THE MODEL OF MORPHOSEMANTIC PATTERNS IN THE DESCRIPTION OF LEXICAL ARCHITECTURE

IDA RAFFAELLI

ABSTRACT: The paper presents a model of morphosemantic patterns based on the model of Guiraud's morphosemantic fields. The main reason for introducing this model into the description of the architecture of the Croatian lexicon is the fact that Croatian is a morphologically rich language, in which grammatical and semantic mechanisms interact in lexical organization. The model of morphosemantic patterns at this stage of its development consists of two basic models: the model of morphosemantic fields and the model of morphosemantic grounds. Although the model is based on structuralist tenets, it is our intention to demonstrate how it is related to some of the most prominent contemporary theoretical frameworks, namely Cognitive Linguistics and Construction Grammar, especially Construction Morphology.

KEYWORDS: Cognitive Linguistics, Construction Morphology, Croatian language, lexical architecture, model of morphosemantic patterns.

1. INTRODUCTION[*]

In Croatian linguistics[1] there is an abundant body of research that describes the organization of the Croatian lexicon. Roughly, there is research on word formation patterns in Croatian done by morphologists and research on semantic processes done by lexicologists. Croatian grammars distinguish several grammatical patterns of word formation, derivation (including suffixation, prefixation and circumfixation) and compounding being the most prominent ones in the formation of Croatian words. Lexicologists have dedicated a large part of their research to the formation of words, focusing mostly on

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[1] It is impossible to list all relevant works. I point here to some that I will discuss later in the paper such as Babić (1986 [2002]), Tafra (2005), Tafra & Košutar (2009), Silić & Pranjković (2005).

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semantic processes such as metaphor and metonymy, origin of neologisms, status of loan words and status of idioms and collocations, synonymy, polysemy, antonymy, etc.[2] Since the research of morphologists and lexicologists overlaps in many aspects, foremost in how words are formed and organized within the lexicon, some linguists see word formation as a separate discipline sharing common features with both morphology and lexicology.[3] Their basic assumption is that a systematic overview of how words are formed can only be given if they take into consideration grammatical patterns as well as semantic processes such as homonymization or metonymy.[4] A Croatian textbook on word formation by Stjepan Babić (1986 [2002]) defines word formation as a separate linguistic domain that is related to both lexicology and grammar. It means that word formation shares with lexicology the interest in how the lexicon is filled with new words and how they are related to each other, and with grammar it shares its interest about grammatical patterns that enable the formation of words.

Nevertheless, there is no systematic overview of how grammatical processes, i.e. derivation and semantic processes, but primarily metonymy and metaphor as the most prominent ones, mutually participate in the formation of Croatian words and influence lexical organization. Semantic processes and grammatical processes simultaneously affect the organization of the lexicon. To get a more systematic insight into the structure of the Croatian lexicon, we need a linguistic model that could describe to what extent both types of processes mutually influence the organization of the lexicon and the genesis of new words. The model I intend to present aims at describing how words are organized on the morphological as well as on the semantic level.

Before I go into the details of this model, I will point to some basic issues on the formation of words in Croatian. Babić (2002: 27) notes the difference between two basic types of words with respect to word formation: motivated and unmotivated (arbitrary) words. A motivated word becomes unmotivated (arbitrary) when its phonological and/or semantic connection with an arbitrary word has been lost over time. For example, from a synchronic point of view the connection between the word *ožujak* 'March' and

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[2] It should be pointed out that authors do not completely agree as to what the scope of lexicology as a discipline would be. However, lexical phenomena such as synonymy, polysemy, homonymy, antonymy are some of the phenomena that are at the center of lexicological investigations (see O'Grady et al. 1997; Lipka 1990; Lewandowski 1994; Tafra 2005).

[3] See Tafra & Košutar (2009).

[4] See Tafra & Košutar (2009). Within their conception of word formation as a separate linguistic discipline, metonymy is used only for explaining the genesis of personal names as in *višnja* 'cherry' > *Višnja* (female name). As we will show later metonymy operates in word formation in a much larger scope.

the word *laž* 'lie' (льžujькъ > лъžь) has been diachronically lost because of the phonological changes (phoneme *l* changing into *o* in word initial position) and the loss of semantic motivation (because of its meteorological features March was considered as a 'lying month'). Therefore, the lexeme *ožujak* 'March' is an arbitrary word because of the lack of motivation with the word *laž* 'lie'. Even if we synchronically do not recognize a semantic motivation any longer, diachronically it is evident that metaphor as a semantic process participated in the formation of the new lexeme along with some grammatical processes.

There are many examples like the noun *ožujak* in which speakers are not able to recognize a semantic connection between two words from the synchronic point of view because of the diachronic changes that one or both words have undergone. However, there are many more examples in which the semantic relation between the unmotivated and the motivated words is still recognizable: *priča* 'story' – *is-prič-ati* 'to tell a story', *konac* 'the end' – *o-konč-ati* 'to end'. Thus, words such as *ispričati* and *okončati* could be considered as motivated with respect to the still existing and very clear semantic and morphonological connection with the unmotivated words *priča* and *konac*. When explaining the difference between motivated and unmotivated words, Babić takes into account their morphological transparency by pointing to basic semantic relations, but he does not go into details about the nature of their semantic properties. According to Saussure (1916 [1986]: 131), every language contains words that are arbitrary and those that are motivated. On the scale from arbitrary to motivated languages, Croatian as a Slavic language is surely closer to languages such as Turkish or Finno-Ugric languages, which are relatively highly motivated languages because of their rich morphology, than to Romance languages as relatively more arbitrary languages. This implies that in Croatian there are more motivated words than arbitrary ones. The distinction between motivated and unmotivated words is crucial in explaining grammatical and semantic patterns important in lexical architecture.

Therefore, the main goal of the paper is to present the model of MORPHOSEMANTIC PATTERNS (MP) that will enable a better understanding of how grammatical and semantic processes mutually affect the genesis of new words and the organization of the Croatian lexicon. It is also the intention of the paper to describe the MP model as a generic notion with a potential to cover different types of morphosemantic analysis. At this stage of its development, the MP model consists of two prominent models: the model of MORPHOSEMANTIC FIELDS and the model of MORPHOSEMANTIC GROUNDS that take into account two complementary perspectives in the description of the Croatian lexicon. Although the MP model is strongly related to the structuralist tradition (Guiraud 1967), it exhibits some important features

related to Cognitive Linguistic (CL) tenets, especially in connection with Langacker's notion of grammar-lexicon continuum within Cognitive Grammar (1987, 2000, 2008), Conceptual Metaphor Theory – as developed by Lakoff (1987), Lakoff & Johnson (1980, 1999), Gibbs (1994) and others –, and Theory of Metonymy as developed by Radden & Kövecses (1999) and others. Cognitive processes such as metaphor and metonymy influence human conceptual structures reflected in grammar. The main focus of the MP model is the analysis of motivated words. Within the presented model every motivated word is motivated on the morphological and on the semantic (conceptual) level. The motivated word is a result of mutual influence of grammatical (derivation) and cognitive processes (primarily metaphor and metonymy). This is in correlation with CL statement that grammar is meaningful and inherently symbolic.[5] The MP model also shares some of its key features with Construction Grammar (C&G), especially Construction Morphology (C&M). The basic feature that the MP model shares with C&M is conceiving morphosemantic units (motivated words) as CONSTRUCTIONS organizing a lexicon as a constructional continuum. Conceiving the lexicon as a constructional continuum implies: 1) that some morphosemantic units are more schematic, being productive for more specialized units that represent their instantiations,[6] and 2) that there are no clear boundaries between grammar and lexicon, which is also one of the basic tenets of Cognitive Grammar (CG). Namely, more schematic constructions are more rule-like and more filled-in constructions are more word like.

