On verbocentric nominal compounds denoting humans in Bulgarian

Alexandra Bagasheva, Sofia University

Abstract

The paper argues on the basis of the analysis of 255 verbocentric nominal compounds in Bulgarian (a type count) that there are neither morphotactic, nor morphosemantic grounds to draw a distinction between synthetic and parasynthetic nominal compounds in the language. Adopting a constructionist stance grounded in a cognitive linguistics framework, the opinion is voiced that the most telling generalization that can be drawn concerning the typology of verbocentric nominal compounds denoting humans in this fusional Slavonic language is based on the operation of frame based-metonymy in the process of generating such compounds and its interaction with subsequent and/or concomitant metaphorization.

1   Introduction

Compounding is undoubtedly one of the most extensively debated topics in the word-formation literature for the reason that it appears to be the most prevalent word formation process both across languages and over time. Despite this, "there is still a long way to go in order to fully understand compounding structures and their distribution in world's languages" (Guevara and Scalise 2009: 122). Making a small step in this direction, in the current paper, nominal verbocentric compounds denoting humans in Bulgarian are discussed.

As the formation of words is in its essence a cognitive phenomenon, research on various types and processes of lexical creation is by necessity based on cognitive principles. This makes natural the choice of cognitive linguistic accounts of word-formation and construction morphology as the model of grammar best suited to provide unified generalizations on verbocentric compounds grounded in theories of metonymy

and metaphor. Naturally, metaphor and metonymy in relation to compounds have been studied extensively within the scope of Cognitive Linguistics investigations. Yet, the ultimate goal of the proposed semanticization of word-formation research under the aegis of Cognitive Linguistics, "to provide more comprehensive and consistent descriptions of individual word-formation phenomena" (Ungerer 2007: 651) has not been fully accomplished, especially for not widely studied languages (such as Bulgarian). Congruent with this desideratum is the report on ongoing research presented here on a group of compounds in Bulgarian. In conformity with Langacker's dictum that linguistic structure, made up of "conventional imagery", must be distinguished from a universal conceptual structure and that "meaning is language-specific to a considerable extent. It is this imagery that has to be described, not the presumably universal cognitive representations that these conventional images construe" (Langacker 1987: 47), the analysis of verbocentric Bulgarian compounds is focused on the role and nature of metonymy and metaphor.

To achieve its goals the paper is organized as follows: in part one the data set is delineated with a necessarily short concomitant discussion of the terminological confusion characteristic of the area under study, in part two the specific analytical tools adopted and their corresponding frameworks are briefly presented, in part three morphotactic analysis of the data set is offered, part four follows with a morphosemantic analysis and in part five all loose threads are united in a set of summative conclusions.

2   The data set

2.1 *What the data set comprises*
The arguments developed below are based on the analysis of two hundred and fifty-five verbocentric compounds denoting humans in Bulgarian. Two hundred of these follow the word formation pattern[26] X V+/-suff and fifty-five the pattern V N. All of these

---

[26] Word formation pattern is used here as defined by Kastovsky (2005:8, "[a] *word-formation pattern* in Hansen's sense represents a formal-morphological structure regardless of its semantics, e.g. patterns such

compounds actualize the following word formation types[27] based on Kastovsky's classification: 1) 'person characterised by performing some activity': *развейпрах* [razvejprah, 'scatter-dust', *idler*]; *разтуриколиба*   [razturikoliba, 'tear-down-hut', *adulterer*]; *загоритенджере* [zagoritendžere, burn-pan, *a person with no sense of time*]; etc. and 2) 'a person characterised by performing some activity': *гласоподавател* [glasopodavatel, 'voice-giver', *voter*];   *гробокопач* [grobokopač, 'grave-dig-er', *grave digger*]; *данъколпатец* [danâkoplatec, 'tax-pay-er', *tax payer*]; *животновъд* [životnovâd, 'animal-breed', *animal breeder*];   *езиковед* [ezikoved, 'language-lead', *linguist*]; etc. The types may seem tautological at first glance, but the first class denotes humans characterized by particular behaviour traits, foibles and propensities, while the second class denotes agents (including occupations and professions). The uniformity of the word-formation types, sharing at least the following features: ([+animate, +typical characteristics]), was chosen to guarantee the uniformity of the word formation phenomenon under study.

The data were excerpted from the following sources: a) monolingual dictionaries (Dictionary of Contemporary Bulgarian vol. I-XIV, Dictionary of Bulgarian, Dictionary of New Bulgarian Words, and Reverse Bulgarian Dictionary) and b) a variety of articles on compounds and the issues of the newspaper *Standard* for the period January 2013 – January 2014. A frequency count in the Bulgarian National Corpus (BulNC) was carried out but only for the base form of the nouns (masculine (with the exception of one neuter noun), singular, no postpositional definite or indefinite article). As the claims made here

---

as V + N (e.g. *cry-baby*, *drawbridge*, *bakehouse*, etc.), V + *ing* + N (*dancing girl*, *chewing gum*, *dwelling place,* etc.)".

[27] "A *word-formation type* is constituted by a particular semantic relationship between the constituents of a word-formation pattern, e.g.: V + N: 1) 'person characterised by performing some activity': *crybaby*, *callboy*, *playboy*, etc., 2) 'person affected by some activity': *callgirl*, *pin-up girl*, etc., 3) 'object undergoing some action': *drawbridge*, *pushcart*, *treadmill*, etc., 4) 'place where some action is carried out': *bakehouse*, *dance hall*, *runway*, etc.; V + *ing* + N: 1) 'person characterised by performing some activity': *dancing girl*, *working man*, *sleeping partner*, etc., 2) 'person affected by the verbal action': *whipping boy*, etc., 3) 'object undergoing some action': *chewing gum*, *cooking apple*, *drinking water*, etc., 4) 'place where some action is carried out': *dwelling place*, *gambling house*, *dining room*, etc.*"* (Kastovsky 2005: 8).

are not based on usage patterns, only side comments on this are included where appropriate.

This neatly outlined data set appears to be, from a theoretical perspective, rather heterogeneous. Reversing the starting point and approaching the data from the existing classifications and characterizations of various compounds in the literature, the data set appears to contain three distinct classes of nominal compounds: a) class 1 - exocentric, bahuvrihi[28] compounds of the type *развейпрах* [razvejprah, 'scatter-dust', *idler*]; b) class 2 – synthetic compounds of the type *родоотстъпник* [rodootstâpnik, 'clan-depart-er', *traitor*] and 3) class 3 – parasynthetic compounds of the type *мореплавател* [moreplavatel, 'sea-sail-er', *sea-farer*]. Notwithstanding, all compounds in the data set contain a verbal component in some form (a fact on which I capitalize on in parts 2 and 4), which justifies the line of argumentation presented below.

