. Analyzability

An important cognitive strategy involved in the contextually-induced interpretation of composite structures, which features prominently in Figure 5, is *analyzability*. As defined by Langacker (1987: 448), "analyzability pertains to the ability of speakers to recognize the contribution that each component structure makes to the composite whole." Analyzability is thus connected with a cognitive process of *activation*. Analyzability, Langacker (1987: 457) notes, "implies some kind of *analysis* of a complex structure, and thus involves cognitive events above and beyond those that constitute the structure per se; the structure retains its intrinsic complexity regardless of whether it is subjected to such analysis" (italics in the original).

In connection with this, consider now the following two groups of acronyms, discussed in Kardela (2012):

(1) a. AIDS: acquired immune deficiency syndrome
NATO: North Atlantic Treaty Organization
SONAR: sound navigation and ranging
Scuba: self-contained underwater breathing apparatus
Laser: Light Amplification by Stimulated Emission of Radiation

b. BBC: British Broadcasting Corporation
DNA : deoxyribonucleic acid

It is clear that there are important differences between the (1a) and (1b) acronym types: whereas the (a) acronyms are pronounced as words, i.e. ['neitou], ['sku:bə], ['sounə], the (b) acronyms are pronounced as the names of the letters, i.e. ['bi: 'bi: 'si:] or ['di: 'en 'ei].

Other types of acronymic formations can be further distinguished, as the following list clearly documents:

(2) a. FAQ: ([fæk] or *F A Q*) frequently asked question
SQL (['si:kwəl] or *S Q L*) Structured Query Language.

b. CD-ROM: (*C-D*-[rom]) Compact Disc read-only memory
JPEG: (*J*-[peg]) Joint Photographic Experts Group
SFMOMA: *S-F*-['moumə] San Francisco Museum of Modern Art

c. PAC-3 [pæk-θri:]: PATRIOT Advanced Capability 3 [Phased Array Tracking]
RADAR [Radio Detection and Ranging] Intercept on Target.

d. K9: "Canine", used to designate police units utilizing dogs; K8: "Kuwait"

The examples in (2a), depending on speaker or context, are pronounced as words or names of letters;[3] the pronunciation of the (2b) examples involves a combination of names of letters

[3] It should be noted though that, owing to the greater degree of its institutionalization and its use in many internet application forms, including the American Visa application form, the acronym *FAQ* appears to be recognizable more readily by language users than *SQL* is, and thus *FAQ,* but not *SQL* should be judged to display a greater degree of analyzability. (On institutionalization, see the discussion below.)

and a word; the formation in (2c) belongs to the group of so-called "multilayered acronyms"; and the examples in (2d) are "pseudo-acronyms" in that when they are pronounced, they relate to longer words that otherwise would require "more typing." Clearly, the acronyms in (1) and (2) represent different degrees of analyzability, which means that "the user's recognition of the role a given segment plays in the activation of its representation in the overall structure of the acronym" is bound to vary here.

Suppose now that the degree of the analyzability of linguistic structure, including acronymic formations, can be represented in the form of the following "analyzability cline":[4]

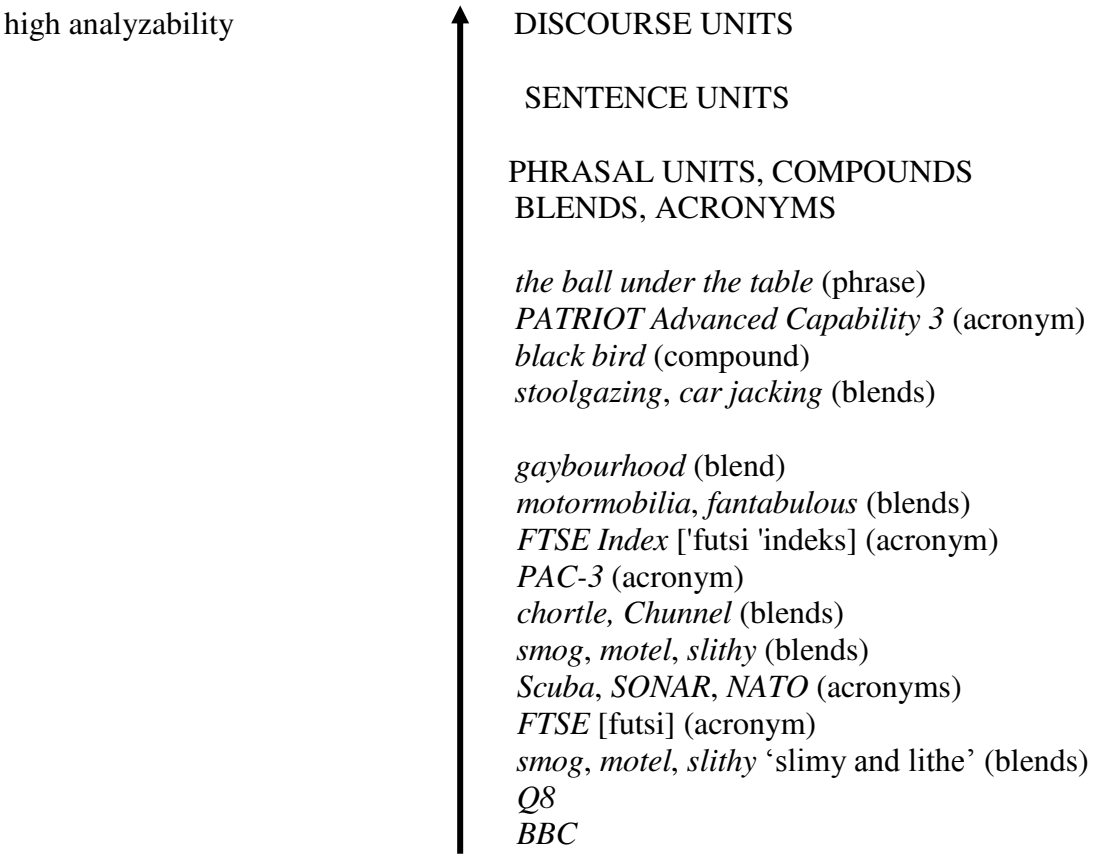

Figure 8. Degrees of linguistic units' analyzability

Figure 8 represents the degrees of analyzability of linguistic units as discussed in Kardela (2012: 312). On top of the analyzability scale we have formations such as discourse units, sentences and phrasal units; somewhat down below appear compounds, complex blends such

