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# Book of Abstracts

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# Plenary lectures

## Slavic Aspectology: Structuralist Legacies and Cognitive Approaches

This talk considers the present state of Slavic aspectology, and argues that Structuralist approaches of the 20<sup>th</sup> century are ultimately incoherent, and in any case are incompatible with Cognitive Approaches (Cognitive Grammar, Construction Grammar). Russian aspectual studies have focused on the attainment of a limit (*предельность*), usually in combination with totality (*целостность*) as the invariant meaning of the perfective aspect (cf. e.g., Bondarko 1996), which is alternatively formulated as an eventive change of state (*событие*, cf. Zaliznjak, Mikaëljan and Šmelev 2015). Yet descriptions of actual usage rarely employ these concepts, instead relying on the concept of a specific, unique event ( $\approx$  *конкретно-фактическое значение*) as the basis for perfective usage, which is not clearly related to the proposed invariant in any accounts to date, from Maslov (1959) to Zaliznjak, Mikaëljan and Šmelev (2015). Moreover, the particular functions of the imperfective aspect are formulated in opposition to the *конкретно-фактическое значение*, e.g., the function of referring to unique processes (*конкретно-процессное значение*) and the (outdated) concept of general statements of fact (*обобщенно-фактическое значение*).

What this means is that reference to a specific, unique event is the core function of the Russian perfective aspect. Leinonen (1982) explained the reference to a specific, unique event as a consequence of a feature of temporal contiguity, which is borne out by the nearly ubiquitous presence of sequential relationships in Russian perfective usage.

In a cognitive, usage-based approach, the importance of the *конкретно-фактическое значение* for the distribution of the Russian perfective cannot be ignored. If, as Bondarko (1971: 22) suggests, the *конкретно-фактическое значение* is expressed by all perfective verbs, requires little or no context, and is the most frequent function of Russian perfective verbs, then an analysis of the semantic essence of the *конкретно-фактическое значение* becomes a priority. (The additional function of uniqueness of the Russian perfective can be seen as a consequence of the constructionalization of the combination of prefix + verb.) In this regard, it is unfortunate that Leinonen (1982) has been largely ignored in Russian aspectology (cf., e.g., its omission in Zaliznjak, Mikaëljan and Šmelev 2015).

In ongoing work, Astrid De Wit and myself are developing Leinonen's approach with the concept of epistemic contiguity as a schema for the Russian (and eastern Slavic) perfective: all uses of the eastern Slavic perfective involve events that stand out with respect to some other states of affairs in the speaker's construal of reality. Epistemic contiguity is pre-temporal, and

has sequencing as one effect among others.

The second part of the talk is devoted to a new comparison of aspect in Russian and Mandarin Chinese. It focuses on similarities between East Slavic models of prefixation and Mandarin Chinese resultative verb constructions, between despatialized *po-* and bleached *le* as grammaticalized aspectual markers, between the *наглядно-примерное значение* and the use of *le* in repeated sequences of events, and between the use of *po-* in comparative adjectives and the adjectival use of *le*, among other phenomena. It also considers whether epistemic contiguity can account for the use of *le* in Mandarin Chinese.

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## Climbing Mount Doom: When linguistics, psychology and computer science tackle Slavic case morphology

In this talk I will present work done as part of the Leverhulme-funded Out of Our Minds project [<https://outofourminds.bham.ac.uk>]. We set out to change the ways in which languages are described, modelled and taught by taking an interdisciplinary approach involving linguistics, psychology and computer science, with the end goal of proposing a new way of describing language data that yields a cognitively plausible description of speakers' linguistic knowledge. To achieve this goal, we implement the requirement for cognitive reality in linguistic analysis at the theoretical, methodological and descriptive levels. Additionally, we model our data – which typically consists of corpus data, experimental data and computational simulation data – considering individual differences between language users. I will present a few of the findings we have obtained so far in the area of morphology, more specifically in the area of case morphology.

The first study pertains to the formal side of morphology and zooms in on declension classes. Declension classes are made up of the commonalities across many paradigms, with a paradigm being the set of forms sharing a common root or stem, of which one form must be selected in certain grammatical environments. The constructs of classes and paradigms play a core role in linguistic morphology, and have been used in language pedagogy for centuries. Their mental correlates have been accepted to exist in psychological and computational approaches. But is that an accurate assumption? To address this question, we ran two reading experiments during which we recorded eye-movements of 81 highly educated L1 speakers of Serbian. Our findings show that users appear to be aware of the set of forms a noun can occur in because activating the same or a different declension class when reading nouns in context affects the length of the saccade. In particular, when two nouns belong to the same inflectional class, the saccades become significantly longer which leads to fewer fixations and makes reading faster and more efficient. The present results imply that there may be some cognitive reality to declension classes, at least if classes are understood as collections of (implicitly) discovered commonalities across the paradigmatic sets of forms nouns can occur in.

The second study focuses on the functional side of morphology. Swan (2002) describes 10 main 'uses' of the genitive with various meanings that can be divided further. This raises the question of where to draw the line: how many possible subgroups should be treated as distinct constructions and are all of them linked to the same overarching genitive category? Are



we caught in the crossfire between *reduction and expansion ad absurdum*? Since the genitive case has so many manifestations and each of those manifestations can fulfil so many different functions, naive speakers may never unite all of them into one abstract category. We are currently addressing these questions by combining the results of computational simulations and behavioural experiments. Using a computational simulation study, we determine what level of generalization speakers could arrive at, given the usage data we have from the corpus. The results from the computational simulation study are then corroborated with experimental evidence. I will discuss data from a categorization study conducted to determine if and when abstract linguistics concepts such as case become important.

As these two case studies demonstrate, Slavic languages represent an excellent testbed for developing interdisciplinary language sciences, where there is a crucial role to be played by descriptive and theoretical linguistic traditions, by epistemologically different disciplines and by a range of methodological toolsets. Crucially, where linguistics meets psychology meets computer science – at the top of Mount Doom? – new possibilities will emerge for exciting discoveries about language.

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## The Texture of the Lexicon: Relational Morphology in the Parallel Architecture

Linguistic theory has emphasized Humboldt's "infinite use of finite means," to the relative neglect of the "finite means," i.e. the lexicon. What does a language user store in the lexicon, and in what form? We explore this question in the context of the Parallel Architecture (Jackendoff 1997, 2002; Culicover and Jackendoff 2005). Within this outlook, lexical items are pieces of phonological, (morpho)syntactic, and semantic structures, and morphology is the grammar of word-sized pieces of structure.

Unlike classical syntactic patterns, the majority of morphological patterns are not productive, and their instances must be listed in the lexicon. They therefore present a number of important difficulties for a grammar formulated in terms of traditional rules. More adequate is a formulation in terms of *schemas*, along the lines of Construction Grammar and especially Construction Morphology. Nonproductive schemas do not build new structures; rather, they motivate relations among items stored in the lexicon.

In addition to building novel structures, productive schemas can also motivate relations within the lexicon. This leads to a new perspective on productive patterns: the principles used to build novel structures are simply a subset of the schemas in the lexicon, and productive schemas can be thought of as schemas "gone viral." We conclude that the focus in linguistic theory on the "infinite use of finite means" has deflected attention from a more basic issue: the form of the lexicon and the relationships within it.

This outlook on morphological relations in the lexicon has consequences for syntactic theory as well. First, it offers an account of nonproductive syntactic constructions – Culicover's (1999) "syntactic nuts." Second, it suggests a nontraditional approach to syntactic alternations, in which movement operations are replaced by relations between independent constructions. We will briefly mention some possible cases.

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# General session

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## Cognitive asymmetry of ‘far’ and ‘close’ as reflected in Russian

The current study focuses on the Russian locative adverbs denoting close and far distance and examines their semantic asymmetries through the lens of cognitive and experiential differences between closeness and distance. In particular, we consider different segmentation of space, directionality and different kinds of observer-encoding on the ‘close’ and ‘far’ poles.

Concerning space segmentation, the ‘close’ pole in Russian encodes finer gradation than the ‘far’ pole: four adverbs for the latter (*далеко, вдали, вдалеке, неблизко*) and nine adverbs for the former (*близко, вблизи, поблизости, неподалеку, невдалеке, рядом, недалеко, рядышком, поодаль*). This phenomenon has an experiential and cognitive explanation: there are many activities which require either tactile proximity (*сидеть рядышком*), close visual proximity with possibility of tactile proximity (*рассматривать вблизи*), close visual proximity without tactile proximity (*стоять поодаль*), sufficient visual/audial proximity (*виднеться / слышаться невдалеке*), or functional proximity to useful resources (*жить недалеко от школы, Магазин тут неподалеку, Поблизости есть хорошие школы*). Each of the kinds of proximity is associated with precise actual distances – from several inches to several miles. However, distinguishing among different kinds of far distance is less informative from the utilitarian viewpoint: ‘far’ pole encodes the border of visibility/audibility (*вдали, вдалеке*) or difficult reachability by foot or transportation (*далеко, неблизко*).

However, visual directionality presents a different picture – again, for cognitive and experiential reasons. While it is possible *смотреть вдаль*, the expression <sup>2</sup>*смотреть вблизи* is almost non-existent outside of the ophthalmological contexts. It is difficult to distinguish among individual objects in the distance: therefore, ‘far distance’ itself can be treated as a single object of one’s glance. However, looking around, we see discrete objects rather than a single object ‘close distance’: therefore, ‘close distance’ as such cannot be an object of one’s single glance.

As concerns the expression of directionality in (potential) motion, *близко* combines both with *к* and *от* while *далеко* only with *от*. However, with predicates of approaching, *близко* only allows *к*. This morphosyntactic difference stems from the fact that ‘towards’ implies

closeness to the goal while 'from' is neutral in this respect.

'Close' and 'far' observers also reflect an asymmetry. There is one type of the observer in the 'far' domain, but two types of observers in the 'close' domain, depending on the degree of closeness. The 'far' observer contemplates a broad picture and perceives objects at large, without detail, noting their salient characteristics – the outline of their shape (*вырисовываться вдали, возвышаться вдалеке*), color (*белеть /чернеть/ синеть вдали/вдалеке*), general presence in the visual field (*виднеться вдали/вдалеке*). The 'close' observer sees details not visible from afar: *Вблизи я заметил еле видные морщины у глаз*. The 'not-so-far' observer (*невдалеке*) perceives objects at large, but, unlike the 'far' observer, can notice less conspicuous objects or sounds (*прошмыгнуть невдалеке, шуршать невдалеке*). This happens because far distance is more conducive to contemplation, while close distance is easily explorable by foot; hence, observation at close distance is not as important unless the purpose is to discern separate details and get a more accurate visual impression than the one available from afar.