Admittedly class one stands apart from the other two in that its members are compounds which are not hyponyms of any of the respective elements, and thus appear to lack a head or perhaps to have a head external to the compound itself. Of the fifty-five bahuvrihi compounds excerpted from dictionaries only thirteen appear in the BulNC (with frequency varying from 684 for *нехранимайко* [nehranimajko, 'not-feed-mother', *scoundrel, good-for-nothing*] to 1 for *гонимъгла* [gonimâgla, 'chase-fog', *a person dealing with trifles*]. N V exocentric compounds in Bulgarian are not productive, unlike the corresponding ones in Romance languages, which are cited as the best example of a productive exocentric pattern (e.g. Bauer 2010, Scalise and Guevara 2006, etc.). All of them are fully lexicalized and the two editions of Dictionary of New Bulgarian Words 2001 and 2010 do not record a single instance of such compounds. The pattern has fallen into obsolescence and when used such compounds sound archaic and colloquial. The V N compound pattern is not productive in other Slavonic

---

[28] Bauer (2008: 52) criticizes Bloomfield's identification of exocentric with bahuvrihi compounds, claiming that exocentric is a much broader category. The class discussed here falls under the scope of both terms as its core is the expression of a "central facet of the denotatum" (Bauer 2008: 56).

languages such as Russian and Polish[29]. The existing compounds of this type represent an old compounding type which is a reflex of the Proto-Slavonic pattern.

In contrast to this, the other two classes (for the time being and for the sake of the argument to follow, here two other classes are acknowledged) are really fully productive and only three of the compounds excerpted from dictionaries and printed media do not appear in BulNC. The contentious issue with them is whether they really constitute two separate classes. The answer to this question requires a terminological detour which might seem a moot point in itself, but it carries with it all the implications of the adopted model of word-formation and tacit assumptions about language architecture in general.

2.2 Why should the data be problematic

Melloni and Bisetto (2010) use the term parasynthetic compounds for the type *able bodied* and assume for the creation of such compounds an ordered sequence between compounding and affixation with the affix being attached to a non-existent compound formed by "the merger of two lexical stems" (2010: 199). Promoting the unattested status of the compound and of the "binary steps of these forms" (ibid.: 200) they posit a unique "ternary" structure for such compounds. Promoting as a reliable criterion for individuation the non-attested status of the second constituent and the non-existence as a compound base of the combination of the other two constituents, they claim that parasynthetic compounds differ significantly from synthetic ones and merit a class of their own[30]. It logically follows that parasynthetic should be a term reserved only for

---

[29] The observations on the productivity of V N compounds in Slavonic languages other than Bulgarian and their status as reflexes form the Proto-Slavonic stage I owe to an anonymous reviewer. I am also grateful to this review for valuable suggestions and comments. Any remaining errors of fact or judgment are my own.

[30] Melloni and Bisetto (2010) argue for ternary structure of such compounds as Russian *pis'monosec* ['letter carrier'], on the grounds that two concomitant morphological operations take place, namely the merger of two stems [A+B] is accompanied by the addition of the suffix [C], which semantically takes scope over the A+B combination. They emphasize that what matters most is the non-occurrence of [A+B] combination as a word, e.g. the lack of the purported compound *pis'monos-* as a potential base to which the suffix *–ec* could attach. The insistence on the existence of the [A+B] constituent in the ternary

those compounds in which it is not possible to assume a different bracketing and ordering of the processes involved and in which the combination V + suff is also an untested form. The authors do acknowledge that synthetic compounds are also ternary complexes but supposedly there is something substantially different in the generation and nature of the two types of ternary structures. They specifically emphasize that parasynthetic compounds differ from synthetic ones and by implication it follows that all those compounds in which the suffixed component is an attested lexical item are synthetic ones, with the ordering of affixation and compounding reversed. If this is the case, then we should assume that synthetic compounds do not exhibit ternary structuring but dual structure. What is more, synthetic compounds are expressly interpreted by the two authors as N N compounds, where the second constituent is a deverbal head and the whole is characterized by argument relations. Accepting this, one wonders how it is possible for synthetic compounds to pose bracketing paradoxes (on bracketing paradoxes in synthetic compounds see Ackema and Neeleman 2004; Fabb 1998, Spencer 1991, Ten Hacken 2010, among many others). Acknowledging the nature of the differences between the two types of compounds, the authors claim that both types pose bracketing paradoxes which runs counter to the criteria they adopt for distinguishing between the two classes.

Accepting for the sake of argument the distinction between the two classes, we should interpret *робовладелец* [robovladelec, 'slave-own-er', slave owner] and *вестоносец* [vestonosec, 'news-bring-er', *harbinger*] as belonging to the synthetic and the parasynthetic class respectively and should expect detectable differences. Morphotactically both have the same set of identifiable components: root one + linking vowel **-o-** + root two + suffix. Both the linking vowel and the suffix are identical (barring the positing of two homonymous suffixes). How exactly the compounds are

---

structure is not essential at least for the following reasons: 1) the existence of bound roots in derivations, i.e. in the attachment of affixes to bases there is no requirement for the wordhood status of the base and 2) the nature of compound constituents as roots/stems/words is still debated (Bauer 2001, 2005; Trask 1999, among numerous others). In other words, neither in compounding, nor in affixal derivation has there been a requirement for wordhood status of the base. Therefore, Melloni and Bisetto's argument for the importance of the existence of the [A+B] constituent as an independent word is not discussed in detail in the current paper.

generated is a highly contentious issue as it is a mind phenomenon and until we have psycholinguistic and neurolinguistic incontestable data to corroborate one or another derivational pattern, it is the model of grammar we adopt that determines how we interpret the generation of (para)synthetic compounds. If we assume as a condition sinqua non the wordhood status of compound components, then the only possible interpretation would be N + N in the first instance and a N + V + suffix in the second[31]. The semantic interpretation of both nouns runs as predicted by the word-formation type to which both compounds belong, i.e. for *робовладелец* [robovladelec, 'slave-**own**-er', slave owner] 'a person who owns slaves, a boss who behaves with his subordinates as if they were slaves' and for *вестоносец* [vestonocec, 'news-**bring**-er', *harbinger*] 'a person who brings news, harbinger.' At first glance, it might appear that morphotactically there are grounds for distinguishing between the two types, but morphosemantically, as will hopefully be shown below, there is no convincing evidence that the two classes should be treated separately.

However, more important than identifying the flaws in an argument based on a theoretical model is the consideration of ecological plausibility, which in my opinion, is to be found in the psychocentric view of compounds and compounding promoted by Libben (2014), which economizes on the number of patterns in the minds of speakers by maximizing on transcendence through morphological proliferation (Libben and Weber 2014). After all, we should never forget the psychological nature of morphological structures (Libben and Weber 2014: 205).

The human mind (according to Libben 2012) tries to maximize efficiency neither by reducing how much is stored, nor by reducing how much is computed. It seeks to both store and compute as much as possible. Lexical processing maximizes the opportunity for semantic activation (Libben 2006). Libben (2014: 8) claims that

> as a result of acts of lexical processing, the constituents of compound words develop into new lexical epresentations. These representations are bound to specific morphological roles and positions […] within a compound word. The development of

---

[31] Surprisingly the two alternatives coincide with two of the options in bracketing paradoxes posited for synthetic compounds: a) [N [V suff] $_N$] $_N$ and b) [N V suff] $_N$ (e.g. ten Hacken 2010).

these positionally bound compound constituents creates a rich network of lexical knowledge that facilitates compound processing and also creates some of the well-documented patterns in the psycholinguistic and neurolinguistic study of compounding.