2. SOME BASIC FEATURES OF THE MODEL OF MORPHOSE-MANTIC PATTERNS

As stated in the previous chapter, the MP model is closely related to C&M (C&G in general) as well as to CG because it regards language as a continuum between lexicon and grammar, with no clear boundaries between the two. Accordingly, there are no general rules that would generate linguistic units and that the speaker acquires separately from linguistic production and linguistic use. Moreover, the MP model differs significantly from generative approaches to morphology, which consider rules as handling the entire process of word formation.[7]

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[5] See Langacker (1987: 12).

[6] The assumption that constructions differ with respect to the degree of schematicity is a common feature to both Construction Grammar as represented by Goldberg (1995), Croft (2001, 2005) Fried (to appear), and to Construction Morphology as developed by Booij (2010).

[7] For a detailed overview of generative morphology, especially of the lexicalist hypothesis,

Before I go any further, some clarification about the terms that are used here have to be made. According to the MP model, rules do not exist in a traditional way. They are not imposed on a speaker as something that has to be learned in advance. In the MP model, as well as in CG and C&G, rules are regarded as general statements that a speaker is able to make according to the use of specific linguistic expressions. This is the reason why the term PATTERN is used. In Longman's Dictionary of Contemporary English (2005), "pattern" is defined as a "regular way in which something happens, develops or is done". This definition clearly points to the basic features of the term pattern as used when referring to the model presented in this paper. First, when referring to linguistic phenomena, the term pattern implies that a language is structured according to some regularities that can be deduced from speaker's use of specific linguistic units. Second, since the model that is presented in the paper is called the model of MORPHOSEMANTIC patterns, it implies an interplay between grammatical and semantic (cognitive) patterns. Thus, motivated words are regarded as MORPHOSEMANTIC UNITS that are motivated morphologically and semantically at the same time. Not only can some generalizations about the morphological patterns be made, but about the cognitive patterns as well.

To begin with, consider the English words *buyer, seller, walker,* and *teacher*. These nouns exhibit a connection to verbs such as *buy, sell, walk,* and *teach* respectively. The same connection can be stated between French nouns *accusateur* 'accuser'*, admirateur* 'admirer' and the verbs *accuser* 'accuse'*, admirer* 'admire'. The nouns referring to an agent of an action in both languages are motivated words, i.e. morphosemantic units that can be regarded as constructions as well. As stated by Booij (2010: 2), relations between words such as *buyer* and *buy* or *accusateur* and *accuser* can be represented in the form of the word-internal morphological structures $[[buy]_V er]_N$ and $[[accus]_{stem/V} ateur]_N$. In the minds of English and French speakers, the set of English and French words listed above may give rise to abstract schemas: $[[X]_V er]_N$ and $[[Z]_{stem/V} ateur]_N$.

Both schemas have the same meaning. They refer to an agent of the action encoded by the verb (in English) or verbal stem (in French). Thus, they represent a generalization about the form and meaning of English and French deverbal nouns. They both share the same schematic meaning 'the one who is doing V'. As stated by Langacker (1987: 46), rules are extracted by speakers from an array of specific forms. In line with Langacker's statement, the two schemas function as rules, but are deduced from language use and by the speakers' exposure to a set of linguistic units sharing

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see Scalise (1986). An overview about Aronoff as the most eminent representative of this approach to word formation is given by Štekauer (2000).

the same schematic meaning. To be more precise, a rule in CG as well as in C&M is seen as a schematic characterization of specific linguistic units that are repeatedly used and mentally stored by speakers. Thus, we can set two rules for the formation of agentive nouns, one for English: $[[X]_V \, er]_N$; the other one for French: $[[Z]_{stem/V} \, ateur]_N$.

Linguistic research within the MP model is focused on motivated words and the different processes enabling their creation. This clearly distinguishes this model from other morphological approaches that were primarily influenced by the structuralist framework as developed in America by Bloomfield (1933) and in Europe by Martinet (1970 [1996]). Although they influenced differently oriented approaches in linguistics – Bloomfield indirectly influenced the generative approach and Martinet the functionalist approach – they share some common features. Bloomfield's and Martinet's linguistic analysis is morpheme-oriented. This means that motivated words are not in the focus of their investigation since they consider a complex word ("syntagme" in Martinet's terms) as a concatenation of morphemes.[8] Within these approaches word formation is a separate discipline, mostly concerned with grammatical categories.[9]

This brings me to another important issue. Within the MP model, word formation processes cannot be considered without cognitive processes because they simultaneously influence the creation of new words and the architecture of the lexicon. The two schematic constructions that are rule-like – $[[X]_V \, er]_N$ and $[[Z]_{stem/V} \, ateur]_N$ – reveal grammatical processes that enabled the formation of agentive nouns in English and French. In English, the suffix -*er* is attached to the verb, and in French the suffix -*ateur* is attached to the verbal stem. The process that is at play in these examples is derivation. However, this is not the only process involved in the formation of agentive nouns. In addition to the equivalence of grammatical patterns, the formation of English and French agentive nouns is also based on the same cognitive process. It is metonymy that interplays with suffixation in the formation of agentive nouns. Since metonymy operates within a single Idealized Cognitive Model (ICM), the semantic relation between agentive nouns and their stems has to be regarded within the Action ICM. The Action ICM involves a variety of participants which may be related to the predicate ex-

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[8] Cf. Booij (2010: 1). There is a long tradition of word-oriented morphology in Europe and America despite Bloomfiled's and Martinet's influence (see Blevins 2013) Here, I specifically refer to Bloomfield's and Martinet's approach.

[9] See Booij (2005) and Fábregas & Scalise (2012). In both textbooks on morphology, word formation is defined as a process that creates new words. Although, just like in Babić's (2002) textbook on Croatian word formation, authors refer to semantic links between unmotivated and motivated words, no systematic insight into the semantic processes that influence the creation of new words is given.

pressing the action, or to each other.[10] Thus, different kinds of relationships may be instantiated as specific types of metonymy. ACTION FOR AGENT is the metonymic relationship regularly operative between a verb or verbal stem referring to an action and a derived agentive noun.