## Conceptualization of death on the cover of the most popular Croatian tabloid *24sata*

The paper analyzes the covers of the Croatian tabloid *24sata* in 2018 and 2019 to determine how and why is death metaphorized by words and picture. Death is presented figuratively as “horror” (“strava”, “užas”); the death of a young person may be a result of a dangerous “game” or a “passion” for speed (Bagić 2012). Titles are saying goodbye to dead who are “leaving” which means that death is conceptualized as a journey; the death of a celebrity especially in the concept of traveling and resting; rescuing people is a “drama” and clashes of the criminals are “war” (Lakoff and Johnson 2003). Death cuts off one’s life capacities such as health (promoted on the covers, for example, by special diets); if there were casualties in a fire, life may “burn in fire” and if the possibility of death is discussed in advance, it is within the metaphor of the fight, while hospital teams may “fly for life”. If the cause of death is drowning, death is “down”, and that evokes an orientation metaphor (Šarić 2014); water depths are symbolically black, which makes the metaphor multimodal (Forceville 2008); the death of a nation, due to a demographic decline, depicted is black.

Grave is presented only once as a metonymy of neglecting the war veterans; that topic is related to articles on the missing in the war, also metaphorized with black colour. Religious signs are absent with sole exception of the cross, with no *corpus*, and with the picture of a cloudy sky, as a metonymy of Lent. There is no example of conceptualizing the afterlife or reincarnation, nor the allegory or personification of death, according to the notion that there are no original experiences of death (Jankélevitch 1977). Murderer is metaphorized as a “monster” (“čudovište”, “monstrum”), he is despised and condemned “to rot”; the murderer may have “eyes of evil”, and death may be the result of a “curse”.

Death is conceptualized on the covers of *24sata* as something that overcomes the human being who “fights against it”, while “experiencing hell”; disappearance and death are equal – there is no hope after death has taken hold of a person; death is black and down, which means it is unknown, and that’s why its metaphorization is a necessity (Stanojević 2013). Metaphor appears on the covers as a figure to achieve emotionalization, simplification and sensation (Molek-Kozakowska 2013); thus the cover of tabloid does not offer information passively but is competitive in seeking the attention of audience (Durant and Lambrou 2009).

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## Substantival diminutives in spoken Russian constructions of request

As it has been argued and demonstrated in many studies, Russian diminutives are not only about smallness and communication with or about children, although all other senses and functions can be seen as extensions of the meanings of ‘child’ and ‘small’ (Jurafsky 1996) through metaphors like CUTE/NICE IS SMALL and POLITE IS NICE (Makarova 2014). When it comes to requests in spoken Russian discourse, diminutives tend to simultaneously soften the communication in several ways: they perform a phatic function, creating a friendly and informal contact, they are signs of politeness, and they point to the insignificance (smallness) of the request (e.g. Fufaeva 2017). However, as pointed out by Protassova and Voeikova (2007, 50), diminutives are a “non-obligatory speech refinement” in adult speech. Women have traditionally been more involved than men in communication with and about children, which has led to the idea that diminutives would be more characteristic of female speech than of male speech. However, Zemskaja (1993) found a number of discourse situations where diminutives are equally frequent in male and female speech, or even more frequent in male speech.

For the present paper, I studied three constructions of request in the Spoken subcorpus of RNC, viz. 1) (у вас/тебя) NP-Gen/Acc не найдется; 2) дай/дайте (NP-Dat) (пожалуйста) NP[food/drink]-Acc/Gen; 3) подожди/подождите NP[time]-Acc. The research questions common to all three constructions were: How frequent is the use of diminutives in the constructions compared to the use of non-diminutives? What are the frequencies of female versus male speakers using the constructions?

In the first construction, the NP-Gen/Acc was a diminutive in the genitive in 77% of the cases vs. 23% non-diminutives. The very few instances of NP-Acc (9%) were among the non-diminutives. Also 77% of the speakers were male. A diminutive occurred in 76% of their utterances and non-diminutive forms in 26%. The construction was used considerably less by women, but also in their speech diminutives prevailed (80% vs. 20%).

In the second construction, the diminutive was considerably less frequent (31% vs. 69% non-diminutives). This construction was used fairly evenly between men (54%) and women (46%). The proportions of diminutives in men’s and women’s use of the construction was also almost even: men (29%) and women (30%).

In the third construction, the only NPs[time]-Acc with more than one or two occurrences were *секунда* and *минута* and their diminutives. The numbers of occurrences were equal for *секунда* (50%) and *секундочка* (50%). When it comes to *минута*, the secondary diminutive

*минуточка* was the most frequent one (55%), the least common one was *минута* (15%), which leaves 30% for *минутка*. Men were more frequent users of this construction (62% vs. 38% of the occurrences). However, again the distribution between diminutives and base forms in male and female speech was practically the same. Men used 70% diminutives and 30% base forms, women 71% vs. 29%.

Diminutives are thus used in all three constructions, but to different extents. On the whole, male and female use does not differ in frequency of diminutives.

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## *Foundations of Russian: A cognitive and constructional approach to teaching Russian enriched by frequency data*

Exciting new opportunities in technology for teaching and learning and changes in approaches to language pedagogy and second language acquisition along with the resurgence of Russia on the world stage make this an opportune moment to think of a fundamental change in the way we approach the teaching of Russian and other Slavic languages. *Foundations of Russian* provides revitalized and updated teaching materials for intermediate Russian with robust opportunities for active use of the language in classroom and homework activities, while not neglecting a thorough treatment of grammar, so necessary for effective language acquisition and true progress at the intermediate level.

The Russian language as a complex, but largely rule-governed linguistic system, presents an overwhelming variety of grammatical forms playing out along multiple semantic dimensions and presenting a seemingly insurmountable task for the language learner. Using JavaScript and the D3 library, Clancy is developing a set of data visualization tools incorporating more than 300 data fields for each Russian word, including grammatical, morphological, and semantic information along with word and form frequencies. This larger database is, in turn, made available to students and teachers in the form of pedagogical groupings based on textbook chapters, previously covered material, and even ad hoc collections of lexemes. The database visualizations will be interactive browsers and multi-touch interfaces, bringing to life the aspects of compression and expansion that ripple through the entire project.

The overall approach of the book is informed by research in cognitive linguistics and construction grammar, much of which has been conducted by members of the SCLA. Our presentation will provide an overview of the new book due out in 2019-20.

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## Visualizing Patterns in Morphologically Complex Languages: Deep Learning in Slavic with Very Large Corpora

The largely atheoretical approach developed within natural language processing (NLP) in the past few decades would seem to bear out Goldberg's (2006) claim that linguistic structure is "constructions all the way down". These approaches have allowed the empirical data in increasingly large corpora to speak for itself, resulting in highly successful unsupervised learning of orthographic systems, phonemes, morphemes, and words from raw language corpora. If construction grammar frameworks are correct, then understanding even complex syntactic and semantic features, such as the case system of a language, should be a matter of building on constructions identified at other levels of language. Earlier computational approaches to syntax and semantics defaulted to a formalist framework for lack of a better model, a decision that may be responsible for subsequent delays in progress, but more recent research in NLP has succeeded exclusively by looking at words and their neighbors within very large unlabeled corpora. Recent work using word2vec (Mikolov et al. 2013) and GloVe (Pennington et al. 2014) have yielded impressive results through the representation of words as relatively low-dimensional vectors that successfully capture a sense of semantic similarity as well as specific relationships such as male-female counterpart nouns, singular-plural, positive-comparative-superlative degrees, and word paradigms. Our study leverages a variety of tools to crack open the meaning in the Slavic languages, where a high level of morphological complexity complicates the work of previous NLP studies that have largely been conducted on English where reliance on word order and small neighborhoods of words have yielded results. To some degree, this is to say that the grammatical geography of English is rather flat whereas the grammatical geography of a Slavic language has craggy mountains and deep valleys. This study combines the use of Goldsmith's *Linguistica* (2001) and other methods to break the corpus into stems and inflectional morphology, creating a layered, aligned corpus, necessary for penetrating the depths of morphological complexity with new tools from Deep Learning as applied to Very Large Corpora of Slavic data.

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## Insubordinate conditional clauses in Serbian: the correlation of syntactic form and pragmatic function

Apart from their typical use as subordinate adverbial clauses, conditional clauses in Serbian can also be used as independent clauses constituting a directive or an expressive speech-act, e.g. (1) *Ako možete da se pomerite* ‘If you can move (please)’; (2) *Ako bi mogao da prestaneš o tome* ‘If you could stop (talking) about that’; (3) *Kad bih samo imao njeno pamćenje* ‘If only I had her memory’; (4) *Da su mi sad tvoje godine...* ‘If (only) I were your age now’, etc. This pattern of insubordination (Evans 2007) of conditional clauses seems to be well attested cross-linguistically (cf., among many others, Kaltenböck (2016) for English).

The aim of this paper is to more closely examine the relation between the form of the clauses like (1)–(4) and their pragmatic function from a cognitive perspective. It is based on a set of 72 examples of insubordinate conditional clauses gathered from the electronic corpora, web forums and discussion groups, media sources, as well as from spontaneous interaction.

This data shows that there are two basic patterns of form-function mapping in insubordination of conditional clauses in Serbian – (I) clauses with *ako* ‘if’ and present tense or conditional (1–2) are used as politeness devices, i.e. to perform indirect requests aimed at saving the addressee’s ‘negative face’; (II) clauses with *kad* ‘when/if’ and conditional, as well as those with *da* ‘to’ and present tense (3–4) are used as expressives, mostly wishes or laments. In other words, there is a correlation between the function of the typical, subordinate conditional clauses and their insubordinate counterparts (clauses performing directives have the form of ‘open conditional’ protasis, while those performing expressives have the form of the ‘remote conditionals’).

To account for this kind of correlation, I rely on the notion of *epistemic stance* (ES) (Dancygier and Sweetser 2005). By implying negative ES, clauses like (3–4) could not be conventionalized as felicitous requests, unlike (1–2), which imply neutral ES. On the other hand, negative ES seems a necessary feature of expressives like (3) and (4) (as Dancygier and Sweetser (2005) have shown for the analogous English *if only* constructions).

The examined data also allows for a more general considerations about the interplay of grammatical and pragmatic factors in the conventionalization of the different types of constructions: the insubordination of the described clauses is clearly pragmatically motivated, but this ‘pragmaticalization’ is, on the other hand, grammatically determined.

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## Fighting for the Serbian Language: A Metaphor or a Pseudo-Metaphor?