In other words, compounds are not made of words but of positionally and functionally specialized intracompound components which are extended via analogy for the construction of constituent families. Consequently, the strongest argument for the emancipation of a parasynthetic class concerning the non-word status of the second/suffixed constituent loses its validity. What is more, assuming two almost equally productive patterns to yield nominals with similar semantics and uniform morphotactics violates both psychological plausibility and ecological effectiveness. In a nutshell, there are no sufficient grounds for drawing a distinction between synthetic and parasynthetic nominal compounds in Bulgarian.

For all the reasons discussed above, the term verbocnetric is used throughout the rest of the paper to capture the central unifying property of the set and to emphasize that as far as the categories synthetic and parasynthetic are concerned there are no grounds to keep both in relation to the resultant compounds of the process compounding-cum-affixation in Bulgarian.

3   Theoretical framework and analytical tools

3.1 Compounding in the architecture of language
In concert with the basic assumptions of both Cognitive Linguistics and Construction Morphology it is assumed here that there is no sharp distinction between grammar and the lexicon. With a slight modification of Jackendoff and Wittenberg's cross-linguistic hierarchy of grammars (Jackendoff and Wittenebrg 2012), it is argued that we can postulate a possible intra-language hierarchy of meaning packaging options whose choice depends on at least the following variables: genre, immediate situational context, speaker's preferences and linguistic background and the mode of interaction between interlocutors which would determine the degree of explicitness necessitated in a given communicative exchange. Admittedly, phrasal syntax and compounds can be safely viewed as alternative modes of packaging following different internal logic, but they are

not in competition (counter what is claimed by Ackema and Neeleman 2004, 2010) but are chosen on the basis of different communicative and pragmatic goals and strategies. Jackendoff's (2002, 2009) contention that in compounds proto-syntactic combinatorial patterns prevail suggests that in compounding it is semantics and pragmatics that compute meaning and not syntax, consequently it is not words that are combined in compounds but components, akin to "traces" (Libben 2012). Proto-syntax is characterized according to Jackendoff (2009) and Jackendoff and Wittenberg (2012: 1) as an expression system which puts "more responsibility for understanding on pragmatics and understanding of context. As the grammar gets more complex, it provides more resources for making complex thoughts explicit." Using this insight Jackendoff and Wittenberg (2012) define the "hierarchy of grammars" as a continuum along which the grammatical systems of languages with different degrees of complexity can be arranged. In parallel to this belief, we assume that it is possible for the different resources of a single language to be arranged into a grammar hierarchy, where different patterns for packaging meaning display properties that can be arranged along the scales of explicitness[32] and closeness to syntax. When a compound is used, the possible interpretations are effected by semantics exclusively (for example the interpreter resorts to notions such as *object* vs. *action*), rather than by syntax (i.e. the interpreter does not need to resort to distinctions such as *argument* vs. *predicate*).

3.2 *Words as constructions*
Against this background it is further assumed here that "transcendence through morphological proliferation" (Libben 2012) results into a hierarchical lexicon as defined by Booij (2010a, 2010b), which comprises networks of constructional schemas (Booij 2007, 2010a,b; Goldberg 2006; Masini 2009; Michaelis and Lambrecht 1996) organized at different levels of abstraction. Constructional schemas are "abstract schemas that generalize over sets of existing complex words with a systematic correlation between form and meaning. These schemas also specify how new complex words can be created" (Booij 2007: 34). These schemas co-exist with the complex words that

---

[32] Explicitness is associated with obligatoriness, predictability and transparency of internal relations which characterize grammatical encoding.

instantiate them and can via analogy be used as scaffolds to create new words which may with time elaborate the schemas themselves into novel, modified ones.

In a constructionist notation the analysis of a exocentric, a bahuvrihi compound based on a metonymic referential relationship between the property described and the denotatum, will look as follows [[P]$_V$ i, j, k [R]$_N$ a, b, c] N $\longrightarrow$ [SEM: a person performing the activity named by V, where the activity involves affecting R a, b, c], where $\longrightarrow$ denotes a metonymic transfer, P and R stand for sound sequences, v and n for the prototypical lexical categories the compound-specific components can be associated with, and j, a, k are lexical indexes specifying the mappings in the tripartite architecture (Jackendoff 2009).

Thus abstract schemas and complex words build up a hierarchical lexicon with layers of subgeneralizations which cut across paradigmatic relations between (sets of) complex words. Word formation patterns are constructional idioms at the word level, and individual complex words are word-level constructs among which default inheritance obtains.

Specific in the nature of the constructs to be analyzed is the role of metonymy in their formation and processing which is discussed below.

3.3 The role of metonymy and frames in verbocentric compounding
The first specificity of metonymy in word-formation in my opinion relates to Gibbs' (1999) proposal that a distinction should be drawn between metonymic processing of language and processing metonymic language. He claims that

> people utilize metonymic schemes of thought to reason appropriately about what is meant. In this sense, then, we must acknowledge a distinction between processing metonymic language (e.g . understanding utterances like *Paris has dropped hemlines this year)* and metonymic processing of language (e.g . understanding the gaps in [meaning-creation] by inferring some rich source of information, like a [frame], from the simple mention of some salient part of that knowledge (Gibbs 1999: 69).

In view of this distinction, metonymy in word formation belongs to the mode of processing category, not the processing of the respective figurative instances of language, though many compounds can be classified as instances of figurative language.

The second specific characteristic of metonymy in word-formation is its onomasiological nature. Unlike referential semasiology-based metonymy, onomsiology-based metonymy guides the creation of a new symbol for a target concept. All specific properties of metonymy in lexical creation stem from the fact that metonymy operates in word formations as a formal cognitive operation, not as a content one.

De Mendoza Ibanez (2011) defines a cognitive operation as "any mental mechanism whose purpose is to contribute to the inferential processes that are necessary to derive a full semantic representation out of a linguistic expression" (2011: 104). He distinguishes between formal and content cognitive operations on the basis of their level of operation, the formal ones being higher-level operations and classifies metonymy as a content one. However, I think that the formal cognitive operations that he recognizes: *cuing, selection, integration and abstraction* exhaustively describe the nature of metonymy in verbocentric compounding.

Verbocentric compounds, onomasiologically speaking (Štekauer 1998), are invariably associated with a verbal (or more precisely actional) frame which underlies the processes of constructing related concepts as a generalized reflection of perceived reality in human consciousness and the realization of these concepts in language in accordance with the available naming means (Štekauer 2005: 49).

The third specific property of onomasiological metonymy operating in verbocentric compounding as a formal cognitive operation is that it spans within and/or across frames, which are in themselves onomasiological structures. As Koch (2005: 153) claims,

> [f]rames, which are relevant not only to metonymies but also to certain types of word formation, can - and in fact, should - be defined onomasiologically, so that even cross-over links within one and the same frame realized in different languages, concepts which have not yet been expressed, senses of a given word which do not yet exist, and new words which have not yet been fanned can all be provided for" (Koch 2005: 153).