[4] The appearance of acronymic formations on the scale should hardly be surprising in view of the continuum-of-linguistic-units thesis adopted by Cognitive Grammar (cf. Figure 7). In fact, a proposal for an "extended treatment" of morphological structure of this sort has already been made in Kastovsky (2009), where the following scale has been established: "less independent forms": compounding (word) > stem compounding (stem) > affixoids > affixation proper (word-/stem-based) > clipping compounds (clipping of words/stems) > blending > splinters > acronyms. A similar opinion is expressed by Carstairs-McCarthy (2006: 65; quoted also in Kardela 2012: 312-313)), according to whom the most extreme kind of truncation that a component of a blend can undergo is reduction to just one sound (or letter), usually the first. Blends made up of initial letters are known as acronyms, of which well-known examples are *NATO*, *ANZAC*, *RAM*, SCSI, and *AIDS*. Intermediate between an acronym and a blend is *SONAR* (from sound navigation and ranging).

as *skyjacking* or *car jacking*, which, just like *black bird* or *taxi-driver* are, in fact, compounds. Still less analyzable are formations such as *stoolgazing*, *gayborghood*, *motormobilia* or *fantabulous* (examples are from Kemmer 2003). The remaining blends down on the scale, such as *Chunnel* or *smog*, look like "ordinary" non-compositional words such as *table*, *chair* or *elephant*. Their analyzability is extremely low, as is the case with *Chunnel*, and practically non-existent, as in the case of *smog*. Still lower on the scale, albeit to some extent "interspersed" along it, are acronyms such as *BBC*, *NATO* or *PAC-3*.

3. *Signans* parameters

As presented in Figure 8, the analyzability scale is subject to parametrization. Following Dressler (2005) we distinguish two types of parameters: the *signans* parameters, which apply at the phonological pole of a given expression and the *signatum* parameters, which apply at the semantic pole of the expression. The former involve the various conditions on the form (shortening/clippings, phonactic conditions, etc.) the latter involve, *inter alia*, the (degree) of compositionality of linguistic units, category extension, metaphorization, metonymization and conceptual integration. In this section we deal with the *signans* parameters only; the *signatum* parameters will be discussed in the next section.

In her attempt to account for the otherwise unpredictable nature of acronyms, initialisms, clippings and blends, Paula López Rúa (2004) makes an attempt to formulate the parameters and values for what we take to be the degree of analyzability of these expressions. The majority, if not all, of the parameters proposed by her are what we term here "signans-parameters." They include (López-Rúa, p. 125): SU (source unit—number and type); PRON (pronunciation of the resulting item); SPE (spelling); SHORT (degree of shortening)', PHON (degree of phonic integration) and EXP (mode of expression).

The parameters in question help López-Rúa establish the central and peripheral members for each category (cf. López-Rúa, pp. 125-126). Thus, in the case of acronyms, for example, their central members include forms written in capital letters, e.g. *SALT*: 'Strategic Arms Limitation Talks', while their peripheral members are held to combine initialized and clipped constituents, e.g. *Algol/AlGOL*: 'ALGOrhythmic Language', or initials and full constituents, e.g. *LIMEAN*: 'London Interbank MEAN rate'. In the case of alphabetisms, their central members include cases in which their original words are initialized or cases where some words may be represented by more than one letter, e.g. *CMTT*: CoMmittee for Television Transmission. The peripheral cases lack a source form, e.g. *KLF* (the name of a pop music band) or include numbers, symbols or letters indicating series, phases or types, e.g. *UB40*, *UVA:* 'UltraViolet type A'. Finally, in the case of blends, the central members may involve alternative spellings in capitals, e.g. *FORTRAN*, or contain constituents in which their last part is clipped, e.g. *modem*: 'MODulator DEModulator'. The peripheral members involve low integration; they often exhibit the use of capitals and the "presence of complete words from the source", e.g. *DESIRE*: 'Design by Simulation and Rendering of parallel architectures' or *MINEX*: 'MINE warfare Exercise'.

Consider now the pronunciation of acronymic formations (López-Rúa's PRON parameter). When one compares acronyms such as *BBC* (['bi: 'bi: 'si:] and *NRA* ('en 'a:r 'ei] 'National Rifle Association' with an acronym such as *FTSE* 'the *Financial Times Stock Exchange* (*Index*))', for example, pronounced as a word ['futsi] (and not as ['ef 'ti: 'si: 'i:] or ['ef 'tsi:], one can see that *BBC* or *NRA*, even when pronounced, display a lesser degree of

analyzability, if at all, than the [futsi]-form. Note also that when *FTSE* appears with the word *Index*, then it behaves like a partly analyzable compound of the *cranberry*-type (i.e., as a *cran*-morph compound).

The same is true of an expression such as *patriot*, used in the sentence *They used the patriots in yesterday's battle*. Under a normal interpretation, the sentence means that "The patriot-soldiers took part in the battle." However, when the expression *patriot* appears in capital letters as in *They used PATRIOTS in yesterday's battle*, the capital letters may prompt a language user to try to seek an interpretation alternative to that of 'patriot soldier' (as there may be some reason, the language user may conclude, that the word is put in capital letters). Note also that, on this analysis, the expression *PATRIOT Advanced Capability 3* has much higher analyzability value still: the expression *PATRIOT* (capital letters) + the expanded modifier, *Advanced Capability 3*, "invites" the conceptualizer to engage in the analyzability process. The same holds true for acronyms such as *Q8*. In this case the language user may have problems with the actual analysis of this expression unless he hears it pronounced or is told that what one is dealing here with is a pun-on word or a pseudo-acronym used in Internet slang.

