Word-Formation across Languages
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When preparing the first Word-Formation Conference in 2005 in Prešov, inspired by the 2005 *Handbook of Word-Formation*. Dordrecht: Springer, edited by Štekauer and Lieber, we were in all certainty not aware of establishing a tradition of international word-formation conferences in East Slovakia.

Many things have changed since then. One of them is that, a decade later, what started as a romantic enterprise has become a landmark in the field for many reasons. First and foremost, for the unique list of internationally renowned contributors who so generously have always agreed to contribute the results of their research at these conferences. Second, because the original spirit remains.

Well-established in a panorama where there are not so many high quality international conferences, this edition of the Slovak Word-Formation Conference was held at Pavol Jozef Šafarík University in Košice from the 26th to the 28th June 2015. It brought together 98 participants from 27 countries for discussion of *Universals and Typology in Word-Formation*. The topics range from prosody to figures of speech in morphology, and the languages span from American and European languages to Egyptian Arabic and Japanese.

This volume contains some of those contributions and is the result of the authors’ work and of the discussion of the topics represented here and of many others that are not included here but that show implicitly or explicitly in the contents of the papers.

For all the above, this volume should also be recognition of the effort made by the conference participants, speakers and organizers.

Editors
ON $[N_1N_2]$ CONSTRUCTIONS AND WORD-FORMATION IN BULGARIAN

ALEXANDRA BAGASHEVA

Abstract

The chapter reviews the establishment of a new compound type, root NNs, in Bulgarian, tracing the path of development within a constructionist and onomasiological framework of what started as lexical (or MAT) borrowing and developed via upward strengthening into a novel compound type (or PAT). The abstraction of a new pattern from lexical borrowings brought up constructional changes in two networks: modification and compounding, leading to the constructionalisation of a new compounding strategy. The lexical replication of item-specific borrowings, e.g. екипън филм [ekšân film] ‘action movie/film’ grew into grammatical replication as defined by Heine and Kuteva (2006, 49).

Key words
compounding, determinative modifying NN compounds, modificational network, lexical vs. structural borrowing, constructionalisation, Upward-Strengthening Hypothesis, Bulgarian

1. Introduction

Compounding is undoubtedly one of the most extensively debated topics in the word-formation literature (Scalise and Vogel 2010, 1) and it appears to be the most prevalent word-formation process both across languages and over time (Scalise and Vogel 2010, 1). 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). Furthermore, it is acknowledged that compounds still present analytical challenges in relation to their construction, their place in the architecture of the grammar, the range of meanings that are possible and impossible with them, etc. (Scalise and Vogel 2010, 1-3).
Making a small step in this direction, in the current chapter, root nominal compounds, or to be more accurate at this stage, \([N_1N_2]^1\) constructions in Bulgarian are discussed, with the view of establishing their status in the language within compounding as a word-formation process, within the framework of modification in the language (to calibrate any specific semantics associated with the word-formation pattern, if any) and within the broad category of borrowing. The three simultaneous perspectives might at first seem disparate but only the joint application of the three perspectives can do justice to the complexity and putative atypicality of the phenomenon, which warrants such analytical eclecticism.

The choice of the label “\([N_1N_2]\) constructions” is in keeping with phylogenetic underdeterminacy of the morphosyntactic nature and general classification of NN combinations (Heine and Kuteva 2007) and with the variability of labeling of such constructions in the word-formation literature on and in Bulgarian (Alexieva 2002, Avramova 2003, Kirova 2006, Kovačeva 2006, Moskovska 1995, Radeva 2007, etc.), which ranges from labels such as nominal phrases, lexical combinations, phraseological unities, lexicalized collocations, synaptic combinations, binomials (compositional appositive names), appositive compounds, izafet, to loanblends, etc. In this context, in the current chapter an attempt is made to find out whether such constructions warrant a compound treatment (or at least a subset of these) and what their specificity is in comparison to means of expressing modification on the one hand and, on the other, what their place among other compounds in the language is, more specifically how they mix properties of different construction types in the context of modification in the language, against the background of their general initial interpretation as borrowings from English.

Non-affixal lexicomorphological borrowing is the type of borrowing of greatest interest to word-formationists. It bridges lexicology and word-formation in an imperceptible way and reveals hidden agencies in the word-formation component of the receptor language. Covert in nature and difficult to detect, it poses serious challenges to analysts as it has systematic reflexes and may affect the whole word-formation component of a language, even though it starts as lexical borrowing. It may develop via neoanalysis and analogization into a new word-formation pattern. The issue at hand is whether there is enough evidence to claim that a morphosyntactically atypical primary or root compounding pattern has been firmly established in the Bulgarian language.

\(^1\) The notation \([N_1N_2]\) is used when the sequence of two nouns without a linking vowel is interpreted as a construction. NN is used when theory-neutral reference is made and when traditional descriptions are elaborated.
The following research questions have been consequently formulated capitalizing on the analytical crosspollination between findings within contact linguistics and the ones of word-formation: what process is the spread and rising productivity of determinative, modifying NNs in Bulgarian an instance of? How do they affect the network of modification in Bulgarian (in view of both their lexical semantics and intracompound meaning relations)? Has a new compound type been established in the language via the instantiation of constructionalization?

In order to address the raised research questions the chapter runs as follows: part 2 is devoted to a synopsis of the analytical approaches adopted and their motivation; in part 3 the nature of NNs and the establishment of a subset of these as specific compounds in Bulgarian and their analytical treatment is briefly presented, in part 4 the semantics of the construction and its place in the network of modification in the language are discussed; in part 5 a hypothesis is formulated as to the development of the construction from “an Anglo-Americanism in Slavic morphosyntax” (Vakareliyska and Kapatsinski 2014, 277) into a new word-formation pattern as an instance of constructionalization; and in part 6 summative conclusions are formulated and venues for further research outlined.