The MP model differs from other related models in taking into consideration cognitive processes as equally relevant for the formation of words. A crucial difference between the C&M and the MP model is that the latter provides an insight into cognitive processes that are operative in the formation of motivated words. It is not only suffixation as a grammatical process that enables the formation of agentive nouns, but it is metonymy as well that is operative in those cases where the stem of the motivated word refers to an action. The same examples are found in Czech *pracovnik* 'worker' – *pracovat* 'to work', Croatian *graditelj* 'builder' – *graditi* 'to build', Dutch *spreker* 'speaker' – *spreek* 'to speak', etc.

The MP model provides an insight into conceptual mappings that are instantiated in the formation of motivated words. This is also evident when metaphor is at play. The conceptual metaphor IDEAS ARE LIGHT is not only operative within a single word, inducing polysemy, but it also influences word formation, i.e. it is operative between words as well. In Croatian, there are verbs such as *pojasniti, objasniti* 'to explain' and *izjasniti se* 'to declare oneself'. The three verbs refer to a certain kind of mental activity, with no references to 'light' or 'visual clarity', although they are derived from the adjective *jasan* 'clear', referring primarily to visual clarity. Thus, the formation of the three verbs was enabled by derivation (prefixation and suffixation) and by metaphor as a cognitive process that was simultaneous with derivation. The morphosemantic pattern is not specifically related to the formation of the Croatian lexicon. It is also found in other Indo-European languages: Italian *chiarificare, chiarire* 'to explain', French *éclairer* 'to explain' (related to the Vulgar Latin *exclariare*), Czech *objasnit* 'to explain', Russian *объяснять* 'to explain', German *erklären, klären*, 'to explain'. In all these examples it is the adjective with the meaning 'clear', 'bright' that served for the formation of verbs related to mental activity. From a diachronic point of view, it is noticeable that the Latin adjective *clarus* served for the formation of a verb *declarare* 'to declare oneself' which is reflected in Romance languages as well as in English (as a loan word). It means that the morphosemantic pattern related to the formation of verbs denoting mental activities from the adjective meaning 'bright' is a regular and frequent pattern in Indo-European languages which is relevant for the synchronic as well as for the diachronic explanation of patterns that induce the creation of new words.

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[10] See Radden & Kövecses (1999: 37). For a more detailed discussion on the relationship between word formation and metonymy see Janda (2011).

3. THE MODEL OF MORPHOSEMANTIC FIELDS

One of the two basic models within the MP model is a model of morphosemantic fields, as developed by Guiraud (1967) and elaborated by Raffaelli & Kerovec (2008).

Guiraud (1967) points out that lexical forms are historically connected and motivated by derivational, metaphorical, metonymic, and other linguistic processes. The coupling of grammatical (derivation) and semantic processes (metaphor and metonymy in Giraud's traditional perspective) results in the formation of various structures in the language system. In his research, special attention was devoted to morphosemantic fields ("les champs morpho-sémantiques").

According to Guiraud, MORPHOSEMANTIC FIELDS are different from paradigmatically structured semantic fields, because they include lexemes that have not been formed according to the same lexicological pattern, i.e. they belong to different parts of speech. Semantic fields modeled on Trier's lexical fields include lexemes that, in traditional terms, belong to the same parts of speech, disregarding morphological connections between lexemes.[11] However, as Guiraud points out, semantic links connect lexemes that belong to the same part of speech, as well as lexemes and their derived forms. In the latter case, the link is semantic and morphological. These lexemes are connected by virtue of their MEANING and their FORM. Hence Guiraud calls such a structure a morphosemantic field.

The key feature of a morphosemantic field is that each motivated word is related to the ETYMON (the etymologically basic lexeme) in a different way. The etymon is the lexical basis, which can be the base word (the unmotivated word), the root, or the stem for various types of relations that are created with its derived forms. Guiraud stresses that whatever the choice, the analysis of related lexemes will always result in some kind of structure. Guiraud regards the morphosemantic field as an etymological structure, which can reveal the semantic and derivational paths of development of

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[11] The traditional approach to semantic fields, whose different variants have been around since Trier (1931), assumed that all lexemes were of equal importance in structuring a field; i.e. it was assumed that a lexical field covered and formed a unique conceptual field. A semantic field is composed of paradigmatically related lexemes, frequently parasynonyms, with a shared unique conceptual base. Therefore, analyses are limited to particular conceptual fields and lexical categories. For instance, verbs of cooking or movement and adjectives expressing sadness or joy are analyzed as coherent segments in the lexico-semantic structure of a language because they are related by the basic concept of 'cooking', 'movement', 'sadness' or 'joy'. Fields consist of members belonging to the same lexical category, or, in more traditional terms, to the same parts of speech, such as verbs, adjectives, or nouns. Cf. Trier (1931), Ducháček (1959), Coseriu (1971), Lehrer (1974), Greimas (1986), Žic Fuchs (1991), Raffaelli (2001).

related lexical and morphological structures. However, I believe that morphosemantic fields can also be discussed from the synchronic point of view, as will be shown later.

The model of morphosemantic fields fits into the CL theoretical framework (especially Cognitive Grammar, Diachronic Prototype Semantics,[12] Conceptual Metaphor Theory, Theory of Metonymy) by virtue of many of its features:

i) The structure of morphosemantic fields broadly corresponds to the principles of prototype organization of categories and lexical structures. In other words, lexemes do not have an identical role in structuring the field: one of them is the center, or core, of the field, and others, depending on their characteristics, are positioned closer to it or further away from it. Therefore, morphosemantic fields are HETEROGENEOUS, as opposed to semantic fields in Trier's tradition, which are HOMOGENEOUS. The heterogeneity of morphosemantic fields is evident in their asymmetric structure – the existence of a central lexeme (etymon or base lexeme) and other lexemes which are associated with it on the basis of various derivational and semantic processes.

ii) The term morphosemantic field entails that equal importance is attached to grammatical and semantic processes structuring the lexicon, thus indicating a dynamic interplay and interdependence of grammatical and semantic structures, which is one of the basic theoretical tenets of CL.[13]

iii) Cognitive processes such as METAPHOR, METONYMY, GENERALIZATION, and SPECIALIZATION cause changes in conceptual structures, which are reflected in the semantic structure of lexical categories.[14] As a rule, cognitive linguistics uses these concepts to show how conceptual changes are reflected in the semantic structure of a single lexical category.[15] The model of morphosemantic fields stresses the importance of the onomasiological approach in the diachronic analysis of lexical structures, which has been less articulated within the Diachronic Prototype Semantics model than the semasiological approach.[16] The focus of morphosemantic analysis is on inter-lexical grammatical and semantic relations. Since the formation of new lexemes in the vocabulary of a grammatically motivated language such as

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[12] A model of Diachronic Prototype Semantics as developed by Geeraerts (1997) is of special interest for the MP model. See Raffaelli (2009, 2012).

[13] See Langacker (1987, 2000).

[14] See Geeraerts (1997); Blank & Koch (1999); Eckardt et al. (2003).