Turning to blends, which are interspersed along the cline in Figure 8, they may involve as many as three of López-Rúa's parameters: SU, SHORT and PHON. Thus consider the following examples from Kemmer (2003):

(3)

skyjacking "hijacking of a commercial (cargo)'	[SKY x hiJACKING]
Chunnel "the Channel tunnel"	[CHannel x tUNNEL]
motormobilia "automotive memorabilia"	[MOTOR x autoMOBILEe x memorABILIA]
stoolgazing "examination of a baby's stools to gauge its health"	[STOOL x starGAZING]
chortle "laugh softly with sharp, repeated expulsion of air"	[CHucLE x snORT]
fantabulous "extremely wonderful"	[(F)ANTAstic x (FA)BULOUS]
carjacking "theft in which a car is forcibly taken from its rightful driver"	[CAR x hiJACKING]
glitterati "the glamorous elite"	[GLITTER x LITERATI]
coffnoscienti "coffee connoisseurs"	[COFFee x COgNOSCIENTI]
stalkerazzi "tabloid photographers who dog celebrities like stalkers"	[STALKER x papARAZZI]
gayborhood "gay neighborhood"	[GAY x nEIGHBORHOOD]
swooshtika "derogatory reference to Nike swoosh logo"	[SWOOSH x SWasTIKA]

Notice that the blends in (3) show the varying degrees of morphological and phonological integration and thus exhibit different degrees of analyzability. The right column contains the source elements for blends, and the parts of the source which actually appear in the blend are given in capital letters; the symbol *x* means "is blended with."

3. *Signatum* parameters

In his attempt to formulate the *signatum* as well as *signans* parameters for what he calls "extragrammatical formations," Wolfgang Dressler (2005) proposes five (Peircean) semiotic sign-based parameters, including the parameters of *iconicity*, *indexicality*, (*morphosemantic /morphotactic*) *transparency*, *biuniqueness*, and *figure/ground* (see also Mattiello 2013, for a discussion of "extragrammatical" formations).

Now recall that when discussing the acronym *PATRIOT*, we observed that the use of capital letters should be treated as a signans parameter which may prompt the language user to arrive at the expression's meaning other than 'patriotic soldier'. In fact, the language user may be invited to arrive at the expression's meaning other than 'patriotic soldier' when the expression is written in small letters but when the context (or co-text) clearly shows that the meaning 'patriotic soldier' is not intended. A case in point could be an example such as *They used patriots in the battle which brought down a number of fighter planes and bombers before they managed to drop bombs on the city.* Clearly, the expression *patriot* is a *polysemous* expression—it involves the process of *category extension*—and as such should, on Dressler's analysis, be subject to parametrization. Indeed, the parameter which applies in this case is based on the so-called *biuniqueness* principle—the requirement that there should be a one-to-one relation between the signans and the signatum. The expression *patriot* clearly violates this principle: the same signans, *patriot*, corresponds to two signantia, 'soldier-patriot' and 'anti-missile rocket'. Because *patriot* (small letters) violates the principle of biuniqueness, it is a marked formation in Dressler's terms. In our terms, this means that, given the two meanings of *patriot*: 'patriot soldier' and 'patriot-rocket launcher' as determined by the context(s) in which this expression appears, *patriot,* just like *PATRIOT*, invites the conceptualizer to get involved in the analysis of this expression.

Our observation concerning the enhanced analyzability of the acronym *patriot*, involving category extension due to the violation of the biuniqueness principle, is consonant with Réka Benczes's remark on the analyzability of compounds. Says Benczes (2004: 2):

> […] "exocentric" or ''non-transparent" compounds are just as easily analysable as endocentric ones. With the help of cognitive linguistic ''tools" such as metaphor, metonymy and blending among others, their meaning becomes analysable and transparent. […] There is no need for the traditional distinction between the two categories of semantically endocentric and exocentric compounds: all we are dealing with is a more imaginative word formation process. Therefore I suggest using the term "creative compound" for metaphorical (and/or metonymical) noun-noun combinations.

It is precisely context-related "cognitive linguistic tools" such as metaphor, metonymy and blending, as well as the meaning extension involved in acronyms such as *patriot*, discussed above, that we wish to take as an indication of the degree of the expression's analyzability at the signatum level.

In connection with this, consider the expression *hoofer* 'professional vaudeville dancer' (cf. Panther & Thornburg (2003: 289-290; henceforth PT), the derivation of which involves a series of complex metonymic and metaphoric processes as shown in Figures 9 and 10. In Figure 9, the agentive affix *–er* stands in the metonymic relation to the verbal stem *hoof* 'dance in a vaudeville-like manner'. Notice that the 'activity of dancing in a vaudeville-like manner' itself is linked *metonymically* with 'foot', which, in turn, is *metaphorically* linked to 'hoof' as a part of the animal body. Figure 10 is a mnemonic representation of the conceptual processes taking place when a part of the human body, foot, is compared to a

hoof, an animal body part. The rounded boxes symbolize the source and the target domain in the metaphorical relation involving the conceptual structure of the stem *hoof*. The horizontal arrows stand for the correspondences between people and animals captured by the PEOPLE ARE ANIMALS metaphor. Within the source domain the concept 'hoof', part of the body of ungulate animals, is elaborated and is linked, via the metonymic relation, to the trampling movement of these animals. This movement, in turn, metonymically evokes the expectation of noise produced on a hard surface. It is precisely these features of the source domain, metonymically evoked, PT note, that are metaphorically related to the target domain FOOT, providing in this way, together with the metonymic schema in Figure 10, the structure to the entire concept of 'hoofer'.