It is widely agreed that metaphors in discourse may be used to promote political views (e.g., Musolff and Zinken 2009). Unlike metaphors where the vehicle and the topic are often “clearly” blended, (e.g., vermin and immigrants, Musolff 2015), in what I refer to as *pseudo-metaphors*, the topic is systematically “masked” and not explicated. In political discourses, pseudo-metaphors may serve for the promotion of radical messages in public. A case in point is the following blend made by a Serbian linguist:

*(...) the Serbian language and cultural space have to be the battlefields of the greatest battle; it is important that we have some sort of institutional and systematic care for the language and script (...) (Politika 2018)*

In this blend, the “care for the language and script”, itself a metaphor, is figuratively represented as “the greatest battle”, and language is represented as a battlefield (Ser. *poprište bitke*). This may seem as a less-than-ordinary metaphor typical of language purism. However, paired with the cultural reference of “the Serbian cultural space”, which indeed refers to a geographical space, the blend carries a literal aspect, too. Therefore, apart from figuratively talking about language policies, the literal aspects of the blend in the post-Yugoslav socio-historical context carry politically far more controversial messages - calls for physical struggle. One topic - language - is conveniently used to obscure the other (inter-ethnic relations, or physical conflict), making the figuration a pseudo-metaphor.

The aim of this paper is to show that, pseudo-metaphors, in the Serbian language discourse have been used as political tools for the promotion of nationalistic ideology: they serve to instrumentalize (strictly) language matters for broader political purposes.

The analysis in this paper covers eighty texts published mainly by the largest Serbian daily newspaper, *Politika*, that was the main medium of the language campaigns between 2015-2018 (e.g., the *Let's Safeguard the Serbian Language* campaign, 2015-2016; or the right-wing political campaign around the *Declaration on the Preservation of the Serbian Nation*, 2017-2018). The corpus contains around 140,000 words and includes the criticisms of the dominant ideology, too. The preliminary results of a qualitative discourse analysis indicate that there are 34 examples of pseudo-metaphors.

Beyond the specific context of Serbian discourse, pseudo-metaphors could be relevant within other language ideologies - primarily because of the metonymic relationship language-



people. This underlying metonymy may transform metaphors about language into metaphors about their respective speakers, creating “second-order” metaphors, de-metaphorizing or literalizing the “initial”, “first-order” figurations.

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## Metaphor comprehension of visual image via linguistic forms: A pilot analysis of *A Quiet Week in a House* by Jan Švankmajer

According to the current metaphor research, similar mental processes are involved in the comprehension of both verbal and visual metaphors (Yus 2009). While existing literature focuses on verbal and visual metaphor comprehension associated with the semantic *content* of verbal expressions and conceptual representation of images, metaphor research has dealt relatively little with the role of surface linguistic forms (e.g., sound symbolism in Lakoff and Turner (1989, 145-146)). This paper considers semantic associations drawn from sound properties in the comprehension of visual image. Švankmajer's *A Quiet Week in a House* (henceforth *A Quiet Week*) and viewer responses (with knowledge of Czech) will be used for illustration.

Metaphors are pervasive in films by Švankmajer, a Czech surrealist filmmaker-animator. *A Quiet Week* contains universal conceptual metaphors that are widely shared. Viewers identified conceptual metaphors such as GOOD IS UP, which has been experimentally shown to be embodied (Gottwald et al. 2015). They also connected light with positivity (GOOD IS LIGHT), another widely shared metaphor (Sherman and Clore 2009). In contrast, metaphorical relationships based on linguistic *forms* are not easily accessible to the respondents without the knowledge of a specific language, e.g. MEATGRINDER PRODUCES NEWSPAPER TEXT and TONGUE VOLUNTARILY GRINDS ITSELF. Shared sound (and/or etymological) components among linguistic forms and expressions in Czech facilitate comprehension of such less accessible metaphoric representations.

Lakoff and Johnson state that “[g]reat poets can speak to us because they use the modes of thought we all possess” (1987). The film is “readable” by appealing to the primordial tactile sensations (Švankmajer 2014) and a set of collective symbols shared by (not all but) many. This pilot study, however, attempts to show how inferences leading to metaphor comprehension can be built on sound properties, i.e. surface-level knowledge, of linguistic forms in a specific language.

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## Semantics and Context in Aspectual Prefix Variation of Novel Russian Verbs

A central feature of the Russian aspectual system is the prefixation of imperfective base verbs to create perfective ones. In addition to perfectivizing, such prefixes are associated with a wide range of further semantic contributions. Thus, for each verbal stem there can be plethora of derived verbs, not taking into account the polysemy of individual prefixes. This study looks into native speakers' choices of prefixed perfective forms of new verbs derived from English loan nouns in the current absence of prescriptive lists for them.

This study compared prefix variation in novel verbs that do not appear to be attested in the language to prefix variation in contemporary standard Russian (CSR). Thirty-seven native speakers of Russian participated in an elicited production experiment, which elicited perfective verbs using borrowed English nouns in sentence contexts. The data was analyzed in comparison with databases for CSR. Prefixes in CSR and novel verbs appear to behave fairly similarly when it comes to which other prefixes they can be alternating with. However, the prefix variation in novel verbs is more extensive and frequent compared to CSR. Prefix choice with novel perfective words is highly variable, apparently because of semantic breadth of the novel verbs and lack of established prefixation conventions. The results suggest that the aspectual prefix *za-* is increasing in productivity in the formation of perfective forms at the expense of other prefixes. It has been hypothesized that *za-* is developing a new resultative meaning and is slowly starting to be used as the default perfectivizer without any additional semantic meaning. The high production of *za-* is attributed to its extensive semantics, high distribution, having meanings covering different parts of the time contour of an action, all resulting in its overgeneralization.

Among other morphological changes revealed, there is current growth in productivity and frequency of the prefix *ot-*, that is starting to replace *do-* in its synonymous meaning. This is in parallel to a high productivity of the verbal category suffix *-i-*, which seems to be replacing *-ova-* verb category suffix. Other certain morphemes, such as prefixes *o(b)-* and *pri-* are also losing their productivity, being significantly outnumbered by other morphemes with synonymous meanings and functions.

The previous assumption of applying certain prefixes by analogy with verbs already existing in the language did not come across as accurate. However, analogy can still be used in justifying certain usage deviations from the norm or most frequent and expected prefixes.

The Overlap Hypothesis (Janda and Ljaševskaja 2011) is shown to be effective for

predicting prefix choice on the basis of semantic similarity between the prefix and the verb's base. A more complex approach to prediction, based on the semantic overlaps of verbs and prefixes and also accounting for the lexical Aktionsarten categories and contexts of the sentences should yield even more accurate results.

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What's wrong with this picture: Instrumental morphological variation *oju/eju* vs.

*oj/ej*

The key problem here is to define *wrong*. It can mean morally or physically wrong, inappropriate, wrong choice of item, wrong feeling, wrong action and so on. The notion of *wrong* is viewed broadly, but the *oju/eju* ending always signals this wrongness.

Ellen R. Langer (2002) maintains that *женой* denotes private space as opposed to *женою* denoting public space in Tolstoy's "Anna Karenina". A closer examination of the data does not support this conclusion.

Types of wrongness:

- wrong item: wrong person, wrong idea and so on:

- Levin thinks he cannot ask Kitty to marry him just because she cannot be married to Vronsky, her first choice.

«Я не могу просить ее быть **моею женой** потому только, что она не может быть **женою** того, кого она хотела», — говорил он [Левин] сам себе. (Т.)

- Косынка instead of шаль or платок:

К телу два или три раза подходила худощавая женщина в шерстяном платье с **кружевной косынкою**. (П.)

- inappropriate person, action, thing or sentiment

- Dolly thinks of her husband's mistress:

Но чем же кончил он с *нею* [author's italics]? — думала она [Долли]. (Т.)

- After Dolly discovers that her husband has been unfaithful, she packs fooling herself and pretends to leave:

Дарья Александровна, ..., стояла среди разбросанных по комнате вещей перед **открытою** шифоньеркой, из которой она выбирала что-то. ... Она чувствовала, что уехать невозможно; но, *обманывая* себя, она все-таки отбирала вещи и *притворялась* [italics added], что уедет. (Т.)

And indeed after a short dialogue with her husband Dolly closed the dresser and never left him.

- Philosophy by itself is as wrong as eating horseradish by itself:

Я не люблю сочинений, посвященных целиком философии. По-моему философия должна быть **скупою** приправой к искусству и жизни. Заниматься **ею одною** так же странно, как есть один хрен. (П.)

- morally wrong

- (Anna says) Разве может человек, который что-нибудь чувствует, жить с своею *преступною* [author's italics] женой в одном доме?

- (Karenin thinks) Если она будет **разведенною** женой, он знал, что она соединится с Вронским, и связь эта будет незаконная и преступная, потому что жене, по смыслу закона церкви, не может быть брака, пока муж жив.

The examination of Turgenev's «Отцы и дети» supports this analysis of –оju/eju nouns and adjectives, as does the analysis of the usage of женой vs. женою in Tolstoy's «Война и мир». This discovery may have some ramifications for literary analysis as well.

T. = Толстой. Анна Каренина

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## The Strategic Mastery of Russian Tool (SMARTool): A Usage-Based Approach to Acquiring Russian Vocabulary and Morphology

We present the SMARTool, a free web resource for L2 learners of Russian that implements findings of a learning simulation experiment and corpus research to optimize the acquisition of Russian vocabulary and morphology.

Ackerman et al. (2009) present the “Paradigm Cell Filling Problem”: native speakers of inflectional languages (like Russian) routinely recognize and produce peripheral wordforms that they have never been exposed to. A major challenge for L2 learners is acquiring an equivalent proficiency with inflected wordforms. Corpus data (Janda and Tyers 2018) reveals that for any given Russian lexeme, only a few (usually 1-3) wordforms account for nearly all attestations, while remaining wordforms are rare or unattested. Our computational learning experiment shows that learning of Russian inflection is best when training is restricted to high frequency wordforms. Accuracy of prediction for previously unseen wordforms is consistently higher and severity of errors lower when learning targets only high frequency forms instead of entire paradigms.

The SMARTool builds on these findings for a basic vocabulary of 3000 nouns, adjectives, and verbs culled from major textbooks and other sources to represent levels A1, A2, B1, and B2 (CEFR scale). Collectively, these 3000 lexemes have over 150,000 wordforms in their paradigms, but learning all these forms is a cumbersome and inexpedient task. We promote a usage-based approach, targeting high-frequency wordforms. Via corpus data we have identified both a) the three most frequent wordforms for each lexeme (reducing the target number of wordforms to learn from 150,000 to 9,000) and b) the most typical grammatical constructions and collocations that motivate each wordform. We have also created c) corpus-based example sentences instantiating typical use. For example, the word *балерина* ‘ballerina’ occurs most frequently (over 90%) in the Instrumental Singular form. This form is motivated by a grammatical construction with verbs of being and becoming, and is associated with the collocates *мечтать стать* ‘dream of becoming’. In the SMARTool, this lexeme is illustrated thus:

*Анна Павлова с детства мечтала стать балериной.* (Ins.Sing )

‘As a child Anna Pavlova dreamed of becoming a ballerina.’