Thus the conceptual-onomasiological base which gives rise to all word-formation products containing the transcendent (resulting from morphological proliferation) compound-specific forms of the respective simplex verb determines the process of meaning generation of a complex lexical item. The frame is the easiest way to operationalize the notion of the conceptual-onomasiological base. I assume, following Evans (2006), that meaning generation in compounds is "a *constructive process*, in which *integration of lexical units* involves differential access to the conceptual knowledge which lexical entities potentially afford access to" (Evans 2006: 496; emphasis added).

This process leads to the establishment of lexical concepts, which as Evans (2007: 11) insists are "semantic units conventionally associated with linguistic forms" and are an essential part of a user's mental grammar. They are relativized with respect to conceptual knowledge structures. Central among these knowledge structures are frames since as Barsalou and Hale (1993: 131) contend "[h]uman knowledge appears to be frames all the way down." 'Frame' thus appears as the most widely accepted operationalization of extralinguistic factors that have direct bearing on lexical items at the conceptual level. Fillmore (2006: 378) defines the correlation between frames and lexical items as a mutually implicating one in which frame is "the structured way in which the scene is presented or remembered, and the frame structures the word-meanings, and the word 'evokes' the frame".

It should be pointed out that *frame* is used here in two related but distinct senses. As an operational term for individuating and organizing highly schematized conceptual content, a frame **names a gestalt anchored into an actional core**. As a method of analysis, frame-based semantics necessarily involves the study of the unidirectional backgrounding and foregrounding relations between concepts and the lexical items evoking and evoked by them. So as a conceptual term a *frame* is a "system of concepts related in such a way that to understand any one of them you have to understand the whole structure in which it fits; when one of the things in such a structure is introduced into a text, or into a conversation, all of the others are automatically made available" (Fillmore 2006: 373). It hence helps us interpret perspectivization operations on a scene in lexicogensis.

Perspectivized portions of a scene result in dynamic *ad hoc* lexical concepts, "unit[s] of semantic structure, bundle[s] of different types of highly schematic content" (Evans 2009: 11), or pieces of conceptual content which operate by referencing richer conceptual frames, which according to Koch (2005) are non-accidental networks of contiguities. By manipulating these contiguities on the principle of conceptual metonymy and manipulating focal granularity nominal verbocentric compounds are created in Bulgarian. "[M]etonymy implies a contiguity-based figure/ground effect between elements of a conceptual frame or between the frame as a whole and one of its elements (or vice versa)" (Koch 2005: 154). Further on, Radden and Kövesces (1999: 18–19) contend that metonymy is not a simple procedure of referential substitution but an interrelation of entities that results in a complex meaning, which is revealed in their preferred notation "X PLUS Y" instead of the standard "X FOR Y". Thus frame-based metonymy actualized by constituent highlighting and integration into the profile of the new lexical concept can be safely formulated as the mechanisms behind verbocentric compounds in Bulgarian.

This interrelation leads to domain highlighting and subsequent foregrounding. However, in de Mendoza Ibanez's view of metonymy, only target-in-source metonymies involve (secondary) domain highlighting, which is accompanied (if not triggered) by domain reduction. Reduction and expansion are defined as cutting down on or enriching the conceptual material/content necessary for the adequate interpretation of the meaning. These appear to correlate either with source-in-target or target-in-source metonymies. In the author's own words, "only target-in-source metonymies make use of *highlighting*, which involves domain reduction, that is cutting down the amount of conceptual material used to construct the meaning interpretation" (de Mendoza Ibanez 2011: 106, emphasis added).

Verbocentric compounds in Bulgarian can hardly be categorized as arising from domain reduction in the sense of cutting down on the conceptual material, but at the same time highlighting plays a major role in their meaning generation. It appears that verbocentric compounds should be treated as "source-in-target metonymies, which are based on domain expansion, which consists in increasing the amount of relevant conceptual material on the basis of the point of access provided by the metonymic

source" (ibid.).   A problem arises however because this expansion is achieved by mechanisms which are recognized as processes of highlighting – zone-activation and foregrounding – characteristic of domain reduction. To be more precise, this is a process of selection of a component from the background of the frame followed by value specification for the attribute and the onomatological realization of this explication in the derived whole. The derived whole involves the third formal operation (ibid.: 108), i.e. conceptual integration, not of two unrelated concepts, but rather of a concept and an explicated portion of it. The result is *enrichment* and the establishment of a novel concept that can undergo further conceptual modifications. Thus, though paradigm instances of source-in-target metonymies (intensional expansion), verbocentric compounds are based on processes associated with domain reduction, as well as processes of expansion. The mechanism of deriving these symbolic complexes is based on the systematic explication of intraframe configurations with specified values.

Against this background, adopting Goldberg's (2010) definition of a word's sense's frame we can spell out the analytical mechanism used below for the analyses of verbocentric nominal compounds.

(1)   a. A word sense's semantic frame (what the word 'means' or 'evokes')
                 = profile + background frame
             b. A word sense's profile: what the word designates, asserts
             c. A word sense's background frame: what the word takes for granted,
                 presupposes (Goldberg 2010: 40).

The adoption of Goldberg's definition of how meaning is distributed in the profile and the background frame of a lexical item's sense allows us to trace down how internal frame constituency is manipulated in the lexicogenesis of verbocentric nominal compounds denoting humans, by value-assignment to a chosen background component which is foregrounded as a second focal point in the profile of the novel concept and is encoded morphotactically as the second compound component.

4   Morphotactic analysis of the data set

With these theoretical and methodological preliminaries outlined, in what follows Bulgarian verbocentric compounds are discussed. Verbocentric nominal compounds are onomatological realizations of metonymic relations triggered, guided and constrained by the qualia structure (Pustejovsky 1995) of the frame of the verbal source concept.

Verbocentric nominal compounds in Bulgarian are consistently categorially and morphologically right-headed (for inflectional purposes, including bahuvrihi compounds which lack a semantic head, e.g. *нехранимайко* [nehranimajko, 'not-feed-mother', *scoundrel, good-for-nothing*] – нехранимайко*то*DEF, нехранимайко*вци*PL, нехранимайко*вците*PL-DEF), but display wider variability in terms of semantic endo/exocentrcity. Morphotactically Bulgarian nominal verbocentric compounds denoting humans can be divided into two broad groups – those containing a suffixal component and those without any additional morphotactic material, i.e. two broad classes were isolated in the data set following this criterion: suffixed nominal compounds (e.g. *въжеиграч* [vâžeigra<u>č</u>, 'rope-play-er', *tight-rope walker*]; *факлоносец* [faklonos<u>ec</u>, 'torch-bear-er', *torch bearer*]; *земевладелец* [zemevlad<u>elec</u>, 'land-own-er', *land owner*]; *кинолюбител* [kinoljub<u>itel</u>, 'movie-love-er', *movie goer*] etc.) and suffixless (*нехранимайко* [nehranimajko, 'not-feed-mother', *scoundrel, good-for-nothing*]; *изкуствовед* [izkustvoved, 'art-lead-er', *art critic*] etc.). Taking into consideration Fabb's[33] (2007) two types of directionality of compounds, it should be noted that the first class is unexceptionally directionally consistent, with coincidence between the two types of directionality – the categorical head is rightmost and the verb-complementation relation runs from right to left. In the second class all compounds are categorically right-headed but in terms of verb-complementation directionality two

---

[33] "A compound can be 'directional' in two senses. One sense involves the position of the head: whether on the right or the left. The other sense involves the direction of the relation between the parts of the compound: the direction of modification in a noun–noun compound (e.g. in *log cabin* modification is rightwards) or the direction of complementation in a verb-based compound (e.g. in *push-bike* complementation is rightwards). The two senses of directionality can be independent, because a compound can have internal modification or complementation without having a head: *killjoy* has no head, but it does have a predicator–complement order" (Fabb 2007: 4).

subclasses are identified – those with right to left pattern (e.g. *езиковед* [ezikoved, 'language-lead', *linguist*]; *животновъд* [životnovâd, 'animal-breed', *animal breeder*]; etc.) and those with a left to right one (e.g. *загоритенджере* [zagoritendžere, 'burn-pan', *idler*]); etc.). As this distinction pairs up with specific features of the morphosemantic representation of the compounds, it has to be taken into account.