[15] Geeraerts (1997) emphasizes the role of these four cognitive processes in changing conceptual categories, which is later reflected in changes of particular lexical categories, which become polysemous lexical structures.

[16] Cf. Geeraerts (1997).

Croatian is determined by grammatical processes as well as by different cognitive processes, the model of morphosemantic fields enables an insight into the structure of the Croatian vocabulary that could not be described by other linguistic models. Thus, according to Trier's model of semantic fields, neither the adjective *ljut* 'spicy, angry' and the verb *razljutiti se* 'to get angry' nor the adjective *otresit* 'rude' and the verb *tresti* 'to shake', or the adjective *jasan* 'clear' and the verbs *pojasniti* 'to clarify', *objasniti* 'to explain', *razjasniti* 'to explain in more details', would belong to the same field because they pertain to different parts of speech. When described by virtue of the model of morphosemantic fields, their grammatical and semantic relation becomes clearly evident. Moreover, it becomes evident that there is a conceptual relation between the concept of 'spiciness' and the concept of 'anger', differently coded by the adjective and by the verb. A similar example is illustrated by the relation between the verb *tresti* 'to shake' and *zatreskati se* 'to fall madly in love'. According to the traditional conception of semantic fields, these two verbs, even belonging to the same part of speech, would not belong to the same lexical structure because of two different meanings or two different conceptual backgrounds. By virtue of morphosemantic fields it has become evident that there is a connection between the concept 'to shake' and the concept 'to love' in Croatian. The verb *zatreskati se* is a motivated word with respect to *tresti* which is an unmotivated word. The model of morphosemantic fields organizes these two verbs as belonging to the same lexical system. There is no other lexico-semantic model (semasiological[17] or the model of semantic fields) that would give prominence to this kind of morphosemantic connection.

4. THE MODEL OF MORPHOSEMANTIC GROUNDS

A detailed insight into the features of Guiraud's morphosemantic fields led us to the conclusion that the base word (the unmotivated word) is actually not only the morphological ground of the entire morphosemantic field, but also its semantic ground. In terms of CL (especially Conceptual Metaphor Theory), it implies the existence of a conceptual ground that is actually a source domain for the conceptualization of other, more abstract domains. Thus, we conclude that the concept 'shake' lexicalized by the verb *tresti* 'to shake' has served as a base concept or a source domain for the conceptualization of different abstract target domains such as 'love', lexicalized by the verb *zatreskati se* 'to fall madly in love', 'impoliteness' or 'rudeness', lexicalized by the verb *otresti se* 'to speak in a rude way', 'happiness', lexicalized by the adjective *otresan* 'happy', etc. It means that according to the mentioned linguistic

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[17] As elaborated by Baldinger (1964, 1966).

expressions, i.e. motivated words or morphosemantic units, we are able to assume the existence of different conceptual metaphors that were lexicalized in Croatian via different grammatical processes, i.e word formation patterns.

Furthermore, the model of morphosemantic fields enabled us to gain a mutual insight into semantic and morphological grounds of a conceptually homogenous semantic field. Thus, as will be shown for verbs of cognition in Croatian, it is possible to determine what types of concepts served as a source domain in the formation of lexemes related to different aspects of cognition. It can be argued that several conceptual metaphors have played a crucial role in the lexical architecture of Croatian verbs of cognition. They are metaphorically highly motivated not only by virtue of their polysemous structure, but by virtue of different morphosemantic patterns that have come into play. For example, the conceptual metaphor that is operative in the lexicalization of Croatian cognitive verbs is COGNITION IS MOVEMENT. Namely, verbs such as *smjerati* 'to intend' and *slijediti* 'to follow' are denominal verbs whose nominal stems are *smjer* 'path' and *slijed* 'sequence'. The verb *smjerati* has no concrete meaning related to movement, but it refers exclusively to cognition, whereas the verb *slijediti* is polysemous referring to both movement and cognition.

Therefore, we distinguish between the model of MORPHOSEMANTIC FIELDS as introduced by Guiraud (1967) as a target-oriented approach to the lexical architecture and the model of MORPHOSEMANTIC GROUNDS as a source-oriented approach. The target-oriented approach subsumes the analysis that goes from the morphologically and semantically unmotivated word towards grammatically and semantically motivated words, whereas the source-oriented approach implies the analysis from motivated words (usually grouped in a semantic field) towards unmotivated words. The two models are highly complementary because the first one shows how basic conceptual domains such as 'shake' lexicalized by the verb *tresti* 'to shake' as an unmotivated verb or 'light' lexicalized by the adjective *jasan* 'clear' have expanded their structure towards more abstract domains and how this influenced the formation of the vocabulary. The second model, starting from a conceptually homogenous group of words (a semantic field in the traditional sense), provides an insight into the morphosemantic grounds of some lexemes in the field. Thus, it is possible to define the lexical categories of the unmotivated words that served as conceptual and morphological ground for motivated words. However, it should be pointed out that a model of morphosemantic fields enables a systematic description of a coherent lexical structure, whereas the second model sheds light on some patterns that can fill some gaps in the description of the lexical architecture of a conceptually homogenous group of lexemes.

We introduce the model of MORPHOSEMANTIC PATTERNS as a generic term.

The MP model includes the model of morphosemantic fields as well as the model of morphosemantic grounds or any other possible model describing the same principles in lexical organization.[18]

5. THE MODEL OF MORPHOSEMANTIC PATTERNS VIEWED WITHIN THE CONSTRUCTION MORPHOLOGY FRAMEWORK

Although C&G encompasses different models, the difference between them is more an issue of focus or emphasis than a fundamental divergence.[19] For the purpose of this paper C&G is adopted in a broad sense as developed by Fillmore (1988), Goldberg (1995), Östman & Fried (2005), Croft (2001, 2005) and Fried (to appear). Since every motivated word consists of a lexical morpheme (stem) and a grammatical morpheme (prefix and/or suffix), it represents a construction that is a combination of morphological features. As pointed out by Goldberg (2009: 94-95) and Fried (to appear: 1-2), in C&G the sign is called a CONSTRUCTION and is applied to a combination of any type of linguistic entities, including morphological units.

Constructions may vary according to size and complexity. For Goldberg (2006: 5) the morpheme is the most simplex construction, while Croft (2001: 17) does not include morphemes as types of constructions. In C&M as developed by Booij (2010), morphemes cannot be considered as constructions since their meaning contribution is only accessible through the meaning of the morphological constructions of which they form part.[20] In C&M a construction needs to be an instantiation of a schema. It means that a construction needs to be constructed via a certain schema. The morpheme is not constructed, nor is it morphologically or semantically independent.

Even if the C&M model differs from C&G with respect to the morpheme as elaborated by Goldberg or Fried, they both define constructions as being more or less schematic and more or less filled-in.[21] This claim assumes the coexistence of abstract patterns (rules/schemas) and complex words instantiating these rules/schemas listed in the lexicon.[22] According to this assumption there is no difference between (grammatical) rules and the lexicon, an aspect which is closely related to Langacker's (1987, 2008) claim that grammar is not an inventory of rules. Grammar is symbolic in

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[18] See Raffaelli & Kerovec (2008); Katunar & Šojat (2011); Raffaelli (2012).