Audio for all sentences (in both female and male voices) and English translations are available at the click of a button. The SMARTool has filters that facilitate searching by: a) CEFR level, b) Topic (such as время/time, еда/food, здоровье/health etc.), c) Analysis (such as Ins.Sing, facilitating grammatical exercises), and d) Dictionary form.

URL: <http://uit-no.github.io/smartool/>

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## Sometimes Russian is More Perfective Than Spanish

Both Spanish and Russian have a Perfective vs. Imperfective distinction, yet there are examples where the languages show opposite tendencies. Such examples are evidence that the grammatical category of aspect varies across languages, and that grammatical categories are language-specific (Croft 2001, Chapter 1; with respect to aspect 2012, 127). Our study reveals an important and pervasive difference in the “thinking for speaking” (Slobin 1996) concerning the conceptualization of time in the two languages.

In Janda & Fábregas (forthcoming) we examined Spanish use of Perfective Past where the Russian translation equivalent is Imperfective. This mismatch is primarily in contexts with overt expression of time periods as in (1). Our interpretation is that Spanish tends to view time periods externally, interpreting them as bounded and thus Perfective, whereas Russian tends to view time periods internally, interpreting them as durative without reference to boundaries and thus Imperfective.

(1)

*Leyó-pfv toda la noche*

*On čital-ipfv vsju noč'*

'He **read** all night'

The present study looks at the opposite mismatch, where a Spanish Imperfective corresponds to a Russian Perfective. This mismatch is rarer, appearing in only 5-6% of examples of parallel Past tense forms, and typically involves the starting point of an event, as in (2).

(2)

*El mendigo se reía-ipfv de puro placer*

*Niščij rassmejalsja-pfv ot udovol'stviya*

'The beggar started laughing from pleasure'

We contend that the Spanish event-external vs. Russian event-internal perspective is relevant also for examples like (2). The event-internal perspective adopted by Russian makes it sensitive to the presence of an initial boundary, which is enough for the language to determine that an eventuality is bounded and thus Perfective. One can only observe the initial boundary from within. The event-external perspective of Spanish makes it insensitive to the initial boundary, because for Spanish the only relevant question is whether the endpoint is specified or not;

therefore the event is interpreted as Imperfective.

In other words, the same type of contrast that explains Spanish Perfective > Russian Imperfective mismatches is also responsible for Spanish Imperfective > Russian Perfective mismatches.

Additionally, Spanish neutralizes aspectual distinctions in modal contexts, and assigns modal values to the imperfective, while Russian expresses aspectual contrasts even in contexts that are modal, such as (3).

(3)

*no se lo creían-**ipfv** ni las piedras*

*ej ne poverili-**pfv** by daže kamni*

‘not even stones could believe that’

Our study is richly illustrated with data from parallel corpus examples of 5000 pairs of Spanish /Russian verbs.

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### *To have or not to have: The construction imet' in Russian learner data*

The Russian verb *imet'* conceptualizing possession within an active image schema is generally considered to be a marginal means of expressing possession in Russian (Isačenko 1974). In contrast, the *byt'*-construction where the possessor is conceptualized as Localizer expressed by the preposition phrase *U+GEN* is strongly preferred in contexts with a human possessor. Nonetheless, as demonstrated in Mikaelian (2005), in many syntactic contexts the *imet'*-construction is either preferable or even the only possible variant. In particular, the *imet'*-construction with a human possessor is privileged over the *byt'*-one within complex syntactic and macro-syntactic structures requiring a non-finite form of the verb, such as the infinitive, participle, or gerund, cf. *Ja vseгда xotel imet' sobaku* – 'I always wanted to have a dog'.

Hypothetically, in the situation of language contact between English and Russian, the English *have*-frame will influence the Russian *be*-frame, since the very existence of *imet'* in the Russian language creates the locus of transfer or the so-called "somewhere" in accordance with *Transfer to Somewhere Principle* (Anderson 1983). The study presented in this paper considers the question of whether such transfer is, in fact, present in the speech of learners of Russian as a Second (L2) and as a Heritage language (HL).

The data come from a small corpus of timed essays written by traditional L2 learners (i.e., post-adolescence acquirers) and HL learners (i.e., the type of bilinguals who acquire the heritage language – even if only to some degree – at home or in the community). The corpus includes essays by learners at different levels of language proficiency as indexed by the number of instruction hours (22-24 essays per group), as well as native speaker data in lieu of a control group (n=17).

The study compares the use of possessive constructions, both *byt'* construction and *imet'* construction, numerically and qualitatively, analyzing the type and felicitousness of the constructions in question. The results indicate that the L2 learners, both the lower-level and higher-level proficiency groups, exhibit more native-like patterns of indicating possession with *the byt'* but not the *imet'* construction. This result is predicted by the fact that the verb *imet'* is not introduced to learners until a relatively advanced level of proficiency. HL learners, however, perform differently depending on the proficiency, with higher proficiency learners performing aligning with the NSs in the use of both structures and with lower-proficiency HL learners exhibiting patterns of transfer of English *have*-frame into their Russian. The presenters

will discuss cognitive underpinnings as well as the constructional and instructional effects as possible explanations for the observed linguistic patterns.

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## The so-called non-gradable adjectives in gradable contexts: the case of Czech

Gradability has been reported as a substantial property of adjectives in various linguistic theories, including Cognitive Linguistics (CL; see e.g. Croft and Cruse 2004). Covering both gradation (by comparative and superlative markers) and intensification by measure adverbs (e.g., *very*), it has served as a criterion for delimitation of prototypical, i.e. gradable (*thick, expensive, ugly*) and non-gradable adjectives (cf. Kennedy and McNally 2005, Paradis and Willners 2006). However, large-scale empirical investigations of the gradation in adjectives have shown, for instance, that even adjectives categorized as prototypical are not attested in graded forms with high frequency (see Czech data in Kovářiková 2010). On the other hand, the expected non-gradable adjectives are rather easy to find graded in naturally occurring data, e.g.:

- (1) strýčkův obličej teď vypadá **použitější**, lidštější  
*uncle's face now looks **more used**, more human*

In this paper, we explore the factors associated with gradation of Czech non-gradable adjectives, focusing on a) identifying the individual “rarely graded” adjectives, and b) describing the structural and semantic aspects of their usage. We sampled over 6000 occurrences of 431 adjectival lemmata with the lowest relative frequency of the graded forms both in graded and non-graded forms from the Czech National Corpus (version SYNv4, Hnátková et al. 2014). All occurrences were manually coded for a number of syntactic and semantic features: type of derivation, modification, determination, semantic domain, complexity of the construed scale, standard of comparison, priming by preceding adjectives, and the distance of the prime. The annotation was performed by 3 independent coders with a substantial agreement (mean Fleiss’  $\kappa=.67$ ).

The data analysis will begin with multiple correspondence analysis in order to validate the selection of annotated categories and to decide which categories should be taken into account as variables in further analysis. Afterwards we will analyse the associations between the variables using a log-linear model in order to identify the variables that significantly predict gradation.

Based on the interim results, we suggest that gradability is a scalar property that can be

either induced by the inner structure of a semantically prototypical adjective, or construed through context (usually both intra- and extralinguistic). Hence, even putatively non-gradable adjectives allow for systematic (though marginal in terms of relative frequency) gradation in favorable situations, yielding perfectly meaningful utterances in natural discourse.

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## Pardon my code mix: Hypostatic frame constructions in Czech

Despite being over 30 years old, cognitive and construction grammar approaches to linguistic analysis still largely persist at the level of the clause and phrase. At best, there are some efforts to describe anaphora or connectives within the constructional paradigm but they are rare and still treat them as largely local phenomena (e.g. van Hoek 1995). However, as Hoey (1991) has shown, language happens over much larger stretches of text. The idea that constructions can be used to analyze questions of conversational turn taking and stylistic choice has been proposed by Lukeš (2007) but it has not been elaborated in detail.

This paper will expand on the idea of constructions as operating over large stretches of discourse by discussing constructions used to signal code mixing in Czech conversation. The code switching and code mixing literature has traditionally focused on grammatical analysis of the interaction of 2 codes and has not been investigated from a constructional point of view. Code switching is then treated as happening without any conscious effort on the part of the speakers. However, following Talmy's (2007) return to introspection, Lukeš (2007, 2019) expanded on the central role hypostasis plays in the process of framing. This paper will focus on evidence of the speakers' awareness of the presence of multiple codes and the constructions that are used to signal such a switch.

Czech has long been recognized as operating in a diglossic context (e.g. Sgall et al. 1992, Bermel 2010) and Czech spoken language exhibiting many instances of code switching and code mixing. Studies of acceptability judgments (surveyed in Bermel 2010) revealed the absence of any grammatical hierarchies (such as morphology over phonology) and as such make this phenomenon an ideal candidate for constructional treatment. However, the spoken and written standards are not the only codes available for mixing to a Czech speaker. There is both areal variation (German, Polish, Slovak, Moravian dialects) and the codes accompanying social and economic change (e.g. English-based jargon in management, political and entertainment discourses).

The initial data for this preliminary analysis was drawn from an observational study during a series of workshops for an EU-sponsored project where participants (teachers) had to constantly negotiate a number of codes. This required frequent signalling of whether certain stretches of discourse were to be conducted in a specific code. This code-switching construction would usually be introduced by phrases such as “podle”, “jak tomu říká”, “jak se píše v tom”, “tak zvaný”, “abych to tak řekl(a)”, etc. Conversely, return to “normal codes” was often



signalled by “jak se říká”, “jak tomu já říkám”, “hezky česky”. This paper argues that such constructions far from being rare, are present in most conversation and signal the presence of multiple codes. Also belonging in this category, are signals of strong or emotionally charged language, equivalents of the English “pardon my French”, such as “sprostonárodně”, “dámy prominou”.

This analysis will be presented as a case study of using the constructional approach to analyse code mixing as well as larger stretches of discourse.

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## Between syntax and sound in conversational language: preliminary observations

We address the correlation between grammatical patterns and their phonetic properties, based on the hypothesis that in spontaneous interaction, the prosodic and/or segmental qualities of linguistic output provide a crucial layer of interpretive clues, as well as insight concerning diachronic change.

Our corpus-based exploration involves a clausal insubordination introduced by JESTLI, used for expressing speakers' subjective stance with differences in polarity (1a vs. 1b), in contrast to the syntactic use of JESTLI in embedded Y/N questions (2). Previous research (Fried 2009), based on syntactic and conversational analysis of dialogic exchanges, has proposed a spectrum of discourse functions associated with the use of JESTLI in different contexts. Now we test these findings on the newly available material in the conversational corpus *Ortofon*. We work with the hypothesis that there'll be a predictable relationship between the functional variants in (1) and specific sound parameters: intonation, temporal properties, and/or the degree of speech reduction, following Zíková & Machač (2014).