As already argued in part one, there is no need to draw a distinction between synthetic and parasynthetic compounds in the first group. Beside the arguments provided above on purely theoretical grounds, language-specifically and descriptively, the fact that one and the same suffix can be used to derive both purported types (e.g. *земевладелец* [zemevladelec, 'land-own-er', *land owner*] vs. *вестоносец* [vestonosec, 'news-bring-er', *harbinger*]) further strengthens the uniformity of the class claim. After all as Scalise, Bisetto and Guevara claim,

> *[t]he selection operated by a derivational suffix is fixed and constant*. Only those words having the properties required by the suffix can be possible bases for derivation; this is the case independently of the nature of the semantic properties that the suffix may select, whether they can be expressed by a system of binary features or as a particular kind of semantic argument (Scalise, Bisetto and Guevara 2005: 142; emphasis in the original).

All the suffixes (with the exception of *-ač*) produce both alleged types. The distribution of the different suffixes and their type productivity can be summarised as follows:
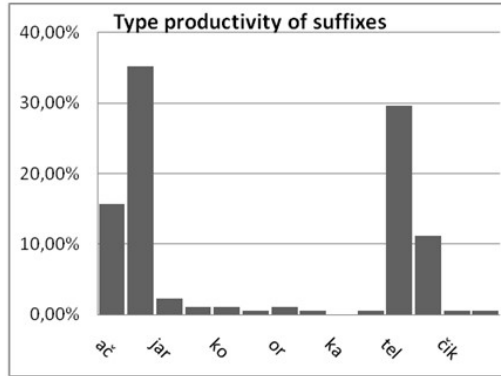
Figure 1 Distribution and type productivity of suffixes within the data set

It seems that even morphotactically there is no need to distinguish between synthetic and parasynthetic compounds. The distribution of the three groups of compounds in the data set under analysis is as follows:
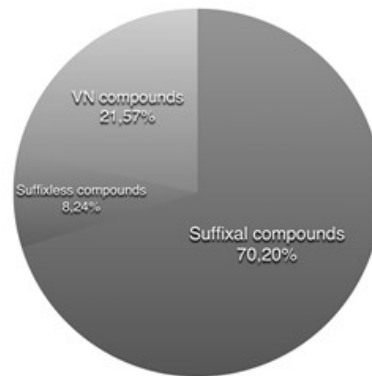

Figure 2 Distribution of the three groups in the data set

Another important morphotactic feature of nominal verbocentric compounds denoting humans is considered the presence of a linking vowel. There is a marked preference in Bulgarian for the inclusion of a vowel as a morphotactic linking element. Prototypically this is the vowel **-o-** as in *глас-о-подавател* [glas-o-podavatel, voice-giver', *voter*] *, памук-о-берач* [pamuk-o-berač, *cotton picker*]*, звезд-о-гадател* [zvezd-o-gadatel, 'star guesser', *star-reader*], *гроб-о-копач* [grob-o-kopač, *grave digger*], etc. and sometimes the linking vowel is **-e-** as in *зем-е-владелец* [zem-e-vladelec, *land owner*]. The vowel **-e-** is often part of the first stem of the compound as in *въже-играч* [vâže-igrač, *tightrope-dancer*]*, дете-убиец* [dete-ubiec, *child killer*], etc. In some cases, this holds true for the vowel **-o-** as well, e.g. *вино-продавец* [vino-prodavec, *wine seller*] or *кино-любител* [kino-ljubitel*, cinema lover*], etc. In some cases the fact that the linking element is interpreted as part of the first constituent is used as an argument for ascribing syntactic properties to the compounds in question, but as such an issue is irrelevant in a non-modular conception of language, the question will be not discussed further. The important feature associated with the presence of the linking vowel is that it is characteristic of both so-called synthetic and parasynthetic nouns. As far as this criterion is concerned, there are no morphotactic grounds to presume a distinction between synthetic and parasynthetic compounds in Bulgarian.

Table 1 The appearance of the linking vowel in the three groups

Linking vowels per group			
V N	X V	X V suff	
		so-called synthetic	**so-called parasynthetic**
Ø	*буквояд* [bukvojad, 'letter-eat-er', *prig*]	*бикоборец* [bikoborec, 'bull-fight-er', *bull-fighter*]	*вестоносец* [vestonosec, 'news-bring-er', *harbinger*]
		богослужител [bogoslužitel, 'god-serve-er', *clergyman*]	*работодател* [rabotodatel, 'job-give-er', *employer*]
		болногледач [bolnogledač, 'sick-look-er', *hospital attendant*]	Ø[34]
		родоотстъпник [rodootstâpnik, 'clan-depart-er', *traitor*]	*богохулник* [bogohulnik, 'god-defame-er', *blasphemer*]

Bringing together significant morphotactic properties of nominal verbocentric compounds in Bulgarian, it seems that there are three distinct groups: suffixless V N compounds without a linking vowel, suffixless N V compounds with a linking vowel and suffixed compounds. As linguistic elements are symbolic unities of meaning and form, it now remains for us to see how these groups behave morphosemantically and whether semantics would undermine the argument against the distinction between synthetic and parasynthetic compounds.

---

[34] The absence of an alleged parasynthetic type in -*ač* can be explained away with the high productivity of the suffix and the relaxation of all kinds of semantic and lexical constraints in its use.

5   (Morpho)Semantic analysis of the data set

The internal constituency of nominal verbocentric compounds denoting humans presents a specific case of special profiling of frames which is executed by metonymy as a formal cognitive operation. Morphosemantically, on the basis of the specific role of metonymy   and   the presence of further abstraction processes (e.g. metaphor, semantic markedness reversal, irony, etc.), these compounds   in Bulgarian can be divided into two groups: ones involving metaphtonymy (e.g. *загоритенджере* [zagoritendžere, 'burn-pan', *idler*]) and ones based on pure frame metonymies (e.g. *памукоберач* [pamukoberač, 'cotton-pick-er', *cotton picker*], *земевладелец* [zemevladelec, 'land-own-er', land owner], etc.).