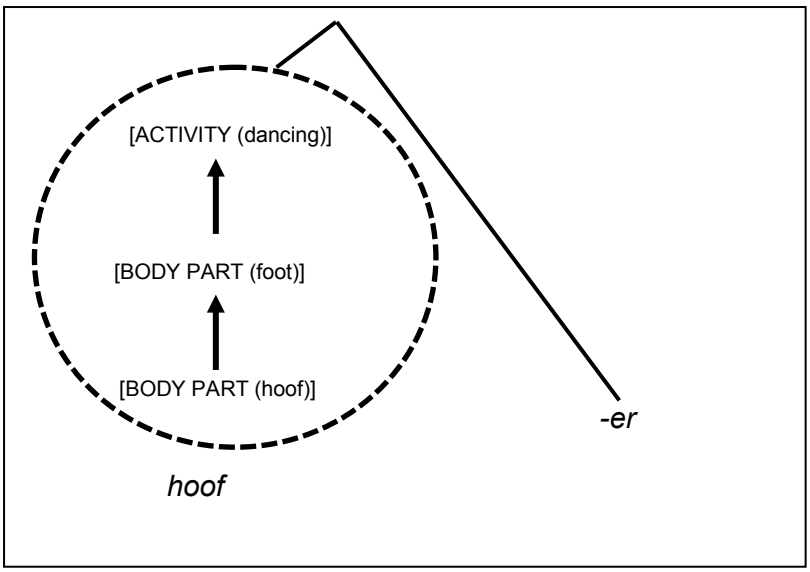

Figure 9. The metonymic relation in *hoofer*

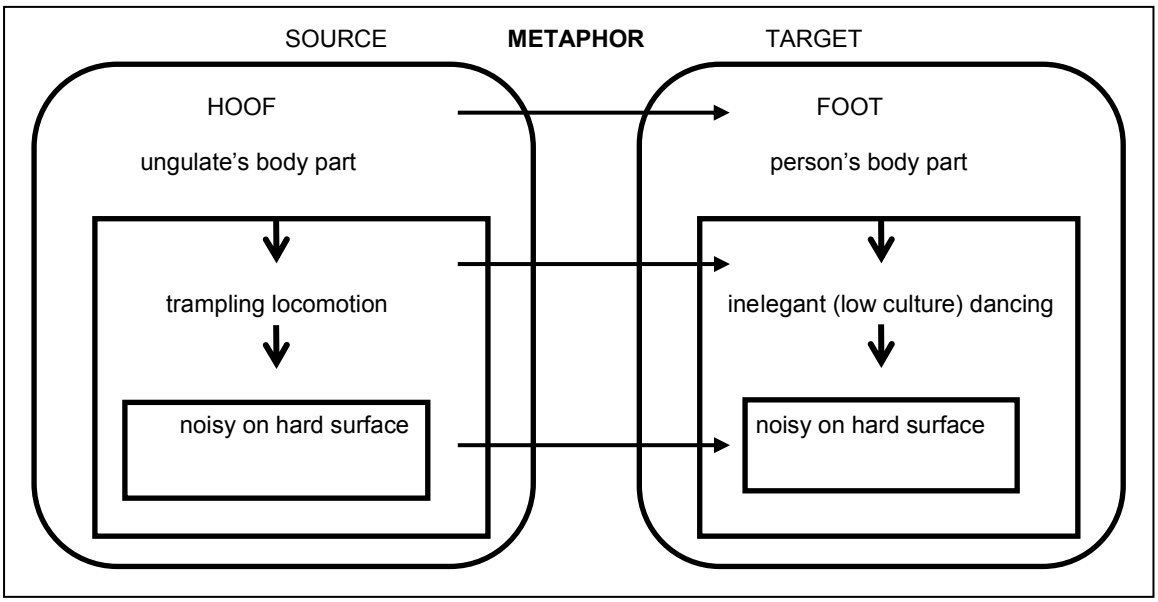

Figure 10. The metaphoric and metonymic relations in 'hoof-as-foot'.

We turn now to another signatum parameter which involves metonymic relations associated with the onomasiological "naming functions" of the Czech suffix *–ník.* These include (Janda 2011: 379; discussed also in Kardela 2015):

(4)

Source	Target	Source	Target
ABSTRACTION FOR ENTITY		*služba* 'service'	*služebník* 'servant'
ACTION FOR AGENT		*pracovat* 'work'	*pracovník* 'worker'
ACTION FOR LOCATION		*chodit* 'walk'	*chodník* 'sidewalk'
CONTAINED FOR CONTAINER		*čaj* 'tea'	*čajník* 'teapot'
LOCATED FOR LOCATION		*ryba* 'fish'	*rybník* 'fishpond'
MATERIAL FOR ENTITY		*pára* 'steam'	*párník* 'steamboat'
QUANTITY FOR ENTITY		*pèt* 'five'	*pètník* '5 crown piece'
MATERIAL FOR AGENT		*zlatý* 'gold'	*zlatník* 'goldsmith'

Following Radden (2009), Janda (2011: 360) defines metonymy as "an inferential relationship between two concepts: a source concept […] which provides mental access to a target concept in a given context." The stem is associated here with the source, while the affix, with the context for the metonymic relationship created by the affix. The target is the concept which corresponds to the derived word.

If, as Janda claims, "the context for the metonymic relationship is the affix" (2011: 360), then we should treat the affix to be precisely "this part of linguistic unit which, together with the word's stem, explicitly points to the (part of) of the concept to be named." More concretely, *ník* in the derivative *služebník* 'servant' can be said to be capable of pointing to this part of the Czech matrix concept [SLUŹBA/SERVICE] which is structured by the ABSTRACTION FOR ENTITY metonymy. In the case of *chodník* 'sidewalk', *–ník* could be held to name this part of the matrix concept [CHODIT/WALK] which is structured by the ACTION FOR LOCATION metonymy. Finally, *–ník* in *zlatník* 'goldsmith', can be said to relate to this part of the matrix concept [ZLATÝ/GOLD] which is structured by the MATERIAL FOR AGENT metonymy. (See also Dokulìl 1979, Szymanek 1988, Grzegorczykowa & Szymanek 2001, for a discussion of onomasiological categories.)

Consider now the process of conceptual integration which takes place in the blends. We have already discussed a *signans*-parameter associated with these formations, namely the (degree of) phonological overlap and shortening; now we will take a look at the semantic pole of the blends, viewing the conceptual integration process taking place at this pole as a *signatum*-parameter. Figure 11 captures the essential elements of the conceptual integration involved in the naming process (as we see it) of the expression *glitterati* (Kemmer 2003: 84):