(1) a. *to bylo celý ta střecha dobouchaná vod krup, **jesi** to tam předtím spravoval někdo*  
'it was, the whole roof was pock-marked from hail, **I-guess maybe** somebody'd tried to fix it before'

b. A: *je to nesmysl kvůli baterkám, no*

B: *hmm, to esi .. no esi .. esi O'tas vůbec má baterku*

A: 'it doesn't make sense on account of batteries, y'know'

B: 'uh-huh, it's **I-don't-think** .. well **I-don't-think** .. **I doubt** Otto even has any battery'

(2) A: *a von už má mezitím svou stranu, ne?*

B: *no já nevím, esi ještě nějak funguje vůbec*

A: 'and meantime he's got his own party, no?'

B: 'well I don't know if he's doing anything at all'

First results suggest that (1a) and (1b) differ in their intonational contours, but phonetic analysis also reveals unexpected facts about the embedded Y/N questions (2): when the main clause consists merely of *nevím* 'I don't know' (the frequent pattern), this syntactic structure splits into two distinct intonational patterns. The variants seem to correlate with simply stating lack of knowledge vs. expressing speaker's tentative stance toward the validity of the embedded

question.

The paper thus takes a step toward a more integrated analysis of the JESTLI patterns and proposes a way of approaching the phonetic nature of (in)subordination phenomena in general. The theoretical contribution consists in offering a basis for detecting and identifying sound patterns that might serve as systematic interpretive clues associated with specific syntactic patterns and for better understanding the diachronic paths in the development of insubordinate structures.

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## From Intonation to Meaning (Examples of Functional Words)

Functional grammar, the one based on (real) language usage, presenting the structure through the network of semantic relationships, can be best analyzed via functional words. Their symbolic and semantic features are deciphered in usage, speech, prosody. The grammar description of functional words (esp. particles and exclamations) is focused on the meaning component, while more complex meanings are realized in speech, at the suprasegmental level. Linguistic rules (framework) regarding their pronunciation have been determined by the speech community. The analysis of contemporary dictionaries and grammar books of the standard Croatian language has shown that the semantic framework of functional words covers a very small number of domains (language changes in the communication context have recently been ascribed their entries in normative handbooks), so this paper searches for the secondary domains of functional words in order to provide a more complete grammar and semantic description. There will be, thus, analyzed their semantics related to utterances from which all meanings are determined. These are not uniquely described in lexicographic handbooks, particularly when it is considered that the focus is on their semantics, while prosody is mostly (or completely) neglected although both are definitely interwoven in functional words (e.g. intonation is important for exclamations and leads to different meanings). Despite the fact that functional words (to be discussed here) are primarily used in the conversation discourse, they can be also found in “stronger” spoken discourse types.

This paper tries to provide solutions towards a more systematic description of such words in dictionaries and grammar books, the ones that are conditioned by prosody, after their different meanings and domains have been determined. Since intonation is still insufficiently and unsystematically described, the previous descriptions will be also questioned. For instance, *ne* (no) used to denote a negative meaning can have falling, rising and flat intonation; consequently, negative answers can be graded. Another example refers to the exclamation represented by the phoneme /o/ which can mean: ‘surprise (positive or negative)’, ‘disappointment’, ‘enthusiasm’, ‘sympathy’, ‘effeminacy’, ‘arrival greeting’, ‘disagreement’ (“Oh, this is not possible!”), ‘emotional or intellectual ennui’ (“Oh, don’t!”), “Oh, not again!”). The exclamation expressed by the phoneme sequence /ah/ can reveal the following meanings: ‘despise’, ‘surprise (positive or negative)’, ‘disappointment’, ‘physical or psychological pain’,

'consideration of something irrelevant or unworthy of attention'. Each of these meanings is constructed due to adequate intonation patterns.

The aim is to suggest a systematic approach to the description of meanings of (non-content) functional words in the standard Croatian language handbooks, based on the methodology of cognitive semantics. There will be used the semantic framework within cognitive linguistics research into a different category of non-content words (demonstratives), with regard to differences between fast and slow semantic processes (see Gärdenfors 2000; Gärdenfors and Brala-Vukanović 2017).

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## When neutral is not ordinary: Croatian verbs of speaking in special discourses

Verbs of speaking have a very special place in communication. These verbs contribute directly to the exchange of information between interlocutors and of what goes on in their minds: they enable us to talk about our thoughts, ideas, emotions, i.e. everything that belongs to our “inner world”. Due to their importance for describing the “mental space” they are very interesting for cognitive linguistic research.

In this study we focus on those verbs that encode verbal activity and belong to the semantic field (Trier 1934, in Lyons 1977, 253) of verbs of speaking. Although these verbs have been studied in Croatian from the cognitive linguistic perspective (e.g. Tuđman Vuković 2010), there are no comprehensive studies that would include all the Croatian verbs that belong to this semantic field. The verbs were excerpted from general dictionaries of the standard Croatian language and the hrWaC corpus. The next step consisted of creating a semantic network on the basis of which specific groups of verbs of speaking were identified.

The core group consists of ‘neutral’ verbs which are not marked for direction and do not express the manner of speaking and are present in all types of discourse. The remaining verbs indicate that the network develops in two major directions: ‘mutual verbs’ (verbs that imply the obligatory presence of at least two interlocutors) and ‘directed verbs’ (communication is directed towards an interlocutor) which are linked to the ‘neutral verbs’ via ‘transitional verbs’ (an interlocutor is not obligatory). The semantics of the ‘directed verbs’ indicate development in seven main directions: ‘manipulation’, ‘detrimental/nasty speech’, ‘small talk’, ‘sound prominence’, ‘query’, ‘positive’ and ‘negation of the action’. One of the groups consists of those verbs which are typical of special discourses (academic, publicist, business, artistic, sacral). Examples of such verbs include: *izjaviti* (‘to state’), *naglasiti* (‘to stress’), *ispovjediti* (‘to confess’), *recitirati* (‘to recite’), *zboriti* (‘to talk’), etc. We analyse their semantic contribution (i.e. specific traits) in relation to the other groups of verbs of speaking. Our aim is to describe their pragmatic roles and gain insight into the semantic and pragmatic principles that govern their use. Therefore, we will not only analyse them as markers that signal that a text belongs to one of the special discourses, but also as conveyors of meaning that can be described as a “neutral” meaning of the activity of speaking. It is this semantic “neutrality” that is

particularly interesting because this group of verbs that belong to special discourses significantly increases the total number of “neutral” verbs of speaking with its inventory – in everyday communication (the one that does not belong to special discourses) the number of such verbs is quite low and analysis has revealed that verbs with non-neutral meanings are more numerous.

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## *Is there truly a tool for any task? A cognitive linguistic look at the polysemy of -ač in Croatian*

The paper builds on fledgling cognitive linguistic studies (Brdar and Brdar Szabó 2008; Buljan 2015) of an otherwise underexplored topic in Croatian linguistics, *viz.* polysemy of derivational units. Problems with the latter start at the very level of terminology, with the same phenomenon referred to as polyfunctionality and/or multifunctionality (Luschützky and Reiner 2011), derivational polysemy, or polyvalence (Babić 1991). There is, however, a distinction between the terms, with multifunctional suffixes restricted to those that can be added to different word classes/bases, and polysemous suffixes being those able to perform more than one (semantic) function.

The present paper aims to provide a cognitively plausible description and semantic analysis of *-ač*, a suffix both polysemous and polyfunctional, as it is added to both verbal (*dodavač*) and nominal bases (*slatkač*). The suffix displays a wide network of meanings, with nouns in *-ač* referring to Agents (*hrkač, pljuvač, zaglupljivač*), an Instrument (*razgrtač, punjač, helkač*), those denoting either of the latter two (*usporivač, pritiskivač*), a muscle (*odmicač*) and other, more peripheral ones, to be isolated through the present analysis.

The analysis of the polysemy of *-ač* is done on a corpus of neologisms extracted through a survey and cross-comparison of two major monolingual dictionaries of Croatian (*Hrvatski enciklopedijski rječnik* (2004) and *Veliki rječnik hrvatskog standardnog jezika* (2015) based on a time span hypothesized to be sufficiently long for a significant number of target items to enter the lexicon. Currency of examples is ensured through their extraction from Croatian print and electronic media. The analysis will be supported by entries from older Croatian dictionaries to cater for the theoretically and methodologically indispensable diachronic perspective (cf. Buljan 2015).

The paper aims to provide a synchronic analysis of the polysemy of *-ač*, determining the directions of its semantic extensions. We hypothesize the following: 1. the extent of the semantic network of the suffix correlates with its productivity; 2. the diachronic meaning development of *-ač* has proceeded from the Agent to the tool sense, motivated by metonymy (cf. Brdar and Brdar Szabó 2008), implying that a noun denoting a tool crucially involves a corresponding noun denoting its user; 3. the synchronic rise in number of nouns on *-ač* denoting



both an Agent and an Instrument is rooted in language economy.

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## The Russian feminine paucal construction: stress and adjective agreement

A construction that has received considerable attention in Russian linguistics is the feminine paucal construction where a paucal numeral (*dve, tri, četyre*) is followed by an adjective in *-ye* or *-yx* and a feminine noun in *-y*:

- (1) Dve novyx kvartiry ‘two new apartments’
- (2) Dve novye kvartiry ‘two new apartments’

Recent research has shown that the variant in (2) with the adjective in *-ye* is in the process of outcompeting the alternative with *-yx* in (1) (Pereltsvaig 2010, Nessel submitted). Two questions arise: (a) which inflected form of the noun does *-y* represent, and (b) which inflected form of the adjective is the form in *-ye*? This study sheds new light on these questions based on corpus data from the accentological subcorpus of the Russian National Corpus.

With regard to question (a) about the noun in *-y*, two approaches are represented in the literature. The traditional “genitive hypothesis” holds that *-y* is a marker of genitive singular (Andersen 2006), but some scholars defend a “non-genitive hypothesis”, whereby *-y* represents a separate “numerative” case (Zaliznjak 1967), a paucal number (Corbett 1993), or – conceivably – the nominative plural. The genitive and the non-genitive hypotheses have different predictions about stress. If the genitive hypothesis is correct, we expect the same locus of stress as in the genitive singular (*strány*), whereas the non-genitive hypothesis predicts stress that differs from the genitive singular (*strány*). Analysis of corpus data indicates that most nouns favor the genitive singular form (*strány*), although there is some variation. I will present a Construction Grammar analysis that accommodates this variation in terms of overdifferentiated paradigms (Brown 2007), but also captures the generalization that the noun is normally in the genitive singular.