2. The analytical framework

The answers to the research questions are provided in the general framework of constructional approaches to language and language change (Booij 2009, 2010, Croft 2001, Goldberg 2006, Hilpert 2015, Traugott and Trousdale 2013, among others) and the onomasiological approach to word-formation (Štekauer 1998, 2005), where the naming needs and active role of speakers are given their deserved prominence.

Despite the diversity of constructional approaches to language with more or less significant idiosyncrasies (for relevant overviews see Croft 2007, Sag, Boas and Kay 2012), they all share a set of assumptions which provide for a non-differentiated adoption of a constructionalist analytical stance. The basic tenet of constructionalism adopted here\(^2\) has it that language is a constructicon, a set of taxonomic networks where each construction constitutes a node in the network that forms a continuum from the fully concrete to the highly schematic. The relations between

\(^2\) The description of the relevant assumptions and methods of constructionalism is in its core based on Chapter 1 from Traugott and Trousdale’s Constructionalization and Constructional Changes, 2013.
constructions are ones of inheritance and motivation. A construction itself is a conventionalized pairing of meaning and form. The constructicon is acquired via language use and innovated via neoanalysis (the term is chosen over the more traditional reanalysis. The reasons for that are detailed in Traugott and Trousdale 2013) and analogization. Both processes are localized within constructions, or more precisely in actualized constructs. Form and meaning can in the incremental stages of constructionalization undergo individual shifts, but the co-evolution hypothesis (Bybee et al. 1994) holds true for the whole construction, preserving the biuniqueness of the symbolic complex. A construction is instantiated in actual language use by specified constructs that are fully phonetically specified and have contextually sensitive meaning, based on their conventionalized meaning or any appropriate extension thereof. A shift in any dimension of the construct might be strengthened via propagated use across the speech community into a modified or novel construction depending on degree of dissimilarity from the initial one(s).

The general model of a construction captures constructions that vary along at least three significant dimensions: type of concept, schematicity and complexity. Type of concept specifies the conventional meaning associated with the construction in terms of its contentfulness or procedural characteristics, i.e. whether it could be used referentially or whether it encodes intralinguistic relations. The dimension of schematicity
is related to formal (phonological) specificity and degree of abstraction of a token construct and classifies constructions into substantive (fully specified), schematic (abstract), and intermediate or partial (at least one constituent is specified). The dimension of complexity captures the internal constituency of a construction and distinguishes between atomic, complex and intermediate. Besides these inherently gradient dimensions, of immediate relevance to describing constructions are the notions of compositionality and productivity. The former one is operationalized in terms of analyzability, while the second one can relatively be measured by type constructs (the fully formally specified and actually used instantiations of a construction), i.e. by the degree to which a construction sanctions less schematic constructions or specific constructs. Within this constructicon, constructionalization defined as “the creation of form_new-meaning_new (combinations of) signs” that constitute “[...] new type nodes, which have new syntax or morphology and new coded meaning, in the linguistic network of a population of speakers” (Traugott and Trousdale 2013, 22) is achieved incrementally via constructional changes, defined as shifts along one of the dimensions of a construction (Traugott and Trousdale 2013, 26).

The decision for choosing the constructional approach is not an arbitrary or convenient accident. It is intended to capture the dynamicity of the process under discussion and to unify the three analytical perspectives in a natural way. It is motivated independently by two different, though related strands of linguistic research: a) synchronically oriented word-formation research in the tradition of Booij’s Construction Morphology (Booij 2007, 2009, 2010), and b) diachronically oriented research into the gradual mechanisms of language change and its locus in syntagmatic patterns as expressly formulated by Lehmann (1992, 406), who states that “[...] grammaticalization does not merely seize a word or morpheme [...] but the whole construction formed by the syntagmatic relations of the element in question.”

Besides recognizing the whole syntagmatic pattern or construction as the locus of change, constructionalists believe that the model is powerful enough to account for what seem to be oddities. As Fried (2013, 2) claims,

\[t\]he constructional approach is also proving itself fruitful in grappling with various broader analytic challenges, such as accounting for seemingly unmotivated syntactic patterns that do not easily fit in a synchronically attested grammatical network for a given language, or that present a typologically odd and inexplicable pattern.
Thus the constructionalist approach allows for a smooth and uniform analysis of the nativization of a borrowing and its constructionalization into a new node type or a newly boosted pattern. Simply put, it makes it possible to identify the stabilization of the \([N_1N_2]\) pattern in Bulgarian as the constructionalization of a compound type, a new strategy within compounding.

Constructionalization is triggered by the communicative and naming needs of a community of speakers, which motivate neoanalysis. The onomasiological approach to language (Štekauer 1999), and more specifically to word-formation, acknowledges the active agency of speakers in creating new lexical items. For onomasiologists the desire of members of a speech community to come up with the most appropriate (with appropriateness measured by the minimax effect, i.e. minimal cognitive effort, maximum communicative effect, operationalizable as degrees of explicitness) name for a conceptualized piece of extralinguistic reality is the driving force behind word-formation. When the conceptualization is novel for the cultural context, borrowing is not a neglected resort. In other cases, all the resources of a language (constructicon) can be creatively employed for encoding the intended conceptualization. It is in the minds and mouths of speakers that the establishment and use of a new name lie (with a host of factors playing a crucial role, purely conceptual, sociolinguistic, cognitive, etc., which will not be commented on for lack of space. For the interplay and role of various relevant factors see Štekauer 2005).