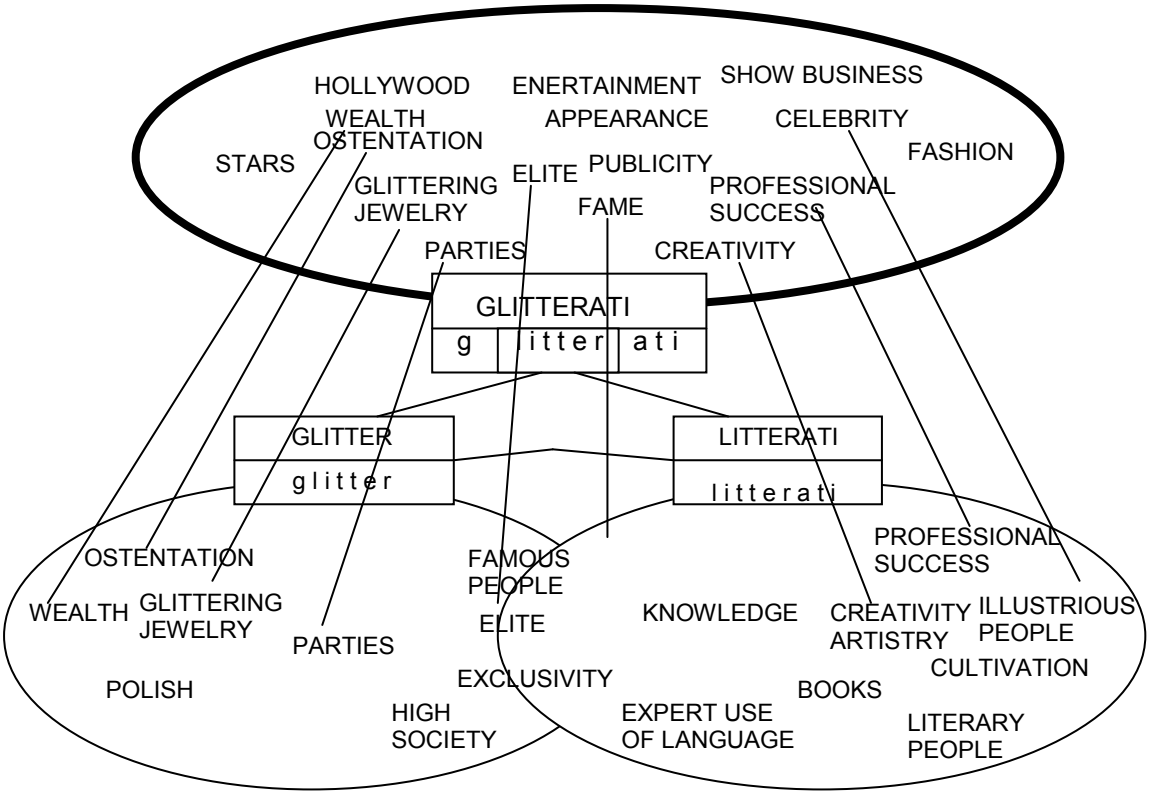

Figure 11. The conceptual integration in *glitterati*

Figure 11 represents the conceptual integration of two mental spaces associated with the concept (and the word) 'glitterati', i.e. the mental space of *glitter* and the mental space of *litterati.* Notice that in this case the blend that is created contains elements that are absent in either of the input spaces. In particular, the blend contains elements such as HOLLYWOOD, ENTERTAINMENT, SHOW BUSINESS but lacks now the conceptualizations LITERARY PEOPLE or KNOWLEDGE.

Finally, consider a *signatum*-parameter—let us call it—the *compositionality parameter*, which could be formulated as follows: *highly compositional expressions tend to have a greater degree of analyzability*. Thus, because expressions such as *reader* or *taxi-driver* are (almost) fully compositional, their degree of analyzability should be much higher than the analyzability of a practically non-compositional acronym such as *PAC-3* or a poorly compositional blend such as *gayborhood*. This requires a comment.

Langacker (1987) makes a distinction between analyzability and compositionality, which are related, yet distinct notions. Recall that, for Langacker (cf. Section 2), analyzability is "the ability of speakers to recognize the contribution that each component structure makes to the composite whole." Compositionality, in turn, is defined by him as "the degree to which the value of the whole is predictable from the values of its parts. It therefore concerns the relationship between a constructional schema and its instantiations" (Langacker 1987: 448).

Compositionality, just like analyzability, is a gradient phenomenon. As noted by Bybee (2010), words such as *hopeful*, *careful* and *watchful*, for example, are compositional because their meanings can be predicted from the noun base + suffix combination. In Cognitive Grammar terms this means that there exists in English a *constructional schema*

(i.e. a "higher-order" schema) such as [[stem]-[suffix]] which *sanctions* the respective stem + suffix units appearing in these derivatives. In contrast, words such as *awful* and *wonderful* are less compositional, because, as observed by Bybee, "*awful* indicates a negative evaluation not present in the noun *awe* and *wonderful* indicates a positive evaluation not necessarily present in *wonder*" (Bybee, p. 45).

To illustrate further the difference between analyzability and compositionality, consider an expression such as *brother*. Clearly, *brother* is non-compositional: it is a monomorphemic word, in which case a constructional schema such as [[V]-[ER]], used for sanctioning words like *work+er*, *complain+er*, *comput+er*, cannot sanction it. On the other hand, the segment *-er*, which appears here, can, in principle, be analyzed by the language user as an indicator of the family kinship terms, along with *–er* appearing in *father*, *mother*, *sister*, etc.

In view of the above, it should be clear that a highly compositional expression is likely to have a higher degree of analyzability than an expression which is compositional to a lesser degree or non-compositional at all. Indeed, because expressions such as *'black 'board* (primary stress on both component structures), *taxi-driver* or *reader* are highly compositional in that they are sanctioned by the respective constructional schemas, i.e. [[A]-[N]], [[N]-[N]-[ER]] and [[V]-[ER]], and can be easily paraphrased (*'black 'board* = 'a board that is black'; *taxi-driver* = 'a person who drives a taxi'; *reader* = 'sb who reads'), they tend to have a higher degree of analyzability than *cran*-morph expressions such as *cranberry*, blends as *gaybourhood* or acronyms such as *PAC-3*, which do not have a well-defined constructional schema. By way of example, consider the blend *gaybourhood*, mentioned in Kemmer (2003). In contrast to the compound *gay neighbourhood*, which is sanctioned by the constructional schema [[N]-[N]-[HOOD]], in the case of *gaybourhood*, only two component structures are sanctioned by this schema, namely [GAY/gay] and [HOOD/hood], respectively. The clipped segment [*BOUR/bour], non-existent in English, is not sanctioned by the constructional schema at all. Viewed from this perspective, the compound *gay neighborhood* shows a greater degree of analyzability than the blend *gaybourhood*.

4. Institutionalization and the I-A Generalization

We turn now to the second important concept of morphological research, to which this paper is devoted, namely institutionalization.