[19] Fried (to appear).

[20] See Booij (2010: 15). Croft (2001: 17) does not consider a morpheme as a construction either. For him the most atomic and specific construction is a word.

[21] See Goldberg (2009); Fried (to appear); Booij (2010).

[22] See Booij (2010: 4).

nature, consisting of conventional symbolization of semantic structure. Lexicon, morphology and syntax form a continuum of symbolic structures.[23] In C&G and C&M, a very abstract schema such as $[[Z]_{stem/V} [telj]_{suff}]_N$, only partially filled with the suffix -*telj* indicating the agent of the action encoded by the verbal stem as 'the one who is doing V', is a part of the grammar-lexicon continuum, just like the word *čitatelj* $[[čita]_{stem/V} [telj]_{suff}]_N$ 'reader', which is an instantiation of that schema. Both constructions are part of the lexicon and they are both meaningful. The more schematic construction is more rule-like, and the more filled-in construction is more word-like. As pointed out by Jackendoff (2008: 15), construction grammar makes no principle distinction between words and rules, and lexical entries are arranged in an inheritance hierarchy. Similarly, for Croatian noun formation we could define a more abstract and more general schema: $[[Z]_{stem/Z} [Y]_{suff}]_N$. This schema consists of three variables that can be instantiated in many different ways. First, in Croatian, nouns are derived from verbal, nominal, adjectival and numeral stems with very different content: *krojač* $[[kroj]_{stem/V} [ač]_{suff}]_N$[24] 'tailor', *dvorac* $[[dvor]_{stem/N} [ac]_{suff}]_N$[25] 'castle', *luđak* $[[lud]_{stem/Adj} [jak]_{suff}]_N$[26] 'madman', *prvak* $[[prv]_{stem/Num} [ak]_{suff}]_N$[27] 'champion'. Second, there are 91 productive suffixes for the derivation of nouns that can mostly combine with all types of stems. This shows the huge productive potential of the essentially schematic construction $[[Z]_{stem/Z} [Y]_{suff}]_N$, while the construction $[[Z]_{stem/V} [telj]_{suff}]_N$ is one of its many possible instantiations.[28]

Since the C&M model is focused on complex words, it can serve as a theoretical and methodological background into which the MP model could be integrated. Second, C&M is a model that enables generalizations about coupling form and meaning, which is an important issue for the MP model. Third, although the C&M model deals with both form and meaning, the issue of meaning is not as elaborated as it could be. Even though Booij (2007) points to metonymy and metaphor in explaining the polysemy of certain constructions (for example the deverbal -*er* nouns in English do not only refer to humans who perform an action, but also to objects conceived as humans such as *computer* or *printer*), I believe that the semantic analysis of complex words should be more fine-grained. It is not only the construc-

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[23] See Langacker (1987: 2).

[24] The stem *kroj*- comes from the verb *krojiti* 'to tailor'.

[25] The stem *dvor*- comes from the noun *dvor* 'court, courtyard'.

[26] The stem *lud*- comes from the adjective *lud* 'mad'.

[27] The stem *prv*- comes from the sequence number *prvi* 'first'.

[28] The issue of the formation of derived nouns would certainly deserve a more detailed overview within the MP model, but because of its complexity it is left for future research.

tion that exhibits a semantic shift and should be interpreted as polysemous. More specifically, semantic, i.e. conceptual links exist between unmotivated and motivated words and they systematically reflect the way speakers conceptualize the world. Relations such as those between *ljut* 'spicy' and *naljutiti se* 'to get angry' or between *tresti* 'to shake' and *zatreskati se* 'to fall madly in love' reflect the fact that 'anger' is conceptualized via 'spiciness' and 'love' via 'shaking'. This means that the formation of complex words is motivated through different cognitive mechanisms, metaphor and metonymy in the first place, that should be taken into account when describing lexical organization.[29] Thus, according to the MP model we can get an insight into conceptual relations that are lexicalized in a complex word. In my opinion this is a perspective that could bring to C&M some new aspects in the description of lexical organization, showing how constructions reflect a speaker's conceptualization of the world.

Every motivated word within the MP model is defined as a MORPHOSEMANTIC UNIT. Since the MP model will be explained in terms of C&M, my claim is that every morphosemantic unit is a CONSTRUCTION. This presupposes the existence of more abstract and more specific constructions. Some of them are generalizations and some are instantiations of general and abstract constructions, i.e. schemas. This means that the MP model conceives the lexicon as a constructional continuum, blurring the distinction between grammar and lexicon. Thus, the notion of schema as explained within C&M is fundamental for the description of motivated words as morphosemantic units. It will enable us to posit some generalizations about the architecture of the Croatian lexicon which, in the long run, will allow us to make a comparative analysis with other languages and get an insight into some of the more language-specific and more universal patterns of lexical organization.

5.1 Morphosemantic units as constructions

Consider the Croatian adjective *jasan* 'clear'.[30] The adjective is an unmotivated word which served for the formation of a set of motivated words. There is a coherent group of deadjectival verbs formed on the basis of the adjectival stem *jasn-,* exhibiting the same morphosemantic patterns. In Raffaelli & Kerovec (2008) and Raffaelli (2012) we argued for the existence of

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[29] The MP model should also deal with other cognitive mechanisms such as generalization and specialization (see Raffaelli 2012), but it is left out in this paper because my intention is to point to the basic features of the MP model and not to go into details relevant for specific types of motivated words.

[30] For details see Raffaelli & Kerovec (2008).

a metaphorical semantic shift from the concrete domain towards the abstract domain. More specifically, the adjective's prototypical meaning is related to 'perception' denoting visibility or clarity. As such it served as a lexical basis for the formation of several verbs, all of them almost entirely and in all their usages in the Croatian National Corpus (CNC) referring to 'cognition'. There are three such verbs: *objasniti* 'to explain', *pojasniti* 'to clarify' and *razjasniti* 'to explain'. Today all three of them exhibit a strong relation to 'mental activities' with no meanings related to 'visual clarity', and the same morphosemantic pattern. More specifically, they can be described via the same, more schematic construction $[[X]_{pref} [jasn]_{stem/Adj} [iti]_{inf.suff}]$, having closely related meanings and functioning as parasynonyms with a common underlying conceptual metaphor: IDEAS ARE LIGHT. It is important to stress that this partially filled schema is an instantiation of a more abstract schema which is productive for all deadjectival verbs in Croatian: $[[X]_{/0pref} [Z]_{stem/Adj} [Y]_{inf.suff}]_V$. They are all constructed according to the presented schema with a very broad meaning 'to be, to become, to make Adj'.[31] Another example is $[_{0pref} [živ]_{stem/Adj} [jeti]_{inf.suff}]_V$ for *živjeti* 'to live', which is not a prefixed verb and is formed with a less productive suffix (*-jeti*) than the former example.[32] However, the verb *živjeti* 'to live' served as a basis for the formation of prefixed verbs such as *do-živjeti* 'to experience', *pre-živjeti* 'to survive', *o-živjeti* 'to enliven' and *za-živjeti* 'to become a reality'. The first three verbs can be used when referring to humans as in *Političari doživljavaju svakodnevne uvrede* 'Politicians experience daily insults' or when referring to inanimate phenomena as in *Njegov je projekt doživio golem neuspjeh* 'His project faced a major failure'. The verb *preživjeti* 'to survive' is primarily used when referring to humans. The major difference between *oživjeti* and *zaživjeti* is that *zaživjeti* cannot be used for humans or animates.