The members of the first set of nominal compounds [V N] N represented by 55[35] types in the dataset are semantically exocentric and their meaning constitution is based on metaphtonymy, followed by onomasiologically-motivated referential metonymy. Typical representatives of the group are *лапнишаран* [lapnišaran, 'swallow-carp', *sucker/dupe*]; *развейпрах* [razvejprah, 'scatter-dust' *harum-scarum/scatterbrain*]), etc. In these compounds it is extremely difficult to tease apart and trace with precision the succession of the operation of metaphor and metonymy. The verb appears in its imperative form and is followed by a noun which names an assigned value for a frame constituent. In the final stage of meaning generation the SALIENT PROPERTY FOR CATEGORY metonymy invariably operates. In this group two types of metonymies operate – the formal operational type at the stage of frame-based value-foregrounding and content operational type of referential metonymy for naming the denotatum. Frequently, metaphor is also involved in their meaning generation.

To illustrate the complexity of the operation of metaphtonymies we will take just a few examples. In *въртиопашка* [vartiopaška, 'twist tail', *coquette/siren*] first a value is specified for a chosen frame component which is onomatologically realized in the profile of the novel via foregrounding and integration. The chosen value is *опашка* [opaška, *tail*] for the emancipated TWISTEE/BODY PART frame component. The subsequent meaning generation process is triggered by the HUMANS ARE ANIMALS

---

[35] Only thirteen of these were found in BulNC with more than 1 occurrence.

metaphor, the behavior of humans is represented through the behavior of animals, which warrants the association of tails with humans. Then the metaphor TWISTING BODY PARTS IS FLIRTING projects the mapping between physical movements and intentions. Then the whole series of cuing, selecting, integration and abstraction is packaged into the operations of the metonymy SALIENT PROPERTY FOR CATEGORY.

In the second representative example *загоритенджере* [zagoritendžere, 'burn-pan', *a person with no sense of time*], after the frame-based explication metonymy in which the Theme component is foregrounded as a second focal point, we have the metonymy ACTIVITY FOR TIME OF ACTIVITY building up on the cultural script WOMEN ARE HOUSEWIVES capturing the idea of women being expected to be housewives engaged in cooking with any diversion from that leading to adverse effects. A person unaware of time has a tendency for overcooking and burning the pan. After the calibration of this scenario the metonymy of SALIENT PROPERTY FOR CATEGORY metonymy kicks in.

In the last example from this group *хвалипръцко* [hvalipratsko, 'brag farter' *windbag*], the frame of brag involves "A Speaker [who] talks about a Topic, which may be an action performed by the Speaker or an entity or state of affairs that they are associated with in order to suggest that the Speaker is worthy of admiration. The Speaker may give an explicit Reason why the Topic redounds to their credit. Alternatively, a Message frame element can be used to directly describe what the Speaker says, leaving the more specific Reason for admirability to be inferred. Instead of the Speaker, the action may be attributed metonymically to the Medium, or possibly the Expressor" (Framenet). The highlighted or foregrounded frame component in the Bulgarian compound is the Topic, assigned a specific value – the activity of farting. Paradoxically, the evaluative markedness of the activity assigned to the Topic component clashes with the standard expectation that humans brag about nice and positive things and triggers the irony preserved in the last stage of the meaning generation process, the SALIENT PROPERTY FOR CATEGORY metonymy.

The members of the second group of nominal verbocentric compounds [N V]$_N$, of which there are 21 types in the data set, can be subdivided into two groups: a)

semantically endocentric ones where pure frame-based metonymy operates, e.g. *кукловод* [kuklovod, 'doll-lead', *puppeteer*] and b) semantically exocentric ones, where metaphor is also involved in the meaning generation process, e.g. *буквояд* [bukvoyad, 'letter-eat', *pedant/prig*]). In the endocentric ones a core frame component (usually the Theme) is invariably selected and integrated in the profile of the concept via explication. In the exocentric ones frame-based metonymy is followed by further content operational metaphor or metonymy processes. In the illustrative example *буквояд* [bukvoyad, 'letter-eat', *pedant/prig*] the Foodstuff frame component is highlighted in the profile. The highlighting is accompanied by a metaphor which can tentatively be dubbed PRINTED LETTERS ARE EDIBLES. The meaning generation process is further maintained by the metaphoric mapping PEOPLE WHOSE HUNGER CAN BE SATIATED BY LETTERS ARE PRIGS.

The third subgroup of nominal verbocentric compounds, of which there are 179 types in the data set, can also be subdivided into two classes: a) semantically endocentric ones e.g. *мореплавател* [moreplavatel, 'sea-sail-er', *seafarer/sailor*] and b) semantically exocentric ones, e.g. *рогоносец* [rogonosec, 'horn-wear-er', *cuckold*].

In the endocentric ones, explication of a frame element, its foregrounding as an element of the profile is followed by suffix-induced inferencing, i.e. substantive[36], agentive conceptualization of the integrated frame. Such is the case in *мореплавател* [moreplavatel, 'sea-sail-er', *seafarer/sailor*] in which the frame element Path of vehicle is foregrounded and then the concept of sailing at sea is conceptualized as a substantive notion. Although it is semantically endocentric, the analyzed compound contains a component and a suffix that cannot independently actualize a lexical item in the language.

In a like manner, the combining of the verb *нося* [nosja, *carry/bring*] and the agentive suffix *-ец* [-*ec*] does not produce an existing word in the language and can be assigned conceptual content only within the compound whole. Thus a non-existent

---

[36] This distinction between substantive and verbal conceptualization relates to the propensity of human beings to distinguish between relational profiling of interconnections (verbs) amounting to sequential cognitive scanning and the non-relational profiling of regions of interconnected entities (nouns) (Langacker 1991: 19-21), which is associated with summative scanning.

suffixal combination functions as a compound component in a semantically exocentric compound, which is just one among a family of -*носец* [-nosec] positional component compounds (including endocentric ones, e.g. *факлоносец* [faklono<u>sec</u>, 'torch-bear-er', *torch bearer*]). In *рогоносец* [rogonosec, 'horn-wear-er', *cuckold*], in the frame of wear/carry the Theme component of thing worn is value-specified - *horns*. The metaphoric complex of HUMANS ARE ANIMALS is subsequently evoked and an allusion is made to the mating habits of stags, who forfeit their mates when they are defeated by another male. Thus the content metaphoric mapping completes the meaning generation process. However in *факл<u>о</u>носец* [faklono<u>sec</u>, 'torch-bear-er', *torch bearer*] or *вест<u>о</u>носец* [vestonocec, 'news-bring-er', *harbinger*] the same compound component contributes to the meaning generation of endocentric compounds with the same onomasiological metonymy involved (i.e. foregrounding and subsequent integration of the Theme frame component). This only comes to prove that it is not the wordhood status of the second constituent that matters but the constituent family effect (Libben 2006, 2012, 2014) which provides the necessary memory traces for the effect of transcendence via morphological proliferation to occur. In other words, speakers are influenced by the meaning contribution of the second constituent as a whole and freely use it as compound-specific element to construct other compounds via analogy[37].