The last strand in the overall approach adopted here stems from the fact that present day NN compounds in Bulgarian (recognized as atypical of Slavic languages, but characteristic of Germanic languages) came to be under a foreign influence. In the Bulgarian word-formation literature there is unanimous agreement that the newly instigated productivity and the fixation of the pattern in terms of both form and meaning potential have been achieved under the influence of English (Brezinski 2012, Krumova-Cvetkova et al. 2013, Mardinov 1983, Radeva 2007, etc.), i.e. it is the result of language contact. What the nature of the influence is will be discussed in more detail in part 5; suffice it to say here that from an influx of lexical borrowing the pattern has grown into a structure accommodating exclusively native constituents (e.g. чалга певец [čalga-pevec] ‘pop folk singer’, чалга изпълнител [čalga izpâlnitel] ‘performer of pop folk music’, тото пункт [toto punkt], ‘lottery kiosk’).

The fact that at the initial stages the specific NN structure entered the constructicon as a direct borrowing calls for a comparison between NNs in the receptor and source language. Noun + noun strings (NNs) in English
are notorious for their ambiguity of constituting either compound nouns or NPs in which the first noun \([N_1]\) is the syntactic premodifier of the second \([N_2]\). According to Payne and Huddleston (2002, 451) precedence should be given to syntactic criteria over non-syntactic ones (i.e. stress, orthography, and semantics). In their opinion, coordination and independent constituent modification can be relied upon as crucial diagnostic tests. If the two nouns can be coordinated or modified independently of one another, then the construction as a whole is taken as a phrase. Plag (2003) discredits coordination as a reliable criterion since it can apply to various types of complex words (e.g. pre- and post-natal care). This leaves modification as the single criterion. NN constructions in Bulgarian studied here are unquestionably recognized as compounds along this criterion. None of them (all three types direct borrowings, loanblends (or hybrid compounds) and purely native ones) allows for the two nouns to be separately modified, e.g.: *нощно бинго заклет маниак* [nošno-SG.N bingo-SG.N zaklet-SG.M maniak-SG.M] ‘*night bingo devoted maniac’,

*интересен екип силен герой* [interesen-SG.M ekšan-SG.M silen-SG.M geroy-SG.M], ‘*interesting action strong hero’,


Furthermore, in Bulgarian, ambiguity between a syntactic phrase and a compound word is not of immediate relevance due to the morphosyntactic rules for gender and number desinence and agreement in phrases. At the same time, there are native NN compounds which do not possess the properties characteristic of English NN compounds. These are typically ones with coordinative internal relations, e.g. вагон-ресторант [vagon-restorant] ‘dining car’, къща-музей [kâša muzey] ‘house museum’, страна-членка [strana členka] ‘member state’, etc., or (para)synthetic ones, e.g. книгоиздаване [knigoizdavane] ‘book publishing’. In that sense \([N_1N_2]\) constructions of a subordinative, determinative type with modifying relations are a novelty in the language and are distinct from the extant native coordinative NNs. Even though they differ from native nominal compounds, the Bulgarian \([N_1N_2]\)s of interest here cannot be distinguished from primary (root, modifying) ones in English, e.g. Bulgarian екип филм [ekšan film] ‘action movie/film’ and English action movie are very much alike.

### 3. Compounds and NNs in Bulgarian

NNs have been a contentious issue in Bulgarian linguistics and morphology for quite some time. The points of disagreement are not
superficially terminological but are focused on the set of relevant criteria for classification and analysis.

Admittedly, as a Slavic language, Bulgarian relies more heavily on affixation in its word-formation resources (Olsen 2015, 911):

[the Romance and Slavic languages are not highly compounding languages (especially if the default case of lexical combinations of basic stems without formatives or functional categories are the focus of attention.

However, exactly this type of compounding seems to have established itself in the language and extended from both foreign constituents, e.g. бинго маниак [bingo maniak] ‘bingo maniac’ through hybrid creations, e.g. екшън герой [ekšän geroy] ‘action hero’ to both native constituents, e.g. кино звезда [kino zvezda] ‘movie star’. For the past 20 years a steadily growing tendency has been observed of the development of what we would still at this stage call \[N_1N_2\] constructions (in the sense of construction deployed by Booij 2010, Goldberg 2006, Hilpert 2015, Traugott and Trousdale 2013, Langacker 2008, Croft 2001, to name but a few). Perniška, Blagoeva and Kolkovska’s (2010) Dictionary of New Bulgarian Words lists about 700 attested \[N_1N_2\] constructions found in Bulgarian newspapers and other printed sources, and the total number is undoubtedly higher and continuing to increase. The argument developed here is based on the preliminary analysis of these listed NNs and a 100 more extracted from a corpus of compounding in tourism compiled by Horeva (PhD Ms.).

In parallel to the developments in the language, compounding in Bulgarian has also been steadily attracting scientific attention, despite the fact that Bulgarian word-formation scholars still consider compounds not characteristic of Bulgarian (Brezinski 2012, Kirova 2012, Radeva 2007, etc.). The slightly rising interest that has recently been shown is focused on synthetic/parasynthetic and verbal compounds (Bagasheva 2012, Kolarova 2007, etc.) Root or \[N_1N_2\] compounds still cannot make it properly to the limelight and remain stigmatized as the least typical for the Bulgarian language (Brezinski 2012, Kirova 2006, 2012, Murdarov 1983, Radeva 2007, etc.). The linguistic facts do not deserve the easy dismissal demonstrated by Bulgarian linguists.