Question (b) about the adjective in *-ye* has received less attention in the literature. A conceivable hypothesis is that we are dealing with the nominative plural ending (as in, e.g., *evropejskie strany* ‘European countries’), but against this speaks the fact that in the paucal construction, the noun typically has the locus of stress characteristic of the genitive singular. Another possibility is that *-ye* is the marker of a numerative case or a paucal number, but this hypothesis would lead us to expect a locus of stress different from the genitive. As a third alternative I advance what I call the “gender hypothesis”, whereby *-ye* has become a marker of feminine gender, while being unmarked for case and number. I present diachronic evidence in favor of this hypothesis and demonstrate how it can be accommodated in Construction Grammar.

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## Premodification by adjectives in Croatian verbal idioms

Studies of idiom modifications in different European, including Slavic, languages (Langlotz 2006; Добровольский 2007) have shown that the insertion of premodifier adjectives is very common (e.g. *rock the political boat*; *нонать в жестокую переделку* ‘get into a tight corner’), and that two types of adjectives are added: those referring to the noun constituent, and those referring to the entire idiom. However, it is unclear which of the two prevail and why. The aim of this paper is to show that premodifiers in Croatian verbal idioms follow a pattern different from their use outside of idioms, which is a result of the constructional and metaphorical nature of idiomatic expressions.

In order to analyze adjective use in idiomatic and non-idiomatic constructions, we performed a study of 308 verbal idioms in the hrWac corpus, analyzing adjectives occurring in prenominal position, according to type (descriptor, classifier) and function in the idiom (stable constituent, open slot filler, additional element), and checked them against the most frequent adjectives in hrWaC.

In contrast to the general sample where descriptors prevail, the most common type of premodifiers in the idiom sample are classifiers. Descriptors occur only infrequently, as largely stable constituents that are part of an idiom’s conceptual core (e.g. *zeleno* ‘green’ in *dobiti zeleno svjetlo* ‘get a green light’). These are mainly predicating adjectives, in line with the literal, source domain meaning of the idiom. Classifiers occur most commonly as open slot fillers and additional elements. In open slots, they may be used to specify the participant that the idiom refers to (e.g. *hrvatski* ‘Croatian’ in *voda na hrvatski mlin* ‘grist for the Croatian mill’). When classifier adjectives are inserted as additional elements, they specify the target domain that the meaning of the idiom applies to (e.g. *kamen oko vrata* ‘burden’ > *politički kamen oko vrata* ‘political burden’). Classifiers may be attached to idioms which already contain adjectives (*dobiti europsko zeleno svjetlo* ‘get the European green light’), which does not happen with descriptors.

In all of these cases, classifiers may be analyzed as domain adjectives (Sullivan 2013), which signal the target domain that the idiomatic expression (referring to the source domain) should be applied to. On this analysis, it is the constructional and metaphorical nature of

idiomatic expressions that brings about a change in the distribution and usage patterns of premodifier adjectives in idioms.

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## Informativity of pronominal clitics in Croatian

We analyze the role of Croatian personal pronouns in the sentence information structure from the point of view of a representationally rich mental lexicon. Because of their idiosyncracies, it seems obvious to couch the analysis in the framework of Parallel Architecture (Jackendoff 1997, 2010), enabling the separation of phonological, syntactic and semantic properties of personal pronouns, while maintaining their coherence and interrelation in cognitive space.

Clitics and full forms generally participate in sentence information structure in either: 1) contexts in which long form is the only grammatical option (contrastive focus, coordinated structures), i.e., (*Mene je pozvao, a ja njega nisam.* vs. \**Me je pozvao, a ja njega nisam.* ‘He invited me, and I did not (invite) him.’ or *Sjeća se mene i mojih prijatelja.* vs. \**Sjeća se me i mojih prijatelja.* ‘He remembers me and my friends.’), or 2) contexts in which both long and clitic forms are grammatical, i.e., (*Reći će mi sve./ Meni će reći sve.* ‘He/She will tell me everything.’ *Dobro ga se sjećam. /Njega se dobro sjećam.* ‘I remember him well.’).

In order to test the hypothesis that clitics and so-called full forms differ not only in phonology, but also in semantics, we conducted two psycholinguistic experiments looking into grammaticality and semantic acceptability judgments of clitic and long forms in compatible and incompatible contexts. We use pronominal form and compatibility of a context as independent variables. We hypothesize the relationship between clitics and full forms to be one-to-one only in syntax, with gradient scale of acceptability for clitic and full forms in distinctive informational contexts.

We administered pen-and-paper and computer-based E-Prime reaction-time tests. Sentences were presented in six possible combinations.

No context	Compatible context	Incompatible context
<i>Brat me redovito posjećuje.</i>	<i>Brat me redovito posjećuje, a sestra skoro nikada.</i>	<i>Brat me redovito posjećuje, a ne sestru.</i>
<i>Brat mene redovito posjećuje.</i>	<i>Brat mene redovito posjećuje, a ne sestru.</i>	<i>Brat mene redovito posjećuje, a sestra skoro nikada.</i>

We establish the setting for differential mapping between the so-called full forms, usually seen as regular lexical items, and clitics, highly grammaticalized forms, within the sentence information structure. We present two important findings: 1) clitics and full forms enter the

conflict resolution model of sentence information structure as distinctive interface pieces of structure, and 2) relation between clitics and full forms, seen as integral interface pieces of structure, is not discrete, but rather gradient.

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## Free Word Associations and Serbian Children's Understanding of Abstract Nouns

The aim of this presentation is two-fold. First, I present to the public new children's free word association norms. Following, on the one hand, claims of Borghi et al. (2017) about the importance of research aimed at the acquisition of abstract concepts, and, on the other hand, Barsalou's (2016) proposition that, to further our understanding of abstract concepts, a few of them should be studied in depth, I have made free word association norms for 20 abstract nouns – spanning positive and negative emotions, physical and psychological traits and other abstract concepts. The nouns were selected amongst those that the children were familiar with and that during the pilot study elicited responses of interest from a developmental point of view: *anger, beauty, fear, future, goodness, happiness, hate, help, hope, injustice, jealousy, joy, life, love, peace, sadness, shame, solitude, soul, success*. The associations were elicited from Serbian schoolchildren, with over 700 subjects in each grade (in total: 5232). The large number of participants allows for the “saturation” of the associative semantic field that Karaulov et al. ask for in (as cited in Piper, Dragičević and Stefanović 2005). Since the data will be publicly available, they offer a rich source for future research on children's linguistic and cognitive development, especially whereas grounding of abstract concepts is concerned.

Second, the analysis of “strong” associative responses to the abstract nouns shows that categorization of those nouns is almost never taxonomic – neither in a vertical, nor in a horizontal manner (Geeraerts 2008, Medin, Lynch and Solomon 2000) – but rather thematic. The thematic connections are also significant for their grounding: in accordance with Barsalou's theories, the responses offer a situational frame for the initial words. The responses do not become, contrary to expectations, more abstract with age, and the abstract nouns examined do not seem to make a coherent group as far as their abstract nature is concerned, which aligns with Barsalou, Dutriaux and Scheepers (2018).

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## Hrvatski n-gramski sustav

Leksički n-gramski sustavi produkt su tzv. *big data* trenda u prirodnojezičnim tehnologijama: „više riječi, manje lingvističkog označavanja“, dobro iskazanog u članku Googleovih eksperata od prije deset godina (Halevy, Norvig and Pereira 2009). Premda nam je nepoznato koliko je taj trend prisutan u kognitivnoj lingvistici, polazeći od činjenice da se ona bavi funkcionalnim aspektima jezičnih pojavnosti, pretpostavili smo da bi priča o hrvatskom n-gramskom sustavu mogla biti zanimljiva slavistima, iako, moramo priznati, sami kroatisti za njega do sada nisu pokazali neko zanimanje.

Za razliku od inicijalnih Googleovih n-gramskih sustava (Brants and Franz 2006; Brants and Franz 2009; Kudo and Kazawa 2009; Liu, Yang and Lin 2010), koji svi počivaju na WaC (*Web as Corpus*) pristupu i učestalosti n-grama (*cut-off criteria*) kao polazištu za uvrštavanje n-grama u sustav, hrvatski n-gramski sustav ekstrahira n-grame iz tekstova koji pristižu hrvatskom mrežnom pravopisnom provjerniku <https://ispravi.me/> na obradu, pri čemu je kriterij za uvrštavanje n-grama u sustav leksički: svaki konstituent n-grama mora biti potvrđen od strane provjernika kao legitimna pojava u pisanju na hrvatskome. Skupljanje n-grama za temeljni hrvatski sustav ( $n = 1, \dots, 5$ ) započelo je sredinom 2007. godine, da bi od početka 2013. ono bilo nadopunjeno tzv. sustavom višega reda ( $n = 4, \dots, 7$ ). U tab. 1. i 2. dan je usporedni prikaz brojnosti n-grama u ovdje navedenim n-gramskim sustavima, s tim da je za hrvatski navedeno stanje dosegnuto 1. travnja 2019. Hrvatski sustav višega reda (tab. 2) usporediv je jedino s japanskim sustavom.

TABLICA 1: USPOREDBA BROJNOSTI N-GRAMA U TEMELJNIM SUSTAVIMA

	10 indoeurop. jezika korpus 1,3 Tpojavnica	Kineski korpus 883 Gpojavnica	Engleski korpus 1,025 Tpojavnica	Hrvatski korpus 7,2 Gpojavnica
1-grami	95.998.281	1.616.150	13.588.391	5.757.442
2-grami	646.439.858	281.107.315	314.843.401	265.171.603
3-grami	1.312.972.925	1.024.642.142	977.069.902	918.083.221
4-grami	1.396.154.236	1.348.990.533	1.313.818.354	1.390.001.665
5-grami	1.149.361.413	1.256.043.325	1.176.470.663	1 463.796.046

Ukupno	4.600.926.713	3.912.399.465	3.795.790.711	4.042.809.977
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TABLICA 2: USPOREDBA BROJNOSTI N-GRAMA U  
SUSTAVIMA VIŠEGA REDA

	Japanski korpus 255 Gpojavnica	Hrvatski korpus 6,1 Gpojavnica
4-grami	707.787.333	1.188.536.746
5-grami	776.378.943	1.240.731.650
6-grami	688.782.933	1.123.843.716
7-grami	570.204.252	969.956.875
Ukupno	2.743.153.461	4.523.068.987

U prezentaciji će biti prikazana brojnost hrvatskog n-gramskog sustava, kako temeljnoga tako i onoga višega reda, dosegnuta 1. listopada 2019., zakoni po kojima se ta brojnost mijenja, te primjeri dosadašnjih korištenja hrvatskog n-gramskog sustava u prirodnojezičnim obradama.