Irrespective of the fact whether and to what extent metaphor is involved in the meaning of verbocentric compounds in Bulgarian, frame element foregrounding based on conceptual contiguity is always involved as a formal cognitive operation. Koch (2005) offers the following interpretation of the interplay between figure and ground in the profiling of contiguous concepts, linguistically encoded by derivationally related lexical items,

> Coming now to the conceptual level, we can claim that every concept designated by a given lexical item appears as a figure in relation to (at least) another contiguous concept that - for the time being - remains the ground within the same frame. […] certain

---

[37] No claims are made as to which of the compounds has been coined first and which have been constructed via analogy.

pragmatic, conceptual or emotional factors may highlight the ground concept so that figure and ground become inverted (Koch 2005: 152).

Capitalizing on Koch's insight we claim that in verbocentric compounds part of the conceptual background of the source verbal concept is promoted to the status of foregrounded conceptual element and is integrated in the profile of the new lexical concept, where emancipated background content and initial profile are collated and start to designate the specific referent.

6   Concluding remarks

In keeping with Booij's (2010a,b) understanding of word-formation schemas as representing a chain of abstractness in a lexicon based on networks of inheritance, the lexicon of verbocentric compounds in Bulgarian (a tiny portion of which was discussed here) constitutes a niche (Hüning 2009) organized at four levels of abstraction:

Level 4: $[[P]_X \ [R]_V] \ Z_I$

Level 3: $[[P]_V \ [R]_N \ ] \ Z_N \ / \ [[P]_X \ [R]_V] \ Z_V$

Level 2: $[[P]_X \ [R]_V] \ Z_N \ / \ [[P] \ X \ [R]_V \ [S]suff] \ Z_N$

Level 1: $[[P]_X \ [$-*yad*$]$ 'eat'$] \ X$*yad* $/ \ [[P]_X \ [$-*dry*$]] \ X$*dry* $/ \ [[P]_X \ [$-*vodi*$]$ 'give' $[$-*tel*$]] \ X$*datel*

The levels represent different degrees of generalizations that speakers of languages draw in creating words via analogy (be it based on a specific word, on a specific compound constituent, on a specific formal marker or extracted meaning component). The first level of abstractness constitutes constructional idioms, which "are morphological or syntactic schemas in which one or more positions are lexically fixed, whereas other positions are open slots, represented by variables" (Booij 2010b: 96). The second level represents a first-order abstraction where a general pattern is concluded without any slots lexically specified. The third level is a second-order abstraction, involving cruder parameters (i.e. the nature of the pattern and the most characteristic, though vague, set of semantic ties in the pattern). The fourth level is already akin to a generalized schema or word-formation rule.

These compounds are onomatological realizations of metonymic relations triggered, guided and constrained by the qualia structure (Pustejovsky 1995) of the verbal source concept. They are unexceptionally categorially right-headed (for inflectional purposes), but display wide variability in terms of semantic endo/exocentrcity. Analytical parsimony suggests that subsuming nominal verbocentric compounds denoting humans in Bulgarian under two general semantic classes that cut across three groups which encompass all relevant morphotactic properties is a sufficient generalization for providing consistent constructional analysis of these compounds. It appears that the word status of the second constituent (taken as central for the distinction between synthetic and parasynthetic compounds, recall part 1) does not have significant morphotactic or morphosmentic reflexes which might necessitate the separate treatment of such purported categories. More important turns out to be the complementation directionality pattern, which leads to significant morphosemantic reflexes (V N compounds are unexceptionally semantically exocentric). Admittedly, the left-to-right complementation pattern is not productive in the language, the lexicalized compounds (to the exception of eight) do not boast high frequency of use and are invariably considered colloquial, so it can hardly be considered a synchronically active lexicogenetic model.

In the suffixed group, with consistent right-to-left complementation pattern, no correspondence was established between semantic endo/exocentricity and the synthetic vs. parasynthetic distinction. Both allegedly synthetic and parasynthetic compounds can display semantic endocentricty or exocentricity. The semantics-based division seems to be constrained lexically and conceptually and to be independent of purported morphotactic considerations. This lends further support for the uniformity of the suffixed group argument (at least in Bulgarian).

Most importantly the applied analyses revealed that the semantics of all verbocnetric compounds is generated via source in target frame-based metonymy which functions as a formal cognitive operation and involves frame component highlighting and foregrounding of the value-specified component into the profile of the novel concept which results in integration by explication. In the endocentric group no further conceptual processes are involved in the calibration of the lexical concepts they

engender. In the exocentric ones, frame-based metonymy is accompanied by further cognitive operations under the auspices of abstraction as an operational mechanism, which complete the spell out of the respective lexical concept. These cognitive operations include metaphor, metonymy, irony, etc. as content cognitive operations and their detailed study is a promising future research venue.

References

Ackema, Peter & Neeleman, Ad. 2004. *Beyond morphology: interface conditions on word formation.* Oxford: Oxford University Press.

Ackema, Peter & Neeleman, Ad. 2010. The role of syntax and morphology in compounding. In Scalise, Sergio & Vogel, Irene (eds.), *Cross-disciplinary issues in compounding*. Amsterdam: John Benjamins. 21–36.

Barsalou, Lawrence & Hale, Christopher. 1993. Components of conceptual representation: from feature lists to recursive frames. In Van Mechelen, Iven & Hampton, James & Michalski, Ryszard & Theuns, Peter (eds.), *Categories and concepts: theoretical views and inductive data analysis*. San Diego, CA: Academic Press. 97–144.

Bauer, Laurie. 2001. Compounding. In Haspelmath, Martin & König, Ekkehard & Oesterreicher, Wulf & Raible, Wolfgang (eds.). *Language typology and language universals.* Berlin & New York: Walter de Gruyter. 695–707.

Bauer, Laurie. 2005. The borderline between derivation and compounding. In Dressler,Wolfgang & Kastovsky, Dieter & Pfeiffer, Oskar & Rainer, Franz (eds.), *Morphology and its demarcations*. Amsterdam/ Philadelphia: John Benjamins. 99–108.

Bauer, Laurie. 2008. Exocentric compounds. In *Morphology* 18. 51–74

Bauer, Laurie. 2010. The typology of exocentric compounding. Scalise, Sergio & Vogel, Irene (eds.), *Cross-disciplinary issues in compounding*. Amsterdam: John Benjamins. 167–175.

Booij, Geert. 2007. *The grammar of words.* Oxford: Oxford University Press.

Booij, Geert. 2010a. *Construction morphology*. Oxford: Oxford University Press.

Booij, Geert. 2010b. Compound construction: schemas or analogy? A construction morphology perspective. Scalise, Sergio & Vogel, Irene (eds.). *Cross-disciplinary issues in compounding*. Amsterdam: John Benjamins. 93–107.

de Mendoza Ibáñez, Fransico Jose Ruiz. 2011. Metonymy and cognitive operations. In Benczes, Réka & Barcelona, Antonio & Ruiz de Mendoza Ibáñez, Fransico Jose Ruiz (eds.). *Defining metonymy in cognitive linguistics: towards a consensus view*. Amsterdam: John Benjamins, 2011. 103–123.

Dictionary of Contemporary Bulgarian vol. I-XIV. Sofia: Bulgarian Academy of Sciences, 1977-2012.

Evans, Vyvyan. 2006. Lexical concepts, cognitive models and meaning-construction. In *Cognitive Linguistics*, 2006, vol. 17, no. 4. 491–534.