In view of the existing interpretations and classifications of NNs in Bulgarian, novel developments such as бизнес център [biznes centâr] ‘business center’, джаз фестивал [džaz festival] ‘jazz festival’, кино център [kino centâr] ‘film studio’ (Radeva 2007) appear atypical along two different parameters. On the one hand, the majority of established
native nominal compounds usually contain a linking element, typically a vowel, (-o- or -e-), and are verbocentric and naturally evoke a thematic internal relation. On the other hand, extant NNs without a linking component are either considered appositive as in вагон-ресторант ['dining car’, заместник-директор ['deputy director’, кандидат-студент ['student applicant’ (Radeva 2007, 56-58) or are interpreted as a group in their own right (with a variety of labels attached to them by different authors, see Kirova 2012, Murdarov 1983, Radeva 2007, etc.) with an implicit comparison semantic operator (Radeva 2007, 58) as in очи-череши ['large, beautiful eyes’, гайтан-вежди ['well-shaped eyebrows’, снага-топола ['slender body’, etc. While there is no controversy in the semantic and headedness analysis of synthetic (verbocentric) compounds, the headedness and semantics of bare (without a linking vowel) NNs is highly problematic. Even more problematic, however, is their classification. They are unequivocally interpreted as resulting from composition (Kirova 2012, Murdarov 1983, Radeva 2007, etc.), i.e. from a process perspective they are uniformly recognized as resulting from composition, but are not unanimously recognized as compounds (as becomes obvious from the labels with which they are introduced in the literature), i.e. from an output perspective their classification is rather messy. The astounding confusion can be very briefly illustrated with the following groupings and labels:

i) заместник-министър ['deputy minister’, кандидат-студент ['student applicant’, помощник-треньор ['helper-coach ‘junior coach’: compositionally formed binominals with a determining relationship,


iii) град-герой ['hero city’, песен-изповед ['song-confession ‘a very moving song’, [sreša-dialog] meeting-dialogue ‘discussion meeting’: compositionally formed synaptic formations,
iv) кино център [kino centár] ‘film studio’, джаз фестивал [džaz festival] ‘jazz festival’, etc.: compositionally formed complex naming structures comprising two bare nouns,


The classificatory heterogeneity is unwarranted for two main reasons: a) no motivation is provided for identifying the separate classes with the different category labels (i.e. the parameters that are taken into consideration are not made explicit, with a single hint at degree of similarity to syntactic phrases as a classificatory parameter in Murdarov 1983 and Kirova 2012), and b) what distinguishes one category from another can be captured by headedness and the acknowledgement that both thematic (relational) and attributive relations can be detected in NNs, which allows for higher analytical generalizations. Further proof for the unmotivated multifariousness in the classification of NNs in Bulgarian comes from a comparison between Bulgarian майка-орлица [mayka orlica] mother-eagle ‘helicopter mom’ and English helicopter parents (and the whole series: lawnmower parent, bulldozer parent and snowplow parent) which share the same conventionalized lexical meaning. Despite the obvious absolute parallel in semantics, the NN structure in Bulgarian is recognized as an izafet construct (with a covert comparative semantic operator, i.e. a mother like an eagle), not as a compound (Radeva 2007). Admittedly, the Bulgarian one is semantically left-headed but formally both constituents would function as locus inflectionis, while the English series comprises both formally and semantically right-headed primary, non-compositional compounds. In both English and Bulgarian metaphor and metonymy are at play in the conventionalized lexical meaning, which would render the compounds creative ones (Benczes 2006). The NN in Bulgarian should be recognized as a primary nominal compound as there are no semantic, compositional or grammatical differences between the NNs in English and Bulgarian apart from the left position of the semantic head in the Bulgarian one.

What characterizes the types in i) is that their semantics is not strictly compositional and cannot be directly computed on the basis of a modifying or classificatory relationship between the modifier (N₁) and the head (N₂). Truth be told, there is no hyponymic relationship between the imputed head and the meaning of the whole. It is not really clear whether
we can speak of a head at all, since a deputy minister is not a minister, a student applicant is not a student (yet) and junior coach is not strictly speaking a coach as the two named extralinguistic categories have different real life functions. Each names a specific type of occupation and not a subtype of the class denoted by the right-hand member. So even though Bulgarian specialists traditionally label these “determinative” (Kirova 2012, Radeva 2007), they are actually hyponymic appositional coordinative compounds.

The problem in v) is that two of the compounds are semantically left-headed and one is semantically right-headed, while in all three both constituents are inflected (i.e. there seem to be two categorial heads). In очи-черешни [oči-čereshni] eyes-cherries ‘large, beautiful eyes’ and снага-топола [snaga-topola] body-poplar ‘slender body’ the element that is being described/compared appears on the left and the meaning of the whole suggests that it is exactly the semantic anchor: eyes like cherries and a body like a poplar. In гайтан-вежди [gaytan-veždi] woolen braid ‘well-shaped eyebrows’, it is the rightmost member that names the entity being described and the first constituent introduces the comparative attribute. Those in iii) do not possess any properties that can distinguish them from the left-headed ones in v). Песен-изповед [pesen-izpoved] song-confession ‘a very moving song’ is a song which sounds like a confession, and среща-диалог [sreša-dialog] meeting-dialogue ‘discussion meeting’ is a meeting which is based on dialogue or develops like one is ultimately a type of meeting, just as a hero city is a specific type of city.

If we are to look for true coordinative compounds, then the candidates will come from ii) and iii). Two of the nouns in ii) are coordinative compounds: архитект-проектант [arhitekt-proektant] ‘architect-designer’ and плод-зеленчук [plod-zelenčuk] fruit-vegetable ‘greengrocery’. Admittedly, analytical precision compels us to draw a distinction between the latter two: the first one is a hyponymic (appositional) coordinative compound and describes a person that is both an architect and a designer, and thus the meaning of the whole is hyponymic or cross-sectional in relation to the meaning of the two constituents. The second one is a genuine, hyperonymic co-compound as defined by Wälchli (2005) and Arcodia, Grandi and Wälchli (2010).