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## More on Ukraine and the Internet: Suffix Variation in Russian

In this study, we analyze the distribution of the suffix *-ovsk-* in standard and non-standard Russian, which from being an allomorph of the suffix *-sk-* (Townsend 1968; Švedova et al. 1980; Lopatin & Uluxanov 2016) seems to develop into an independent suffix with its own semantics. On the one hand, we observe the expansion of *-ovsk-* with the new borrowed elements in the language of the Internet (*internetovskij* ‘Internet’, *vipovskij* ‘VIP’). On the other hand, in non-standard Russian, there is a tendency to replace existing relational adjectives containing *-sk-* with the suffix *-ovsk-*, often with a derogatory sense, which leads to a variation like *ukrainskij – ukrainovskij* ‘Ukrainian’ (*xitryj ukrainovskij projekt* ‘sly Ukrainian project’ <https://vz.ru/news/2017/2/23/859339.html>).

We hypothesize that *-ovsk-* extends its distributional properties reflected in dictionaries through analogy (Blevins J. P. & Blevins J. 2009). In order to check how *-ovsk-* is distributed in standard Russian, we have extracted all such adjectives from Zaliznjak (1977) (259 lemmas) and manually tagged them for base, semantics, origin, and suffix variation. Lemmas taking *-ovsk-* show a rather high degree of variation with other relational suffixes (25%), the most frequent one being between *-ovsk-* and *-sk-* (15.8%). Another special characteristic of *-ovsk-* is the motivating stem: the majority of relational adjectives with *-ovsk-* are formed from proper nouns (147), the rest of the motivating bases being mostly abbreviations (65; in Zaliznjak 1977, only two relational adjectives with an abbreviation base are formed without *-ovsk-*).

Analogical processes extend the two groups mentioned above (proper names and abbreviations) in two different ways. Since *-ovsk-* forms relational adjectives from proper names that can entail a certain image (*gitlerovskij* (Hitler), *tolstovskij* (Tolstoy)), by analogy, ethnonyms that are evaluated or assigned certain connotations can take *-ovsk-* instead of *-sk-* in non-standard Russian. Note that adjectives like *ukrainovskij* are more likely to appear in informal political and social discussions (rather than in comments on the weather in Ukraine). The same tendency is attested for proper names that are used with *-sk-* in standard Russian: cf. *putinovskij* for *putinskij* ‘Putin’s’ and *stalinovskij* for *stalinskij* ‘Stalin’s’ (*izvestnyj putinovskij propagandist* ‘famous Putin’s advocate’ <https://hanibal-israel.livejournal.com/243579.html>,

*xitryj stalinovskij plan* ‘sly Stalin’s plan’ <https://www.yaplakal.com/forum7/st/325/topic1924448.html>). Moreover, the fact that *-ovsk-* is a frequent derivational marker for abbreviation bases can further attract new loan words like *internet* and *veb* to this pattern since many of such loan words have abstract semantics and can be compared to abbreviations.

Departing from our database of existing relational adjectives with *-ovsk-*, we analyze novel examples from the Internet and show which factors are relevant in the case of variation between *-sk-* and *-ovsk-*.

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## Development of phonological knowledge within phonological representation

Cognitive phonologists tend to describe the concept of phoneme theoretically, without addressing its content. However, scholars investigating development of reading skills discuss phonological representation - the construct containing various types of knowledge required for speech development. According to Sutherland (2006), phonological representation includes acoustic information containing phonemic and phonetic elements. Furthermore, detailed phonological representations also contain visual information such as lip movements. The content of phonological representations is also discussed by laboratory phonologists (Munson et al. 2005). They call it phonological knowledge and suggest the following structure: perceptual and articulatory representations, higher-order phonological knowledge and socioindexical information. The representations are interconnected and connected to lexical and semantic representations. However, the phonological knowledge, does not comprise the role of anatomical development in phonetic knowledge, and higher-order phonological knowledge does not include distinctive function of the phoneme. Rvachew and Bernhardt (2010) propose a model that is primarily focused on the phonological knowledge, but does not address the relationship between phonological, lexical and semantic representations. Their model came as a result of applying dynamic systems theory in clinical practice, and they claim that phonological representations consist of various types of knowledge interconnected and related according to the principles of the theory in question. The model of phoneme proposed here assumes that speech development relies on the following: the growth of lexicon, maturation of articulators (anatomical and motor development), and cognitive development evident in the skills pertaining to phonological processing. In addition to providing a detailed description of the model, the paper presents the results of a study related to the model we are proposing. The study included a sample of 600 (300 female and 300 male) participants aged 3-7, who were at different stages of speech development of the sound that was the focus of our interest: /r/. In terms of the order of speech sounds development in Croatian, the /r/ sound is last to develop. The aim of the study was to investigate development of phonological knowledge by establishing the interrelationships among the following: a) spontaneous speech production of the target sound, b) production based on repetition (which tends to occur approximately six months before

the spontaneous production due to stimulability), c) perception of the target sound, and d) phoneme awareness of the target sound. The central finding of the study was that the participants aged 3-4, who have not yet developed the spontaneous speech production of the target sound, are able to perceptually differentiate the sound if they can repeat the sound, which suggests development of new phonological knowledge, first observable in their speech perception.

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## VISA-FREE TRAVEL FOR UKRAINE as a narrative-based political concept in the Russian mainstream news media

This study, done from the standpoint of cognitive political linguistics, analyses narratives of the Russian mainstream news media focusing on the visa-free travel granted to Ukraine by the EU in 2017. As a narrative-based political concept (NBPC) (Жаботинская 2017), VISA-FREE TRAVEL FOR UKRAINE is structured with a cognitive ontology, or a hierarchy of thematic chunks. They are: domains as the major foci of an NBPC, parcels as the foci of the domains, and thematic quanta as the foci of the parcels. Thematic quanta generalize the meanings of empirical textual descriptions and build a “meta-narrative” – an umbrella story inferred from other stories to become an organizing narrative pattern. In this study, a cognitive ontology of the NBPC is used to expose its factual and attitudinal particulars created with verbal and visual means. The data come from six Russian mainstream e-news portals: 52 articles published 11–18 June and 12–16 July, 2017.

The analysis shows that the considered NBPC includes the actors VISA-FREE TRAVEL AGREEMENT, UKRAINE (Ukraine, Ukrainians, Ukrainian authorities, president Poroshenko), THE EU (the EU, EU officials, EU Member States, their leaders), and RUSSIA (Russia, president Putin). The cognitive ontology of the NBPC has four domains: (1) VISA-FREE TRAVEL AGREEMENT (VFTA), (2) VFTA – UKRAINE, (3) VFTA – THE EU, (4) VFTA – RUSSIA. Each domain contains parcels with their thematic quanta that generalize textual descriptions equating with a proposition. In 52 articles, these descriptions number 555. Among them, 287 are neutral, 241 are negative, and 27 are positive. The most salient factually are Domains (1) and (2) – 170 descriptions each. Domains (3) and (4) have 141 and 74 descriptions respectively. These numbers demonstrate importance of the corresponding topics for the e-news portals.

The paper discusses assessments given to the themes of each domain and to their actors, with the most negative actors being Ukraine (93 descriptions) and Ukrainian people (50). The paper also defines techniques employed to make a fact negative. Among these, the most used are mocking the fact (72 descriptions), pejoration of the fact (65), and rebuffing of the fact (22). The paper argues that the ways to make facts negative may dovetail with the cultural and



historical “memory” shared by Ukraine and Russia. A particular focus of discussion is negative visual memes that may be in consonance or dissonance with the verbal text. In the latter case, a picture makes a neutral text utterly negative.

This study implements Langacker’s (2008) ideas of construal and extends Goffman's (1974/1986) Framing Theory that considers frames as the forms of agenda-setting which both tell the public what to think about an event, and how to think about it.

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# Theme session

Old problem, new perspectives: the role of context in the choice of aspectual forms

## Old problem, new perspectives: the role of context in the choice of aspectual forms

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The session aims at bringing together researchers who are interested in usage-based, data-driven approaches to aspect. The goal of the panel is twofold: (1) to analyze to which extent the choice of aspectual forms can be predicted by context and (2) to define and operationalize the notion of ‘context’.

One of the most characteristic features of language is that it is not random but full of statistical regularities and patterns (Kilgarriff 2005). Language users are sensitive to the frequency of linguistic forms (Goldberg et al. 2004; Haspelmath 2008; Ellis 2012; Divjak and Cadwell-Harris 2015) and, even more importantly, to ‘context’, or what these forms appear with (e.g. Arnon and Clark 2011). The same applies to aspect: in a recent experimental study, Janda and Reynolds (in press) emphasize the importance of context for the analysis of aspect. The usage seems to form a continuum at one end of which aspect is fixed, or ‘anchored by context’, on the other, there are contexts where both forms are judged similarly, which means that speakers have more freedom and may use aspects to ‘manipulate the nuances of meaning’ (Janda and Reynolds in press: 28). The closer we get to the other end of the scale, the less constraint there is and the more freedom we have in how to construe and describe the situation.

This raises the following issues for discussion:

1. For the study of aspect, how can ‘context’ be operationalized and analyzed?
2. In which contexts is aspect tightly constrained and what makes aspectual variation possible?
3. How can data-driven research contribute to the analysis of aspectual patterns?

We hope that the panel will provide a chance to share insights gained from different perspectives and approaches to the same problem, as well as an opportunity for a meaningful discussion on the nature of aspect and context.

## Aspectual forms in generic contexts

**Main issue and data.** Genericity comprises (i) KIND REFERENCE which concern generalizations about kinds that do not distribute to their individual members (*Dodos are extinct*), and (ii) GENERIC CHARACTERIZING SENTENCES expressing generalizations over a set of individuals and/or situations (*Dogs bark, John smokes*), which may be true in the face of exceptions (barkless dog-breeds do not invalidate *Dogs bark*) (Krifka et al 1995).

The main goal is to explore the semantic properties of GENERIC CHARACTERIZING SENTENCES from the point of view of languages that have dedicated markers that systematically enforce a characterizing generic interpretation, but in which characterizing genericity may also be conveyed by forms that are unmarked for genericity. A paradigmatic example is Czech (West Slavic) (Dahl 1995). It has three forms that can be used for the expression of characterizing generic statements: (i) imperfective, simple (1a) or derived with the imperfective suffix; (ii) perfective, either simple or derived by means of one or more affixes (e.g. prefix in 1b)); and (iii) imperfective derived with the generic suffix, glossed with GEN, which only attaches to an imperfective base, either simple (1c) or derived with the imperfective suffix:

(1)

- |   |  |   |
|---|--|---|
| a. <i>Psi štěkají</i> <sup>IMPERF</sup> . | b. <i>Psi za.štěkají</i> <sup>PERF</sup> (na povel). | c. <i>Psi štěkávají</i> <sup>IMPERF</sup> . |
| dogs bark                                 | dogs PREF.bark (on command)                          | dogs bark.GEN                               |
| ‘Dogs bark.’                              | ‘Dogs bark (on command).’                            | ‘Dogs tend to bark / bark as a rule ...’    |

**Proposal.** Each of these three types of sentences encodes a different semantic type of GENERIC CHARACTERIZING statement, each exhibiting different contextual preferences for its use. ‘Context’ here comprises the linguistic material in a given sentence/utterance, the cognitive agent’s (A) general world knowledge and specific kind-related expectations, and the common ground of conversational participants. The overall outcome supports arguments made elsewhere (e.g., Boneh and Doron 2009, i.a.) that there are different semantic subtypes of characterizing genericity, and if correct, this outcome poses a challenge for a uniform semantic analysis of all GENERIC CHARACTERIZING SENTENCES.