The element within the construction that is responsible for the change in meaning is the prefix, which induces semantic differentiation between the four verbs. Although the form of the instantiations is predictable from the schema (we know that there are several prefixed verbs derived from the verb *živjeti* sharing the schema $[[X]_{pref} [živ]_{stem/Adj} [jeti]_{inf.suff}]$), their meanings are only partially predictable. The example of the verb *zaživjeti* is quite interesting. Verbs formed with the prefix *za-* encode the beginning of an event, which is also the case with the verb *zaživjeti*. Nevertheless, there is no ex-

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[31] Meanings of deadjectival construction schemas could be more specified as schemas become more filled. The infinitival suffix is the composite element that indicates whether the deadjectival verb has the meaning 'to be Adj', 'to become Adj' or 'to make Adj'. Thus, deadjectival verbs formed with the infinitival suffix *-jeti* mostly mean 'to become Adj' as *star-jeti* 'to become old'. An exception is the verb *živ-jeti* 'to be alive'.

[32] According to Babić (2002: 511-514), there are 13 different infinitival suffixes used for the formation of deadjectival verbs in Croatian.

planation for its exclusively metaphorically motivated meaning, with no usages referring to something concrete, i.e. related to the life of living beings.

The example of the verb *zaživjeti* 'to become real' exhibits similar patterns to the verbs derived from the adjective *jasan*. Based on the analysis of corpus data[33] it has become evident that the semantic differentiation between the verbs *pojasniti*, *razjasniti* and *objasniti* is closely related to the semantic difference between the three prefixes *raz-*,[34] *po-*,[35] and *ob-*.[36] The meanings of the three verbs are: 'to remove elements that hinder understanding of a certain phenomenon' (*razjasniti*), 'to explain' (*objasniti*), 'to make precise', 'to elucidate something already known' (*pojasniti*). Their meanings are all metaphorical ones based on the conceptual metaphor IDEAS ARE LIGHT. It may therefore be claimed: 1) that the meaning of the verbs is partially transparent because of the semantics of prefixes that motivates the change of verbal meanings; but 2) that there is nothing in the semantics of the prefixes that indicates a shift towards metaphorical meaning with respect to the base word. It can be generalized that metaphorical meanings of the verbs *pojasniti, razjasniti, objasniti*, referring exclusively to cognition, are all paired with the partially schematic construction $[[X]_{pref} [jasn]_{stem/Adj} [iti]_{inf.suff}]_V$. The schematic feature within the construction is the prefix that induces semantic differentiation of the fully specified constructions $[[raz]_{pref} [jasn]_{stem/Adj} [iti]_{inf.suff}]_V$, $[[po]_{pref} [jasn]_{stem/Adj} [iti]_{inf.suff}]_V$ and $[[ob]_{pref} [jasn]_{stem/Adj} [iti]_{inf.suff}]_V$.

However, the three verbs share with other deadjectival verbs arising from the more abstract construction schema $[[X]_{/0pref} [Z]_{stem/Adj} [iti]_{inf.suff}]_V$ a more schematic meaning 'to make Adj'. More specifically, most of the deadjectival verbs formed with the infinitival suffix *-iti* have the meaning 'to make Adj' as *čist-iti* 'to make clean', *oštr-iti* 'to make sharp', *hrabr-iti* 'to make courageous'.

5.1.1 Morphosemantic units as complex constructions

When they are used metonymically, referring to some sub-events with respect to the base verb (*oživjeti, doživjeti, preživjeti* when referring to different concrete aspects of human life), complex verbs exhibit a higher degree

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[33] For a more detailed analysis of the three verbs with respect to corpus data see Raffaelli & Kerovec (2008).

[34] According to Babić (2002: 549), verbs formed with the prefix *raz-* denote an action that is performed from more than one side.

[35] According to Babić (2002: 544), verbs formed with the prefix *po-* denote that an action has been peformed in a small quantity or that it has lasted for a short period of time.

[36] According to Babić (2002: 543), verbs formed with the prefix *ob-* denote actions that are embraced from all possible sides, which is the only meaning that verbs formed with the prefix *ob-* can have.

of compositionality. When they are used exclusively in a metaphorical sense (the meanings of the verbs *pojasniti, razjasnit, objasniti* based on the conceptual metaphor IDEAS ARE LIGHT and the meaning of the verb *zaživjeti* based on the conceptual metaphor IDEAS ARE HUMANS), they exhibit a lower degree of compositionality because the meanings of the prefixes are still transparent, but there is nothing within the construction that would indicate the metaphorical shift. Thus, we can argue that there are partially holistic meaning properties of the verbs derived from the adjective *jasan* 'clear' and the verb *zaživjeti* 'to become real'. The issue of compositional and holistic meaning properties of morphosemantic units will be explained in more details with respect to reflexive verbs.

In Croatian, there are derived verbs with the reflexive pronoun *se* whose semantic structure is sometimes completely changed with respect to the corresponding form without *se*. Such verbs are for example *zatreskati se* 'to fall madly in love' < *zatreskati* 'to shake rapidly', *otresti se* 'to speak in a rude way' < *otresti* 'to remove from somewhere by shaking', *izjasniti se* 'to declare oneself' < *jasan* 'clear' (the archaic verbal intermediate form *jasniti* is not in use any more), *suzdržati se* 'to abstain', 'to refrain' < *držati* 'hold', *uživjeti se* 'to get into the spirit of things' < *živjeti* 'to live'.