If we accept the parametrized understanding of headedness in compounding, as suggested by Guevara and Scalise (2009), Scalise and Guevara (2006), Scalise, Fábregas and Forza (2009), Scalise and Fábregas (2010), then we would definitely be able to avoid the classificatory heterogeneity. It is exactly the observed mismatches between formal and semantic heads that creates the confusion. Failure to flexibly detect the
intricate mismatches between the semantic and the formal head in a compound, which affect the nature of the intracompound relations between constituents, leads to the observed lack of systematicity in the perceptibly syntacticocentric treatment of compounds in Bulgarian.

The only group that differs significantly in terms of displaying a full match between the formal and the semantic head and in terms of the type of internal relations is iv). This is the group that has developed under the influence of English.

The five identified groups of NNs can actually be safely merged into 2 groups:

i) coordinative with two subgroups, co-compounds (or hyperonymic coordinative compounds): e.g. плод-зеленчук [plod-zelenčuk] fruit-vegetable ‘greengrocery’, кафе-клуб [kafe-klub] coffee house, and appositional hyponymic coordinative compounds: e.g. архитект-проектант [arhitekt-proektant] ‘architect-designer’;

ii) determinative

The important point is that the second group is considered atypical not only of Bulgarian, but also of other Slavic languages, in contrast to Germanic languages.

However, from a borrowing, the pattern NN with the status of a compound developed into a native construction. The first indicator of native developments of constructionalization is the fact that the domains in which such constructions are freely used have widened beyond tourism and entertainment, where the influx of lexical borrowing has been detected. The media are replete with such constructions. Sports vocabulary, various games, social practices and relations get named by such constructions. As already mentioned above, over 700 of these have been institutionalized and lexicographically recorded. The second indicator of constructionalization is the creation of [N₁N₂]s with both native constituents, e.g. тото печалба [toto pečalba] ‘lottery winnings’, кино звезда [kino zvezda] ‘movie star’, etc. Furthermore, the fact that such structures accommodate initialisms and phrases as first constituent indicates that they have gained a natural compound status and develop

3 The term “determinative” is preferably chosen over “modificational/attributive” for the following reasons: a) the construction displays a vast array of intracompound relations, not all of which are of attributive nature (as expounded in part 4.), and b) determinative better corresponds to the schematic meaning of the construction and corresponds to Marchand’s (1969) recognition of genuine compounds based on determinant-determinatum relations.

The easy recognition of constituent families (or niches in Hünig’s 2009 terminology) is further testimony to the constructionalization process, leading to constructional idioms with lexically specified constituents (Booij 2010). Thus ски [ski], фитнес [fitnes] ‘fitness’, бизнес [biznes] ‘business’, and екип [ekšân] ‘action’ have developed families in which the modifier replicates its semantic contribution irrespective of the head it associates with. Meanwhile, хотел [hotel] ‘hotel’, бар [bar] ‘bar’, ресторант [restaurant] ‘restaurant’, почи́вка [počivka] ‘rest’, маниак [maniac], звезда [zvezda] ‘star’, etc. have established themselves as heads that productively tolerate diverse N1s.

All in all, these [N1N2] constructions in Bulgarian enter a well-developed network of compounds. As there are numerous accounts of nominal compounds (see Bagasheva 2015, Kolarova forthcoming, Radeva 2007, etc.), a very brief sketch of their core properties is given here. Nominal (verbocentric) compounds in Bulgarian are generally (at least categorially) right-headed (e.g. езиковед [ezikoved] language-lead ‘linguist’, звездоброец [zvezdobrecc] star-count-er ‘stargazer’). The so-called bahuvrihi compounds have no explicit semantic head, though morphosyntactically the rightmost member behaves as a categorical head (e.g. въртиопашка [vârtiopaška] twist-tail ‘coquette’ vs. въртиопашки [vârtiopaški-PL] ‘coquettes’). In this respect [N1N2] compounds do not differ at all. They are invariably right-headed categorically (all inflectional markers are attached to the rightmost element) and semantically (the verbs they agree with are compatible via selectional restrictions with just the rightmost N2), e.g. екип герой [ekšân geroy] ‘action hero’, екип герой-DET, екип герой-M-SG, екип герой-DET.M-SG, екип герой-M-PL, екип герой-DET. Животът му бе като на истински екип герой [Životât mu be
kato na istinski ekšân gero] ‘His life was like that of a real action hero’. The fact that they are invariably semantically right-headed might also suggest that they have a unified pattern for computing their lexical semantics and intracompound relations that is distinct from those of the other types of compounds. Such an assumption is premature as will be discussed in the following section.

4. The semantics of NNs and their place in the modification network in Bulgarian

In general, bahuvrihi compounds in Bulgarian name humans and plants. They are semantically verbocentric and have thematic internal relations. Other types of verbocentric nominal compounds (both synthetic and parasynthetic) are systematically categorially right-headed with various thematic relations encoded between the compound constituents. Coordinative compounds (of both attested types) were described in sufficient details above, so that it is safe to claim that the type of internal relations characterizing [N₁N₂] compounds render them a novel type in the compounding network in the language.

In terms of lexical semantics of the whole, [N₁N₂] compounds encode a unified concept and function as its name, i.e. they subscribe to Hohenhaus’ (2005, 356) prediction that:

[h]ypostatization is a side-effect of the naming function of word-formation, whereby the existence of a word seems to imply for speakers the existence in the real world of a single corresponding ‘thing’ or clearly delimited concept.

as happens in куче касичка [kuche kasichka] ‘dog piggy bank’.

As far as intracompound relations are concerned, Bulgarian [N₁N₂] determinative compounds display the whole array of compound internal relations recognized in the literature (including psycholinguistic accounts). For easier and illustrative comparison, their semantic properties are presented in the form of recognized internal relations.