Lipka (2002: 112) defines institutionalization as "the integration of a lexical item, with a particular form and meaning, into the existing stock of words as a generally acceptable and current lexeme" (see also Lipka, Handl & Falkner 2004). As Hohenhaus observes, institutionalization "refers to the stage in the life of a word at (or from) the transitional point between the status of ex-nonce-formation-turned-neologism […] and that of generally available vocabulary item, i.e. a formation that is listed but not necessarily lexicalized in the diachronic sense yet." (Hohenhaus 2005: 359) Notice that both Lipka and Hohenhause define "institutionalization" as a process which affects "novel" expressions which "are on their way" to become integrated into the already existing inventory of words. The qualification "novel" is important here; indeed, although expressions such as *writer*, *reader* or *blackboard* are (highly) analyzable, they are also clearly (highly) institutionalized as no special contextual world-knowledge has to be evoked to trigger the analyzability process.

Institutionalization has a sociolinguistic dimension: a given word or an expression can, according to Lipka (2002: 22) be "established", or "shared" to a smaller or greater degree, depending on the size of a community, along a scale: idiolect < dialect < language. The following quotation from Hohenhaus (2005: 361) points to the theoretical importance of the concept of institutionalization and, at the same time, to its elusive nature:

> The smallest setting of a speech community, the subclass just above the idiolect, is that of a couple. Here, intimacy can foster extreme idiosyncracies—however, due to that very intimacy of such a setting, robust empirical data are hard to obtain. Only very occasionally do such examples surface outside their intimate domain […], e.g. [the] highly idiosyncratic 'back formation' of a singular **sheep* from *sheep*—originally a deliberate jocular deviation, which did however become established in the couple's micro-dialect.
>
> The next larger 'community' will be that of the family or other such more or less stable small group (close work colleagues, band members, small teams of explorers on an expedition, etc., etc.). Herringer (1984: 9) mentions the phenomenon of *episodic compounds* for such small groups—a potential example he constructs is German *Mäusebibel* 'mice bible', which is useable by family members who all know about a past incident in which a bible showing teeth marks of mice (who had apparently nibbled at it) was found by the family in a barn. It is thus only on the basis of the common episodic knowledge that the compound can be institutionalized in that meaning within this family's small-group dialect.
>
> At the next higher level lie the special vocabularies of technical jargon, slang, etc. […] Acronyms usually make this particularly clear: 'lay' people outside linguistics would hardly be able to decode *NP*, *LFG*, *GB*, *HPSG*, or *OT*.[5]

Now we wish to account for the relation, which we believe exists, between institutionalization and analyzability. Suppose this relation can be expressed in the form of a generalization, which we would like to call the *Institutionalization-Analyzability Generalization* (The I-A Generalization):

(5) The *I-A* Generalization:

> In the case of a novel expression, the lower the degree of the expression's institutionalization, the higher the degree of its analyzability.

Given (5), an expression such as *canned dolphin-free tuna* (cf. Figure 5), because it is not institutionalized, should be judged to involve a higher degree of analyzability than the expression *canned tuna*, since, as already remarked, in order to grasp the meaning of *canned dolphin-free tuna*, a far greater amount of contextual knowledge about the catching of tuna is required than it is required for grasping the (fairly well institutionalized) meaning of *canned tuna.*

[5] It should be stressed that the results of institutionalization are not permanent. An acronym such as WMD [weapons of mass destruction] is, according to Hohenhaus, "probably one of the highest frequency acronyms in politics of recent years," while an acronym such as IDS, "used in Britain to refer to Ian Duncan Smith, the leader of the Conservative Party, decreased in frequency and finally fell out of use after the party's leader's resignation" (Hohenhaus 2005:362). In connection with the transient nature of acronyms, it is important to distinguish between institutionalization and *topicality*. According to Fischer (1998:16), topicality "is characterized by a short-lived frequency related to a specific current event, [whole] institutionalization is brought forth by an increasing frequency within a longer period of time."

Now, based on our discussion in Sections 2 and 3 of the *signans* and *signatum* parameters, we can now summarize the results of our analysis of selected English expressions in the form of the following diagram:[6]

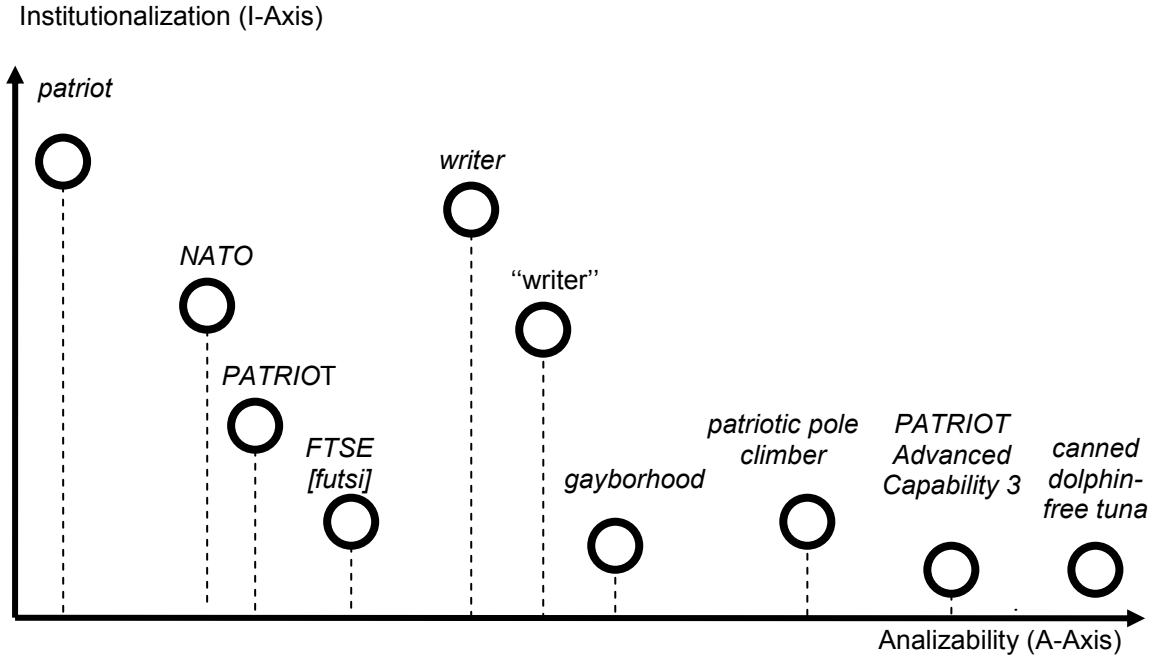

Figure 12. The "plotting" of expressions' values along the I- and A- axes.