From the constructionist point of view, reflexive verbs differ with respect to the (non)existence of an intermediate verbal form. Thus, *zatreskati se, otresti se, ispričati se* and *ispisati se* have an intermediate derived form without the pronoun *se*, while *izjasniti se, suzdržati se, uživjeti se* don't have an intermediate form. Within the C&M framework all the verbs should be explained in terms of more schematic (partially filled) constructions such as $[[X]_{pref} [jasn]_{stem/Adj} [iti]_{inf.suff}]_V$ for *izjasniti se*, $[[X]_{pref} [tre]_{stem/V} [ti]_{inf.suff}]_V$ for *otresti se* or $[[X]_{pref} [živ]_{stem/Adj} [jeti]_{inf.suff}]_V$ for *uživjeti se*, etc., because their meanings are clearly metaphorically related to the meaning of the unmotivated word. However, their constructional path is not identical to the path of derived verbs without the pronoun *se*. It means that we need another construction to explain their genesis. The construction that is also operative in constructing verbs with the reflexive pronoun *se* is the construction [*se*]. Thus, reflexive verbs have two constructions forming a complex construction as a source of their instantiations:

$$[[[X]_{pref} [Z]_{stem/V} [Y]_{inf.suff}]_V + [se]]_V$$

According to C&M the two schemas represent a unification of word formation schemas that are operative in the formation of reflexive verbs in Croatian. To cover the formation of *all* the reflexive verbs in Croatian a unification of the two schemas can be defined as:
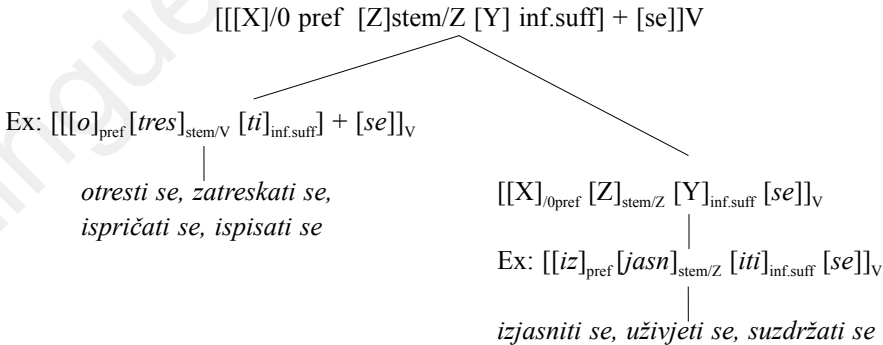
$$[[[X]_{/0pref} [Z]_{stem/Z} [Y]_{inf.suff}]_V + [se]]_V$$

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This schema unification differs from the first one in the fact that the prefix is not mandatory. It gives rise to all reflexive verbs that don't have a derivational form as an intermediate construction, such as *prati se* 'wash oneself' < *prati* 'wash' and many others.

In terms of C&M this means that reflexive verbs as morphosemantic units should be regarded as instantiations of a unified schematic construction. However, it may not be claimed that all reflexive verbs in Croatian should be explained via this general schema. This could be a unified schematic construction only for those verbs that have an intermediate derived form, such as *otresti se, zatreskati se, ispričati se, ispisati se* and *prati se*. When the reflexive verb does not have a derived intermediate form as *izjasniti se,* or *uživjeti se,* then the unification of the two schemas should be interpreted in terms of a complex intermediate subschema:

$$[[X]_{/0pref} [Z]_{stem/Z} [Y]_{inf.suff} [se]]_V$$

The reason for this kind of interpretation lies in the fact that verbs such as *izjasniti se* and *uživjeti se* are not immediate instantiations of the schema *$[[iz/u]_{pref} [jasn/živ]_{stem/Adj} [iti/jeti]_{inf.suff}] + [se]$, because there are no verbs *$izjasniti$ and *$uživjeti$. Nonetheless, *izjasniti se* 'to declare oneself' and *uživjeti se* 'to get into the spirit of things' are interpreted as semantically motivated verbs, metaphorically related to the base words *jasan* 'clear' and *živ* 'live' and thus have to be explained via the partially schematic construction $[[X]_{pref} [jasn/živ]_{stem/Adj} [iti/jeti]_{inf.suff}]$, which is common to all derived verbs from their respective morphosemantic fields. Since this construction did not enable the genesis of the instantiations *$izjasniti$ and *$uživjeti$ (they are possible, but do not exist), *izjasniti se* and *uživjeti se* are instantiations of a complex intermediated schema which is operative for this type of reflexive verbs without an intermediate verbal form. Thus, we argue that there exists a general unified schema and an intermediate complex schema that is operative for reflexive verbs without an intermediate verbal form:

$$[[[X]/0\ pref\ [Z]stem/Z\ [Y]\ inf.suff] + [se]]V$$

Ex: $[[[o]_{pref} [tres]_{stem/V} [ti]_{inf.suff}] + [se]]_V$

      otresti se, zatreskati se,
      ispričati se, ispisati se

$$[[X]_{/0pref} [Z]_{stem/Z} [Y]_{inf.suff} [se]]_V$$

Ex: $[[iz]_{pref} [jasn]_{stem/Z} [iti]_{inf.suff} [se]]_V$

izjasniti se, uživjeti se, suzdržati se

From the semantic point of view reflexive verbs are very complex and exhibit different types of meanings (reflexive, transitive, passive, etc.). However, reflexive verbs that were chosen for illustration point to the fact that they often exhibit holistic meaning properties.

The fourth verb within the morphosemantic field of the adjective *jasan* 'clear', the verb *izjasniti se* 'to declare oneself' is also metaphorically motivated. The meaning of the verb *izjasniti se,* although broadly related to cognition, significantly differs from the meanings of the other three verbs. This verb is at the same time related to the domain of communication The differentiation of the semantic structure of the verb *izjasniti se* with respect to the semantic structure of the other three verbs is coherent with the difference between their constructions. More specifically, the verb *izjasniti se* differs from the verbs *objasniti, pojasniti, razjasniti* with respect to the reflexive pronoun *se*. The verb *izjasniti se* has a different meaning and cannot be regarded as a synonym of the other three verbs. As mentioned above, *izjasniti se* is an instantiation of a complex schema $[[iz]_{pref} [Z]_{jasn/Adj} [iti]_{inf.suff}$ $[se]]_V$, whereas the other verbs are instantiations of a simplex schema $[[X]_{pref}$ $[jasn]_{stem/Adj} [iti]_{inf.suff}]_V$.

With respect to the structure of the two constructions, it can be argued that the linguistic element that is essentially different within the construction is the reflexive pronoun *se*. From the CL point of view, one could hardly argue that the pronoun *se* is a component responsible for the semantic shift from 'reasoning' to 'communication'. However, the constructionist perspective clearly points out that even a linguistic element such as a pronoun has to be regarded as an equal construction component since a construction containing a reflexive pronoun differs with respect to its meaning from the construction without the component *se*.

The same can be stated for groups of verbs *otresti* 'to remove something from somewhere' and *otresti se* 'to speak rudely' and *zatreskati* 'to shake rapidly and repeatedly' and *zatreskati se* 'to fall madly in love'. The meaning of the verb *otresti* was initially related to the act of shaking a tree to make the fruits fall down. Metonymically it developed a meaning related to the act of removing something from somewhere – for example dust, which is its contemporary meaning. The meaning of the verb *otresti se* is metaphorically motivated with respect to the verb *otresti*. The meaning of the verb *otresti se* refers to a kind of a speech act – 'to speak in a rude way' or in more general terms 'to get rid of' (someone or something). While *otresti* can refer exclusively to concrete removing of something from somewhere, *otresti se* only refers to a person's getting rid of someone or something.