Gagne and Shobben’s list (1997) reveals the following⁴ (where N₂ is head and N₁ functions as modifier):

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⁴ The compounds used as exemplars for the respective intracompound relations are not uniform in terms of the nature of their constituents, i.e. borrowed, native or hybrid. This choice is not constrained by any observable specialization of types of constituents in terms of preferred relations, but aims to illustrate that the whole set
i) $N_2$ causes $N_1$: инсентив туризъм [insentive turizm] ‘incentive travel’,

ii) $N_1$ causes $N_2$: парти умора [parti umora] ‘party tiredness’,


iv) $N_1$ has $N_2$: пинбол игра [pinbol] ‘pinball game’,

v) $N_2$ makes $N_1$: фото услуги [foto uslugi] ‘photo services’

vi) $N_2$ made of $N_1$: фото изложба [foto izložba] ‘photo exhibition’,


viii) $N_1$ is $N_2$: гора закрилница [gora zakrilnica] forest protector ‘a hide-out forest’, злато жена [zlato žena] gold woman ‘a very good woman’,


x) $N_2$ about $N_1$: травма симпозиум [travma simpozium] ‘trauma symposium’,


xiii) $N_1$ located (at/in/on) $N_2$: уеб пространство [ueb prostranstvo] ‘web space’,

xiv) $N_2$ derived from $N_1$: бизнес печалба [biznes pečalba] ‘business profit’,


Within the group of determinative, modifying $[N_1N_2]$ compounds in Bulgarian there is a set in which an additional semantic link is detected besides the internal semantic relations illustrated above: comparison, where the first $N_1$ constituent invariably encodes ‘in the manner of’ modifying meaning, e.g. ситком маниер [sitcom manier] ‘sitcom manner’, Де Ниро мене [De Niro mene] ‘De Niro mole’, Терминатор преживяване [Terminator preživyavane] ‘Terminator experience’.

of $[N_1N_2]$ compounds deploys the whole range of relations irrespective of the nature of the constituents in either position.
The newly arising \([N_1N_2]\) compounds in Bulgarian also encode classical thematic relations characteristic of synthetic compounds:

i) **Subject**: банка издател/платец [banka izdatel/platec] ‘issuing bank /paying bank’,

ii) **Object**: чалга певец [čalga pevec] ‘pop folk singer’,

iii) **Adjunct**: радио говорител/вodeц [radio govoritel/vodeš] ‘radio host’,

iv) **Non-definable**: бинго маниак [bingo maniak] ‘bingo freak’.

These facts concerning \([N_1N_2]\) compound internal relations come as no surprise. After all, “neutralization of a large number of semantic relationships” (Bauer and Tarasova 2013, 2) is a characteristic of \([N_1N_2]\) constructions. More importantly, although in the psycholinguistic literature the argument has been going on over the property assignment vs. the thematic relational fusion of the two Ns in \([N_1N_2]\) constructions (see Estes 2003, Estes et al. 2011 and the literature cited therein), the unsettled controversy should not worry us here for a number of reasons: a) first \([N_1N_2]\) compounds in Bulgarian display all frequently postulated semantic relations, b) thematic relations are not syntax-driven or based but are conceptually motivated. Thematic relations refer to the link between concepts that occur together in time and space. Thematically related concepts play complementary roles in a given action or event and are amenable to a “script” interpretation (Jones and Golonka 2012). The third reason has been succinctly formulated by Gagné (2000, 384). She defends the position that

[i]t is not necessary to posit that relation interpretations and property interpretations arise from two distinct sets of processes. Both relation interpretations and property interpretations can be accounted for within a relation-based framework if one assumes that the selection of a relation is followed by an elaboration process in which the properties/features of the newly formed combinations are derived.

What is more relevant to the question of \([N_1N_2]\) compounds in Bulgarian as an instance of word-formation grammaticalization is whether in their current development they display properties characteristic of established \([N_1N_2]\) compounds (in English, for example) and as hopefully illustrated above, they do. Their use and perception as compounds have already paved the way for lexical specializations (constituent families). According to Gagné and Shobben (1997), people have statistical knowledge of which types of relations are most likely to occur with which concepts, and that
this statistical knowledge affects comprehension. Each modifier may have several relations that differ in frequency of use, and hence different relations are dominant for different modifiers. This explains the existence of constituent families as discussed above. The fact that it is easy to identify constituent families indicates that the \([N_1N_2]\) construction has been integrated to a high extent and various lexically specified patterns have become productive sites for analogical extensions.

5. From MAT to PAT
along the path of constructionalization

5.1. \([N_1N_2]\) compounds and the modificational network in Bulgarian

The above brief description of the formal and semantic intraconstruction relations leaves one with the impression that their development is pretty natural and ordinary, while in reality they deviate both from standard morphosyntax and from established compound types. Despite their high frequency (both type and token), broad semantic range, and growing productivity in Bulgarian \([N_1N_2]\), compounds have recently been identified as an Anglo-Americanism and have been restricted to a loanblend phenomenon, i.e. only hybrid constructions with one foreign constituent. Furthermore, they have been both notationally and theoretically identified as syntactic objects. Vakareliyska and Kapatsinski (2014) use the notation \([N[N]]\) and the theory and ontology neutral label construction in an attempt to emphasize two properties of NNs that are crucial for them: a) “[…] an English modifier noun is followed by a head noun that previously existed in the language” (Vakareliyska and Kapatsinski 2014, 277) and b) “[…] the use of the English noun as a modifier without the addition of a Slavic adjectival suffix and agreement desinence is a violation of fundamental traditional principles of Slavic morphology and morphosyntax” (Vakareliyska and Kapatsinski 2014, 277). In partial disagreement with this position, it is obvious that NNs are not restricted to types with an English noun as a modifier but happily accommodate both native constituents (or at least ones that have long been nativized in the language). Second and more important, even though \([N_1N_2]\) constructions are in functional and semantic rivalry with syntactic phrases in Bulgarian, they are not formally phrases (see part 2). Therefore, it is analytically most adequate for us to use the notation \([N_1N_2]\) compounds, not NNs, nor \([N[N]]\), because at present \([N_1N_2]\) constructions have established a new compound type in the language. The stabilized
Determinative compound construction has the following characteristics: a) type of concept: fully contentful with varied referential uses, b) schematicity: all three levels have been established (from specific constructs via partially specified constructions, i.e. word-formation constituent families, to the fully schematic \([N_1N_2]\), and c) intermediate in terms of complexity with a the fixed order of \(N_1\) and \(N_2\) corresponding to a determinative, modifying intracomponent relationship.