Figure 12 contains mainly the examples of expressions which are "on their way" to be institutionalized. Indeed, the acronym *PATRIOT* or the expression *patriot* in the sense of 'rocket launcher' can hardly be said to be institutionalized: these are expressions not very likely to be heard in an everyday discourse situation. Nor is the foodstuff such as *canned dolphin-free tuna* habitually asked for by customers. Missing from the above account, then, are fully institutionalized derivatives or compounds such as *taxi-driver* or *reader*, which are sanctioned by appropriate constructional schemas and which require practically no contextual knowledge for the language user to arrive—via conceptual analysis—at their meanings.

Note now that because the expression *patriot* in the sense of 'someone who loves their country' is highly institutionalized, the degree of its analyzability is practically null: there is no reason on the language user's part to engage in the analysis of this expression. In contrast, because it is written in capital letters, the linguistic unit *PATRIOT* is judged to have a lower degree of institutionalization and thus is analyzable to some extent (in this case, the *signans* parameter (capital letters) is involved). By the same token, because the degree of

[6] Two things need to be stressed in connection with the I-A Generalization. First, this generalization should not be viewed in absolute terms: it is meant to express tendencies, not rules. Second, the placement of specific formations along the analyzability and institutionalization axes, presented in Figure 12, has been established on the basis of the author's judgements about the degrees of the lexical items' analyzability using the *signans*- and *signatum*-parameters. The generalization expressed in Figure 12 is open to corpus- and/or questionnaire based empirical inquiry. It is hoped that, if conducted, such an inquiry should be able to confirm or at least corroborate in great measure the validity of this generalization.

institutionalization of the expression *PATRIOT Advanced Capability3* is small, just like that of *PATRIOT*, this expression is analyzable. Yet, because in contrast to *PATRIOT*, the acronym *PATRIOT Advanced Capability 3* is sanctioned by a composite constructional schema (its compositionality is relatively high), the degree of its analyzability should be judged to be higher than that of *PATRIOT*.

Consider now the expressions *writer* 'somebody who writes (professionally)' and *"writer"* 'quasi-writer'. Although both the expressions are analyzable on the account of being sanctioned by the schema [[N]-[ER]], the analyzability of *"writer"* should be judged to be higher than that of *writer* because the analyzability value of the former is additionally increased by one of the *signans* parameters, namely the "SPE-parameter (of inverted commas)."

We have already commented on the analyzability of the expression *gaybourhood*: it has a low degree of institutionalization, but a relatively high degree of analyzability, as predicted by the I-A Generalization. The same is true of the expression *patriotic pole climber*: it has a very low degree of institutionalization, hence its analyzability is predictably high.

Finally, we have the expression *canned dolphin-free tuna*, already discussed at some length (cf. Note 2). Because its degree of institutionalization is practically null and because (as a result) it requires a great deal of contextual knowledge to be interpreted, the degree of its analyzability is bound to be high.

5. Conclusion

The claim advanced in this paper is that there exists a correlation between institutionalization and analyzability—two aspects of an expression's meaning and use. The correlation, which has been formulated in terms of the so-called I-A generalization, states that the lower the degree of institutionalization a lexical expression displays, the higher the degree of analyzability it tends to have. Because institutionalization is generally associated with the emergence of novel expressions which are "between ex-nonce-formation-turned-neologism […] and a formation that is listed but not necessarily lexicalized in the diachronic sense yet" (Hohenhaus, quoted above), we have not dealt with fully conventionalized and thus institutionalized expressions, but concentrated instead on "transitional formations" such as acronyms and blends. Assuming that grammatical structure forms a "continuum of linguistic units," we have proposed to organize this continuum in terms of analyzability parameters. Two kinds of analyzability parameters have been distinguished: the *signans*-parameters, which hold at the phonological pole of the linguistic unit and the *signatum*-parameters which apply at the semantic pole of the expression. The *signans*-parameters specify the degree of overlap of linguistic structures, a lexical item's constituency, the mode of spelling, the degree of its shortening, etc., while the *signatum*-parameters reflect the relatedness of senses via category-extension, metaphorization, metonymization and conceptual integration.

References

Bybee, Joan. 2010. *Language, usage and cognition*. Cambridge: Cambridge University Press.

Benczes, Réka. 2006. *Creative compounding in English*. Amsterdam & Philadelphia, PI: John Benjamins.

Carstairs-McCarthy, Andrew. 2006. Affixation. In Brown, K. (ed.), *Encyclopedia of language and linguistics* (2nd edition), 83–88.Oxford: Elsevier.

Dirven, René & Verspoor, Marjolijn. 2004. *Cognitive explorations in language and linguistics*. Amsterdam & Philadelphia, PI: John Benjamins.

Dokulìl, Miloš. 1979. *Teoria derywacji*. Wrocław: Ossolineum.

Dressler, Wolfgang. 2005. Word formation in natural morphology. In Štekauer, P., Lieber, R. (eds.), *Handbook of word formation*, 267–284. Dordrecht: Springer.

Fauconnier, Gilles & Turner, Mark. 2002. *The way we think: Conceptual blending and the mind's hidden complexities*. New York: Basic Books.

Fischer, Roswitha. 1998. *Lexical change in Present-Day English. A corpus-based study of the motivation, institutionalization, and productivity of creative neologisms*. Tübingen: Gunter Narr.

Geeraerts, Dirk. 1988. Where does prototypicality come from? In Rudzka-Ostyn, B. (ed.), *Topics in cognitive linguistics*, 207–229. Amsterdam & Philadelphia, PI: John Benjamins.

Geeraerts, Dirk. 1997. *Diachronic prototype semantics: A contribution to historical lexicology*. Oxford: Clarendon Press.