Evans, Vyvyan. 2007. Towards a cognitive compositional semantics: an overview of LCCM Theory. In Magnusson, Ulf & Kardela, Henryk & Glaz, Adam (eds.). *Further insights into semantics and lexicography*. Lublin, Poland: Wydawnictwo UMCS. 11–42.

Evans, Vyvyan. 2009. *How words mean: lexical concepts, cognitive models and meaning construction*. Oxford: Oxford University Press, 2009.

Fabb, Nigel. 2001. Compounding. In Spencer, Andrew & Zwicky, Arnold (eds.). *The handbook of morphology*. Blackwell Publishing, 2001.

Fillmore, Charles. 2006. Frame semantics. In Geeraerts, Dirk (ed.). *Cognitive linguistics: basic readings*. Berlin and New York: Mouton de Gruyter. 373–400.

FrameNet. International Computer Science Institute. (https://framenet.icsi.berkeley.edu/fndrupal/).

Gibbs, Raymond. 1999. Speaking and thinking with metonymy. In Panther, Klaus-Uwe & Radden, Günter (eds.). *Metonymy in language and thought*. Amsterdam: John Benjamins. 61–76.

Goldberg, Adele. 2006. *Constructions at work: the nature of generalization in language*. Oxford: Oxford University Press.

Goldberg, Adele. 2010. Verbs, constructions and semantic frames**.** In Rappaport-Hovav, Malka & Doron, Edit & Sichel, Ivy (eds.). *Syntax, lexical semantics, and event structure.* Oxford: Oxford University Press. 39–58.

Guevara, Emiliano, Scalise, Sergio. 2009. Searching for universals in compounding. In Scalise, Sergio & Magni, Elisabetta & Bisetto, Antonietta (eds.). *Universals of language today*. Springer, 2009. 101–129.

Hüning, Matthias. 2009. Semantic niches and analogy in word-formation: evidence from contrastive linguistics. In *Languages in Contrast*, vol. 9, no. 2. 183–201.

Jackendoff, Ray & Wittenberg, Eva. 2012. Even simpler syntax: a hierarchy of grammatical complexity. (http://ase.tufts.edu/cogstud/incbios/RayJackendoff/ recentpapers.htm) (Accessed 14-09-2014).

Jackendoff, Ray. 2009. Compounding in the parallel architecture and conceptual semantics. In Rochelle, Lieber & Štekauer, Pavel (eds.), *The Oxford handbook of compounding*. Oxford: Oxford University Press. 105–128.

Jackendoff, Ray. 2002. *Foundations of language: brain, meaning, grammar, evolution*. Oxford: Oxford University Press.

Kastovsky, Dieter. 2005 Hans Marchand and the Marchandeans. In Štekauer, Pavel & Lieber, Rochelle (eds.). *Handbook of word-formation*. Dordrecht: Springer. 99–124.

Koch, Peter. 2005. Frame and contiguity: on the cognitive bases of metonymy and certain types of word-formation. In Panther, Klaus-Uwe & Radden, Günter (eds.). *Metonymy in language and thought*. Amsterdam: John Benjamins. 139–167.

Langacker, Ronald. 1987. *Foundations of cognitive grammar, Vol. 1*. Stanford: Stanford University Press.

Langacker, Ronald. 1991. *Foundations of cognitive grammar, Vol. 2*. Stanford: Stanford University Press.

Libben, Gary. 2006. Why study compound processing? An overview of the issues. In Libben, Gary & Jarema, Gonia (eds.). *The representation and processing of compound words*. Oxford: Oxford University Press. 1–22.

Libben, Gary. 2012. NetWordS Summer School. 2-6 July 2012, Dubrovnik, Croatia.

Libben, Gary. 2014. The nature of compounds. A psychocentric view. In *Cognitive Neuropsychology*, vol. 31, no.1-2. 8-25.

Libben, Gary & Weber, Silke. 2014. Semantic transparency, compounding, and the nature of independent variables. In Rainer, Franz & Gardani, Francesco & Luschützky, Hans Christian & Wolfgang U. Dressler (eds.). *Morphology and meaning*. Amsterdam: John Benjamins. 205–221.

Masini, Francesca. 2009. Phrasal lexemes, compounds and phrases: a constructionist perspective. In *Word structure*, vol. 2, no. 2. 254–272.

Melloni, Chiara & Bisetto, Antonietta. 2010. Parasynthetic compounds: data and theory In Scalise, Sergio & Vogel, Irene (eds.), *Cross-disciplinary issues in compounding*. Amsterdam: John Benjamins. 199–217.

Michaelis, Laura & Lambrecht, Knud. 1996. Toward a construction-based theory of language function: the case of nominal extraposition. In *Language*, vol. 72. 215-247.

Pernishka, Emilia et al. (eds.). 2001. *Dictionary of new Bulgarian words*. Sofia: Naouka i izkustvo.

Pernishka, Emilia et al. (eds). 2010. *Dictionary of new Bulgarian words*. Sofia: Naouka i izkustvo.

Popov, Dimitar (ed). 1999. *Dictionary of Bulgarian*. Sofia: Naouka i izkustvo.

Pustejovski, James. 1995. *The generative lexicon*. Cambridge, MA: MIT Press.

Radden, Günter & Kövesces, Zoltan. 1999. Towards a theory of metonymy. In Panther, Klaus-Uwe & Radden, Günter (eds.). *Metonymy in language and thought*. Amsterdam: John Benjamins. 17–59.

Reverse Bulgarian Dictionary. 2011. Sofia: Iztok-zapad. [In Bulgarian].

Scalise, Sergio & Guevara, Emiliano. 2006. Exocentric compounding in a typological framework. In *Lingue e Linguaggio*, vol. 5, no. 2. 185–206.

Scalise, Sergio & Bisetto, Antonietta & Guevara, Emiliano. 2005. Selection in compounding and derivation. In Dressler, Wolfgang & Kastovsky, Dieter & Pfeiffer, Oskar & Rainer, Franz (eds.). *Morphology and its demarcation*. Amsterdam & Philadelphia: John Benjamins. 133–150.

Spencer, Andrew. 1991. *Morphological theory: an introduction to word structure in generative grammar*. Wiley: Blackwell.

Štekauer, Pavel. 1998. *An onomosiological theory of English word-formation*. Amsterdam: John Benjamins.

Štekauer, Pavel. 2005. Onomasiological approach to word-formation. In Štekauer, Pavel & Lieber, Rochelle (eds.). *Handbook of word-formation*. Dordrecht: Springer. 207–232.

Ten Hacken, Pius. 2010. Synthetic and exocentric compounds in a parallel architecture. In *Linguistische Berichte Sonderheft* 17. Hamburg: Helmut Buske Verlag. 233–254.

Trask, Robert. 1999. *Key concepts in language and linguistics*. London: Routledge, 1999.

Ungerer, Friedrich. 2007. Word-formation. In Geeraerts, Dirk & Cuyckens, Hubert (eds.). *The Oxford handbook of cognitive linguistics*. Oxford: Oxford University Press. 650–675.

Alexandra Bagasheva
Department of British and American Studies
Sofia University "St Kliment Ohridsky"
15 Tsar Osvoboditel Blvd,1504
Sofia, Bulgaria
abagasheva@gmail.com