Despite disagreeing with their formal interpretation, we embrace Vakareliyska and Kapatsinski’s (2014) functional understanding of the studied constructions as enhancing naming by providing underspecification of the compound’s meaning, though with a slight qualification. According to the authors, the underspecification is such that it allows for a semantic variety unavailable to any of the native patterns and constitutes economy-driven simplification within the native system. The \([N_1N_2]\) construction is seen as a way of reducing competition between the -ov, -ski and -en suffixes for deriving adjectives. Reducing the competition and opting out for a variant allowing for multiple meanings indicates that the nature of modification is largely underdetermined. The qualification to be made is that native modifying constructions of different nature with formally marked adjective constituents or nominal constructions with a preposition display the same polysemy and underdeterminacy. It is not the richness of interpretations (due to underdeterminacy) that motivates the rising productivity of the type, but the fact that the specific polysemous construction enhances iconicity, i.e. the meaning underdeterminacy is formally mirrored, which is not the case with ambiguous native polysemous phrases.

Kovačeva (2006) contends that the type of semantic underdeterminacy displayed by \([N[N]]\) loanblends is displayed by \([\text{Adj.RELATIONAL }N]\) structures and \([N \text{ prep } N]\) structures in Bulgarian and that actually the range of semantic interpretations of \([N_1N_2]\) compounds is exactly the same as the one covered by the \([\text{Adj.RELATIONAL }N]\) construction (Kovačeva 2006), e.g. боб чорба [bob čorba] ‘bean soup’ and бобена чорба [bobena čorba] ‘bean soup’. Thus competition among synonymous expressions creates complexification in the system. This recognition runs counter to Vakareliyska and Kapatsinski’s (2014, 281) claim:

\[\ldots\] the opportunity for underspecification of the relationship between the two nouns in the phrase, thus affording a greater variety of relations than any of the native Slavic alternatives can.

This can hardly be supported on the basis of linguistic facts as the \([\text{Adj.RELATIONAL }N]\) pattern and \([N \text{ prep } N]\) patterns are native alternatives that
accommodate all possible semantics captured by \([N_1N_2]\) compounds. As various researchers have stated (Avramova 2003, Kirova 2012, Kovačeva 2006, Moskovska 1995, Murdarov 1983, etc.), NNs in Bulgarian rival modification by a relational adjective. The \([N_1N_2]\) compound construction \textit{бизнес стил} (biznes stil) ‘business style’ is ambiguous and can mean: a) a style of working, and b) clothes appropriate for carrying out business. However, as illustrated and argued above, such ambiguities can be read off the native \([\text{Adj.RELATIONAL} \ N]\) constructions (e.g. мобили аксесоари (mobilni aksesoari) ‘accessories for mobile devices/accessories that are mobile’, ромско включване (romsko vklyučvane) ‘social integration of the Romani/illegal TV and electricity connection done by the Romani’). This does not undermine the nature of \([N_1N_2]\) structures as compounds since theoretical suggestions have been voiced to analyse English \(N_1\) in NNs of the \textit{cat food} type as relational adjectives derived from nouns, behaving syntactically like adjectives but retaining the morphosyntactic properties of a noun (Spencer 2003, 2005). The whole \([N_1N_2]\) sequence in Bulgarian functions as a label for a category of its own with a specification of the category at two levels of categorization at least, i.e. naming a category and restricting its denotational scope to a hyponym, e.g. зарче касичка (zarče kasička) ‘cube piggy bank’, as typical of English NNs (Bauer and Huddleston 2002). Thus \([N_1N_2]\) compounds find their natural place in the modificalional network in the language as an alternative to morphosyntactic phrases; an alternative with high degree of iconicity.

5.2. MAT or PAT?

Admitting that \([N_1N_2]\) compounds in Bulgarian started off as borrowings and are still going on through a stage with a predominance of hybrid compounds, we need to make a short comment on this process from the perspective of contact linguistics. Disregarding terminological and theoretical controversies in the literature on borrowings, we need simply to acknowledge that, as maintained by usage-based theories of language (Rohde, Stefanowitsch and Kemmer 2006), loanwords provide a perfect locus for accelerated linguistic change. Due to their initial lack of integration in the borrowing language, there are no constraints on changes triggered by existing network structures for the borrowed word or pattern.

From a contact linguistics perspective, the establishment of consistently endocentric (systematic correspondence between formal and semantic head) right-headed determinative compounds of the \([N_1N_2]\) pattern in Bulgarian can be classified (if we employ Renner’s 2015 criteria) as pattern borrowing with the core of the system not affected,
which results in moderate structural change. This suggests that the establishment of \([N_1N_2]\) compounds should be interpreted as pattern, not process borrowing, as it enhances productivity of a marginal pattern in the receptor language within an already existing process in the recipient language. The same development is observed with bare compounding in Polish by Jaworski, who, in describing bare compounding in Polish, claims that \(\{t\}his new strategy of compound formation has resulted from language contact\) (Jaworski 2014, 27). In a nutshell, as a result of lexical borrowing, which leads to pattern borrowing in Slavic receptor languages new compound types or strategies within compounding are established. This development collapses the MAT vs. PAT (Sakel 2007) controversy in borrowing as the two are most probably sequentially ordered stages in contact situations, which makes perfect sense from the point of view of constructional accounts of language change.