Geeraerts, Dirk. 2002. The interaction of metaphor and metonymy in composite expressions. In Dirven, R., Pörings, R. (eds.), *Metaphor and metonymy in comparison and contrast*, 435–467. Berlin: Mouton de Gruyter.

Geeraerts, Dirk & Speelman, Dirk. 2010. Heterodox concept features and onomasiological heterogeneity in dialects. In Geeraerts, D., Kristiansen, G., & Peirsman, Y. (eds.), *Advances in cognitive sociolinguistics*, 21–40. Berlin: Mouton de Gruyter.

Grondelaers, Stefan & Geeraerts, Dirk. 2003. Towards a pragmatic model of cognitive onomasiology. In Cuyckens, H., Dirven, R. (eds.), *Cognitive approaches to lexical semantics*, 62–92. Berlin: Mouton de Gruyter.

Grondelaers, Stefan, Speelman, Dirk & Geeraerts, Dirk. 2007. Lexical variation and change. In Geeraerts, D., Cuyckens, H. (eds.), *The Oxford handbook of cognitive linguistics*, 988–1011. Oxford: Oxford University Press.

Grzegorczykowa, Renata & Szymanek, Bogdan. 2001. Kategorie słowotwórcze w perspektywie kognitywnej. In Bartmiński, J. *Współczesny język polski*. Lublin: Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej.

Herringer, Hans Jürgen. 1984. Wortbildung: Sinn aus dem Chaos. *Deutsche Sprache* 12. 1–13.

Hohenhaus, Peter, 2005. Lexicalization and institutionalization. In Štekauer, P., Lieber, R. (eds.), *Handbook of word formation*, 353–373. Dordrecht: Springer.

Janda, Laura. 2011. Metonymy in word-formation. *Cognitive Linguistics* 22(2). 359–392.

Kardela, Henryk. 2012. Non-concatenative morphological formations: A Cognitive Grammar analysis of blends and acronyms. In Cyran, E., Kardela, H., Szymanek, B. (eds.), *Sound, structure and sense. Studies in memory of Edmund Gussmann*, 303–319. Wydawnictwo KUL.

Kardela, Henryk. 2015. Lexical nests revisited: A Cognitive Grammar account. *SKASE Journal of Theoretical Linguistics* 12(3). Special issue: *A Festschrift for Pavol Štekauer.*

Kastovsky, Dieter. 2009. Astraunaut, astrology, astrophysics: About combining forms, classical compounds and affixoids. In McConchie, R., Honkapohja, A., Tyrkkö, J. (eds.), *Selected Proceedings of the 2008 Symposium on New Approaches in English Historical Lexis*, 1–13. Sommerville, MA.

Kemmer, Susan. 2003. Schemas and lexical blends. In Cuyckens, H. Berg, T., Dirven, R., Panther, K.-U. (eds.), *Motivation in language. Studies in honor of Günter Radden*, 69–97. Amsterdam & Philadelphia, PI: John Benjamins.

Körtvélyessi, Lívia. 2009. Productivity and creativity in word formation: A sociolinguistic perspective. *Onomasiology on-line* 10(1). 1–22.

Körtvélyessi, Lívia, Štekauer, Pavol, Zimmermann, J. 2013. Word-formation strategies: Semantic transparency vs. formal economy. In Bauer, L., Körtvélyessi, L., Štekauer, P. (eds.), *Semantics of complex words*, 85–113. Dordrecht: Springer.

Langacker, Ronald. 1988. An overview of cognitive grammar. In Rudzka-Ostyn, B. (ed.), *Topics in cognitive linguistics*, 3–48. Amsterdam & Philadelphia, PI: John Benjamins.

Langacker, Ronald. 1987. *Foundations of cognitive grammar*, vol. 1. *Theoretical prerequisites*. Stanford: Stanford University Press.

Langacker, Ronald. 1991. *Foundations of cognitive grammar*, *v*ol. 2. *Descriptive application.* Stanford: Stanford University Press.

Langacker, Ronald. 2007. Constructing the meaning of personal pronouns. In Radden, G., Koepcke, M, Berg, T., Siemund, P. (eds.), *Aspects of meaning construction*, 171–187. Amsterdam & Philadelphia, PI: John Benjamins.

Langacker, Ronald. 2008. *Cognitive grammar. A basic introduction*. Oxford: Oxford University Press.

Lipka, Leonhard. 2002. *English lexicology*. Tübingen: Gunter Narr.

López-Rúa, Paola. 2004. Acronyms and Co.: A typology of typologies. *Estudios Ingleses de la Universidad Complutense* 12. 109–129.

Lipka, Leonhard, Handl, Sandra, Falkner, Wolfgang. 2004. Lexicalization and institutionalization. The state of the art in 2004. *SKASE Journal of Theoretical Linguistics* 1(1). 2–19.

Mattiello, Elisa. 2013. *Extra-grammatical morphology in English. Abbreviations, blends, reduplicatives, and related phenomena.* Berlin & New York, NY: Mouton de Gruyter.

Panther, Klaus-Uwe, Thornburg, Linda. 2003. The roles of metaphor and metonymy in English *-er* nominals. In Dirven, R., Pörings, R. (eds.), *Metaphor and metonymy in comparison and contrast*, 279–319. Berlin: Mouton de Gruyter.

Radden, Günter. 2009. Generic reference in English: A metonymic and conceptual blending analysis. In Panther, K-U, Thornburg, L., and Barcelona, A. (eds.), *Metonymy and metaphor in grammar*, 199–228. Amsterdam & Philadelphia, PI: John Benjamins.

Štekauer, Pavol. 2005. Onomasiological approach to word formation. In Štekauer, P., Lieber, R. (eds.), *Handbook of word formation*, 207–232. Dordrecht: Springer.

Szymanek, Bogdan. 1988. *Categories and categorization in morphology*. Lublin: Katolicki Uniwersytet Lubelski.

Henryk Kardela
Department of English
Maria Curie-Skłodowska University
pl. Skłodowskiej 4a, 20-031 Lublin, Poland
e-mail: henkar@klio.umcs.lublin.pl

In SKASE Journal of Theoretical Linguistics [online]. 2016, vol. 13, no.2 [cit. 2016-09-11]. Available on web page http://www.skase.sk/Volumes/JTL32/pdf_doc/03.pdf. ISSN 1336- 782X.