Similar to the verb *otresti se* is the verb *zatreskati se* 'to fall madly in love', which has a metaphorically motivated meaning with respect to the

verb *zatreskati* 'to shake rapidly and repeatedly'. The only linguistic element that is different between the two pairs of verbs is the pronoun *se*, which certainly could not be the element that induced the semantic change towards metaphorical meanings of reflexives verbs.

All other examples of reflexive verbs that were mentioned in this paragraph should be interpreted in terms of holistic meaning properties with respect to the constructions they stemmed from. Thus, *ispričati se* 'to apologize' has a completely different meaning from the verb *ispričati* 'to tell a story'. The same could be stated for all other pairs of verbs: *suzdržati se* 'to abstain, to refrain' < *držati* 'to hold', *uživjeti se* 'to get into the spirit of things' < *živjeti* 'to live'. The semantic relation between the reflexive verb and the base word is recognizable, but the shift toward metaphorical meaning cannot be explained via the pronoun *se* as the composite element within the construction.

5.2 *The model of morphosemantic grounds*

There are several morphosemantic patterns which can be defined with respect to the organization of the field of verbs of cognition. The basic differentiation comprises the distinction between a) verbs that are related to the domain of cognition via their etymons, such as the verbs *znati* 'to know' and *misliti* 'to think', and b) verbs whose etymons are related to other more concrete source domains such as the verb *držati* 'to hold'. Within the second group we distinguish verbs such as *držati* 'to hold', which are polysemous and participate in the organization of several semantic fields (lexicalizing concrete and abstract domains) from those verbs such as *slijediti* 'to follow', whose morphosemantic ground belongs to different lexical categories and a different conceptual domain. For example, *držati* is an unmotivated verb with a polysemous semantic structure, while *slijediti* is a motivated polysemous verb. The verb *slijediti* is derived from the noun *slijed* 'sequence'.

Here, I will focus on verbs that are not polysemous, thus referring exclusively to the conceptual domain of 'cognition' and that are derived from nouns, related to very diverse conceptual domains. What is common to this group of verbs from the constructionist perspective is that the lexical morpheme and hence the semantically most loaded component of the construction is the nominal stem. The schematic construction for this group of verbs is $[[X]_{/0pref} [Z]_{stem/N} [Y]_{inf.suff}]_V$. First, all the verbs from this group can be constructed via this schematic construction, some of them having a prefix and some not. Second, as will be shown, the nominal stem that actually represents a morphosemantic ground for the formation of Croatian cognition verbs can be related to different domains. From the theoretical point of view, I point to the interrelation between CL, especially Conceptual Meta-

phor Theory and Theory of Metonymy, and the MP model interpreted within the C&M framework.

Among Croatian verbs of cognition it is possible to distinguish between two separate groups of morphosemantic grounds. The first one reveals conceptual grounds that belong to concrete domains that are remote from the concept of cognition, whereas the second group gathers unmotivated words (nouns) lexicalizing concepts close to the concept of 'cognition'.

The first group of morphosemantic grounds consists of nouns referring to movement (*smjer* 'direction' > *smjerati* 'to intend') and measurement (*cijena* 'price' > *cijeniti* 'to estimate', *procijeniti* 'to estimate in details'). The underlying conceptual metaphors of these verbs are rather clear: COGNITION IS MOVEMENT, COGNITION IS MEASUREMENT.

The other group of denominal cognition verbs is related to nouns related to cognition such as *mozak* 'brain' > *mozgati* 'to reason', *um* 'mind' > *umovati* 'to reason', *razum* 'reason' > *razumjeti* 'to understand', *sud* 'judgment' > *suditi* 'to judge', *prosuditi* 'to form a judgment', *rasuditi* 'to reason'. All of these nouns refer to some aspect of cognition, except the noun *mozak*, which refers to the physical center of cognition. In these examples the mechanism that came into play was metonymy. More specifically, brain as the physical center of cognition is conceptually contiguous to cognition as a process, and the same could be stated for the mind as the abstract center of cognition. Thus, it may be argued that there exists a conceptual metonymy CENTER OF THE PROCESS FOR THE PROCESS.

Although the two groups of cognition verbs share the common schematic construction $[[X]_{/0pref} [Z]_{stem/N} [Y]_{inf.suff}]_V$, it could be argued that it is with respect to the semantics of the noun that metonymy and metaphor come into play. When the noun is semantically contiguous to the denominal verb as in *mozak* 'brain' and *mozgati* 'to reason', it is metonymy that comes into play. When the noun is semantically removed from the cognition domain to which the denominal verb pertains as in *smjer* 'direction' and *smjerati* 'to intend', it is metaphor that comes into play. From the C&M point of view, it has become evident that the denominal verbs share the same schematic construction. From the CL point of view, it is important to describe the conceptual background of the noun if we intend to more accurately define the cognitive mechanism that has come into interplay with grammatical processes. This enables us to define conceptual metaphors or metonymies that underlie the formation of denominal cognition verbs in Croatian, leading us to the conclusion that the word formation of cognitive verbs in Croatian is highly metaphorically and metonymically motivated. Actually, there is a small number of unmotivated cognitive verbs whose etymological roots are related to 'cognition' such as *znati* 'to know' and *misliti* 'to think'.

6. CONCLUDING REMARKS

The proposed *model of morphosemantic patterns* is conceived as an umbrella model covering various models that could handle different aspects of morphosemantic organization of the lexicon. The key feature of the MP model is that it points to the interplay between morphology and semantics as two levels that equally participate in lexical organization. Although Croatian as a Slavic language has served as an excellent example of how morphology and semantics couple in the formation of new lexemes, it is a pattern that is more or less pertinent to all Indo-European languages with respect to their position on the motivation – arbitrariness scale as it was briefly shown in the second section of the paper.

Therefore, the MP model described in this paper could have its implementation in different Indo-European languages, pointing to some regular and frequent patterns in lexicalization on both morphological and semantic levels. At the same time it could reveal some language specificities that would otherwise be left unexplained by the application of other models of lexical description.

The MP model as presented in this paper shares some features with some of the most prominent approaches within Cognitive Linguistics. At the same time, the MP model was broadly integrated into the Construction Morphology framework. Thus, motivated words, i.e. morphosemantic units are interpreted as constructions and the entire lexicon is viewed as a constructional continuum consisting of morphosemantic units that are more or less schematic and more or less specified. Despite the fact that C&M deals with meaning systematically, the semantic description of constructions could be more fine-grained. Thus, I pointed to the conceptual relation between unmotivated and motivated words (using Conceptual Metaphor Theory and Metonymy Theory) that, as in the given examples, reflect very clearly the way speakers conceptualize the world. This is certainly an issue that needs to be further developed and that will lead us towards new knowledge about language universalities and language specificities. Moreover, it could bring to C&M some new insights into the lexical organization that could be further investigated.

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Ida Raffaelli
Department of Linguistics
Faculty of Humanities and Social Sciences
University of Zagreb
Ivana Lučića 3, 10 000 Zagreb
Croatia
e-mail: ida.raffaelli@ffzg.hr