5.3. Constructionalization of a new compound type in Bulgarian

As has long been recognized, language change is frequently triggered by contact situations. The establishment of the new determinative, endocentric, right-headed compound type in Bulgarian can be best described as constructionalization, i.e. the fixation of a new node with specified formal properties and clearly delineated semantic potential.

From a constructionist point of view, the argument whether the development of \([N_1N_2]\) compounds in Bulgarian should be treated as simplification or complexification, be it systemic or cognitive (on the differences between the two, see Miestamo, Sinnemäki and Karlsson 2008), is not of immediate relevance. What is extremely pertinent is whether \([N_1N_2]\) constructions’ both type and token frequency in use leads to upward strengthening, a special type of grammaticalization according to Hilpert (2013, 2015) and whether this has paved the way for the establishment of a new compound type. Adopting Hilpert’s criteria of constructional change and upward strengthening as special types of constructionalization, we claim that the development of the \([N_1N_2]\) compound is an instance of constructionalization via upward strengthening which affects two constructional networks: the network of compounds in Bulgarian and the space of nominal modification (and is likely, in the long run, to bring about constructional changes in both).

Traugott and Trousdale (2013) define grammatical constructionalization as the emergence of a new node in a constructional network, or more specifically \(\{\ldots\}\) when constructs begin to be attested which could not
have been fully sanctioned by pre-existing constructional types” (Traugott and Trousdale 2013, 22). Hilpert (2015) retorts that this intuitively convincing definition runs into a kind of a Sorites paradox, i.e. how many constructional changes exactly lead to the recognition of a new node. In Hilpert’s view the definition implies a discrete threshold which can only be detected a posteriori. Luckily, in the case of Bulgarian NNs we can identify the discrete threshold: the initial massive borrowing of NNs. The real question in our case is whether the subsequent spread of the construction is an instance of constructionalization, i.e. whether a new compound type has been established. Hilpert (2015, 116) contends that:

[w]hereas in grammaticalization, the experience of a linguistic unit leads to the progressive entrenchment of a more schematic construction, situated at a higher level in the constructional network, constructional change can manifest itself in the strengthening of several more specific sub-schemas, at lower levels of the constructional network.

The author goes on to dub the former mechanism the upward strengthening hypothesis, which constitute grammatical constructionalization proper, unlike instances of constructional change where lower level subschemas are individuated. In keeping with Traugott and Trousdale’s (2013) postulations, the emergence of constructional nodes with schematic slots is what is captured with the term “grammatical constructionalization”. In the development of [N₁N₂] constructions in Bulgarian exactly this process is observed: upward strengthening of a construction with schematized nodes. The development of constituent families and native patterns positively testify to this claim. In other words, the schematization of the construction through upward strengthening has led to the establishment of a novel word-formation pattern, a new compound type. Its basic systemic utility is the grammaticalization of a new word-formation pattern or strategy within compounding in the language. The constructional change which this brings in the space of nominal modification, its user-oriented utility, is the availability of a formally simple, highly iconic pattern allowing for context-pragmatic adaptability of semantic interpretation. This new expanding pattern is likely to affect not only the set of word-formation processes and compound types, but also the whole determination-modification functional space.
6. Retrospectus and prospectus

In a manner of a synopsis and as short and straightforward answers to the initial research questions, the most interesting findings are reiterated here and the most pressing issues for immediate future research outlined.

What started as lexical (or MAT) borrowing developed in less than 50 years into a new compound type (or PAT borrowing). The abstraction of a new pattern from specific borrowed lexical items brought up constructional changes in two networks: the modification network and the compounding network, which ultimately led to the constructionalization of a new word-formation pattern, a new compound type. The lexical replication of item-specific borrowings such as акшън фильм [ekšan film] ‘action movie/film’ grew into grammatical replication as defined by Heine and Kuteva (2006, 49).

At present, five basic areas of the lexicon abound in such constructions: tourism, entertainment (mostly cinema, music and various games), media, computer terminology and everyday life (Krumova-Cvetkova et al. 2013). Most probably there are no restrictions to domains and lexical fields for \([N_1N_2]\) compounds. As far as their internal semantics is concerned, there appear not to be any restrictions or specializations either. They encode, as illustrated above, both property attributive internal determination and thematic-relational determination (e.g. кино звезда [kino zvezda] ‘movie star’ and банка платец [banka platec] ‘paying bank’).

In encoding these meanings, \([N_1N_2]\) compounds enter into rivalry with:

a) synthetic compounds, e.g. бизнес дарение [biznes darenie] ‘business donation’ vs. кръводаряване [kruvodaryavane] ‘blood donation’, b) [Adj.RELATIONAL \(N\)] constructions, e.g. бизнес стиль [biznes stil] ‘business style’ vs. работен стиль [raboten stil] ‘style of working’, and c) \([N_2 \text{ prep } N_1]\) constructions, e.g. бинго зала [bingo zala] ‘bingo hall’ vs. зала за бingo [zala za bingo] ‘hall for playing bingo’. This width of the semantic scope of \([N_1N_2]\) compounds against the more specialized alternatives, paired with formal simplicity, which invites pragm- and contextual determination of interpretation accounts for their wide spread in usage across registers and domains.

The semantic space that the \([N_1N_2]\) compound construction in Bulgarian occupies supports the hypothesis of a cross-linguistic underspecified adnominal modification relationship (in the sense of Bauer and Tarasova 2013) in all kinds of constructions where two nominals are somehow related, namely \([N_1N_2]\), \([N\text{’s } N]\), \([N \text{ prep } N]\), [Adj.RELATIONAL \(N\)], which seem to be in a distributional relationship of “intersective...