A prototypical subtype of characterizing generics like *Dogs bark* (Dahl (1995) is in Czech most naturally expressed by formally unmarked imperfectives (1a). The key motivating factor for the use of generics formally marked with GEN (as in (1c)) is A’s epistemic stance to

exceptions to the expressed generalization: A signals that s/he **(i)** knows that *there are exceptions* to the generically predicated property, or that s/he **(ii)** is genuinely *ignorant about whether it has no exceptions*. **(i)** subsumes cases in which the formally marked generic is obligatory, because the sentence with the corresponding formally unmarked form is highly odd

**(X)**:

(2)

a. <i>Knihy</i>	<i>bývají</i>	<b>IMPERF</b>	<i>brožované.</i>	✓	b. <i>Knihy</i>	<i>jsou</i>	<b>IMPERF</b>	<i>brožované</i>	✗
books	are.	<b>GEN</b>	paperback		books	are		paperback	
'Books tend to be paperback.'					'Books are paperback.'				

Finally, perfective forms in generic statements (1b) are best used in contexts making explicit situations forming the basis of the generalization (e.g., on command) and in generics that express various rules and regulations (in the sense of Carlson 1995), and hence exclude exceptions, or express what is merely hypothetical.

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What does it mean when Japanese say *kachi-kiru* ('win'-COMPLETIVE) and when Russians say *porešat'* (DELIMITATIVE-'solve')?

Comparative studies show the universality of aspectual semantic properties as well as their language-specific realizations. The notion of limit or boundary is one of such. Moreover, in Russian it constitutes the marked grammeme of the perfective aspect. It is important to distinguish between the “strong” and “weak” notion of limit embedded in perfective semantics, which has been named differently, such as “completive” vs “perfective” (Bybee et al. 1994), “completive” vs “delimitative” (Plungyan 1998), “strong completive” vs “weak completive” (Knjazev 2007). It is said that “(strong) completive” (henceforth referred as just to “completive”) predominates in Russian (Knjazev 2007, Plungyan 2011), whereas in Japanese the delimitative reading of the simple perfective form is more typical (Ikegami 1985).

Along with the different prominence of perfective semantics in the languages in question, it is worth noting that not the prominent one, but the less typical type of perfective brings about a special pragmatic effect and lends various modal shades of meaning to the action of the verb. Referring to a Russian bureaucratic phrase *My porešaem etot vopros* (DELIMITATIVE 'solve'), Remchukova (2010) notes that the use of delimitative *porešat'* instead of canonical *rešit'* 'solve' expresses not so much the speaker's unwillingness to deal with the problem, as his unwillingness to take responsibility for the “unclear” result. Such contextual, pragmatic demonstration of the notion of limit is also found in Japanese, but in the different direction. Japanese perfective is typically delimitative, and therefore to emphasize the real attainment of limit of the action, a speaker tends to use verbal compounds with subsequent verbs contributing a clear completive element to the action of main verb. A compound verb *kachi-kiru* 'win'-COMPLETIVE, widely used among athletes and sports reporters, is an interesting example, since the completive element *-kiru* is attached to the achievement verb *katsu* 'win', which lexicalizes the resultant state, and adding it seems obviously redundant. According to the context in which they are used, delimitatives in Russian and completives in Japanese express the speaker's specific attitude toward the situation by utilizing the notion of limit.

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## Aspect in Sequence

Selecting a perfective or an imperfective verb presents a challenge for non-native speakers of Russian. Descriptive grammars list various lexical “triggers” that indicate that only one aspect is available (e.g. *uže* triggers the perfective (PF), whereas *vsegda* – the imperfective (IPF)). Although lexical triggers predict aspect with fairly good reliability (96%), they appear in association with only 2% of verbs in corpus language samples (Reynolds 2016). Since additional factors are clearly needed, we investigate the relationship between aspect and sentence complexity (the number of verbs, subjects, and the presence or absence of coordinating conjunctions), hypothesizing that this contextual factor helps predict the choice of aspect.

We test this hypothesis through two quantitative studies of Russian past narrative sequences: a study with a small distance between the verbs, run on the disambiguated modern subcorpus of the Russian National Corpus, and a study of all past narrative sequences extracted from the Syntactic Corpus of Russian (SynTagRus). Based on the observation made by Stunová (1993), it is assumed that IPFs very rarely appear in Russian narrative sequences. Unlike previous analyses that are limited to specific sequences containing IPFs (Zorichina-Nilsson 2014), the goal of this study is to discover the basic patterns that underlie the distribution of aspectual forms in Russian coordinating sentences.

In the first study, we manually tagged the contexts for: the number of verbs and aspect, conjunctions, and the number of subjects. The predictions were that IPFs would be highly infrequent and would rather appear in sequences with two verbs (since these are likely to express simultaneity, cf. Xrakovskij 2009). The results show that IPFs in Russian narrative sequences are rather rare (24 out of 210 sentences) but are more likely to appear in longer sequences. In the sequences with two verbs, whenever IPF is present it is the last verb in the sequence, bearing the semantic tags ‘existence’, ‘location’ or ‘perception’ (*Zdes’ i rodilsja-PF, zdes’ prožival-IPF Arkadij Lukjanovič*). For sequences with three verbs, IPFs that appear usually stand first introducing a contrast (*Šel-IPF on po ulice <...>, upal-PF i umer-PF*), whereas in longer sequences the position of IPF is not specified. The latter sequences usually enumerate various actions of a person over a long time span. Thus, this study suggests that there is an interaction between the distribution of verbs in coordination and semantics.

The second study will test the acquired results on sequences with a larger interval between verbs. From a cognitive perspective, the two studies allow us to investigate which coordinating



sequences represent independent constructions and how the distance between their elements (verbs and subjects) affects aspectual choice.

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## Aspectual choice in idiomatic context

Much has been written about how context predicts aspectual form: Eckhoff et al. (2017) argue that genre well predicts verbal aspect; in Janda and Reynolds (2018) it is confirmed that aspectual choice demonstrates clear constructional preferences. In this paper, closer context is considered: Is the aspect of individual verbs predictable in idioms? The theoretical framework of this investigation is the constructionist approach (Goldberg, 1995; Croft 2001 *inter alia*).

When dealing with idiomatic items, some researchers found that regularity weakens, whereas more idiosyncratic properties increase (e.g. Goldberg 1995). However, other investigations (e.g. Tronenko 2003) claim that morphosyntactic features may remain regular. In this study, I investigate to what extent aspectual choice is restricted in idiomatic context. To achieve this, a Russian-English dictionary of idioms by S. Lubensky (2013) is taken as the source of data. This is the only dictionary for Russian that provides a grammatical description for each entry, for example:

**БРАТЬ/ВЗЯТЬ НА РА́ПА** кого highly coll [VP; subj: human; **often neg pfv fut, gener. 2nd pers sing не возьмёшь**] to (try to) get sth. from s.o., make s.o. do as one wishes by telling him sth. deceitful (and getting him to act before he has had time to realize he is being tricked),

where, grammatical information, highlighted in bold in the example, is included in the entry.

Based on this source, a list of verbal idioms is extracted, and two metrics are applied to the list. First, all idioms are ranked according to standard measures, which characterize the co-occurrence strength of multi-word expressions (Kopotev et al 2017). Second, the RNC-based distribution of both aspects for the head verbs is calculated in an idiom (restricted usage) and across the entire corpus (unrestricted usage). To give an example, Table 1 demonstrates a clear correlation between LL values and the aspectual choice: the larger the LL value, the lower the Imperfective/Perfective ratio in the idioms, and the more outstanding it is compared to unrestricted usage across the corpus.

idiom	translation	Loglikelihood (LL)	Imp/ Pf ratio (restricted usage)	Imp/ Pf ratio (unrestricted usage)
сдать/сдавать в архив	'to dismiss for some activity'	122	24/130= <b>0.19</b>	6706 /12026= <b>0.56</b>

разрядить/разряжать атмосферу	'to alleviate anxiety in a situation'	218	2/30= <b>0.07</b>	175/1031= <b>0.17</b>
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The data proves the hypothesis under investigation: the greater the co-occurrence strength, the more salient is the aspectual choice.

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## Abstract vs concrete: modelling aspectual choice in Polish

Traditional approaches treat aspect as a binary category, and much of the work has been dedicated to establishing the invariant meaning of perfectives and imperfectives. Although these approaches have been criticized (e.g. Janda 2004), the purported lack of usefulness of abstract semantic distinctions remains to be demonstrated empirically. This study aims to fill this gap, using a combination of corpus-based work and computational simulations.

We selected 18 verbs which differ in how frequent their aspectual counterpart is. For each of these verbs, 100 sentences were extracted from the Polish Araneum corpus (Benko 2014), along with six preceding sentences. This sample of 1800 discourse chunks was annotated for 30 variables that describe the context to create distributional Behavioral Profiles (BPs) of the verbs (Divjak and Gries 2006). In addition, we annotated for the 7 most commonly used semantic abstractions (e.g. boundedness, totality). Regression models are fitted to the data to evaluate the predictability of both aspect (given the BPs and the semantic distinctions) and the semantic abstractions (given the BPs). Secondly, following (Milin et al. 2017a), a Naive Discriminative Learner model (e.g. Milin et al. 2017b) is trained to predict verbs from contextual variables, using BPs, as well as from raw co-occurrence data alone.

These approaches allow to assess the usefulness of distinctions made in literature in three ways. First, we determine whether it is possible to acquire semantic abstractions on the basis of the information available to learners in usage. Next, we test the predictive power of the abstract semantic abstractions for predicting aspect. Finally, we compare the performance of models which use semantic abstractions to that of a model which relies only on the co-occurrence of verb forms and contextual cues.

Our pilot data show that while no meaningful predictions can be made on the basis of the abstract labels, the naive learning models based on BPs achieve accuracy of up to 73%. We argue that the performance of such models forces us to reflect on the relevance of traditional linguistic distinctions for language cognition and points us towards a usage-based explanation of aspectual choice, which necessarily takes the larger context into account.

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