

National Research University Higher School of Economics

as a manuscript

Tatiana Reznikova

**NON-STANDARD SEMANTIC SHIFTS
IN A TYPOLOGICAL PERSPECTIVE**

Dissertation Summary
for the purpose of obtaining academic degree
Doctor of Science in Philology and Linguistics

Moscow 2023

The dissertation was prepared at the National Research University “Higher School of Economics.”

Publications

Nine publications were selected for the defense:

1. Pechnikova V. M., Reznikova T. I. *Čistaja* tipologija: o leksikalizaciji semantiki čistoty v slavjanskix jazykax [Pure typology: on the lexicalization of ‘clean’ and ‘pure’ in Slavic languages]. *Slavistična Revija*, 2021, Vol. 69 (1). Pp. 103-120.
2. Rakhilina E. V., Reznikova T. I. Frejmovyj podxod k leksičeskoj tipologii [Frame approach to lexical typology]. *Voprosy jazykoznanija*, 2013, 2. Pp. 3-31.
3. Rakhilina E. V., Reznikova T. I., Ryzhova D. A. Tipologija metafor padenija [The metaphors of falling]. *Acta Linguistica Petropolitana. Transactions of the Institute for Linguistic Studies*, 2020, Vol. XVI (1). Pp. 64-112.
4. Reznikova T. I. Glagoly prjataniya: tipologija sistem [Verbs of hiding: A typology of systems]. *Voprosy jazykoznanija*, 2022, 4. Pp. 66-94.
5. Reznikova T. I., Merdanova S. R. *Kak jazyku obojtis’ bez glagolov padenija*: semantičeskoe pole nekontroliruemogo peremeščenija vniz v agul’skom jazyke [Doing without verbs of falling: the semantic domain of uncontrolled downward motion in Aghul]. *Acta Linguistica Petropolitana. Transactions of the Institute for Linguistic Studies*, 2020, Vol. XVI (1). Pp. 757-785.
6. Reznikova T. I., Rakhilina E. V., Ryzhova D. A. Glagoly padenija v jazykax mira: frejmy, parametry i tipy system [Verbs of falling in the languages of the world: frames, parameters, and types of the systems]. *Acta Linguistica Petropolitana. Transactions of the Institute for Linguistic Studies*, 2020, Vol. XVI (1). Pp. 9-63.
7. Plungian V., Rakhilina E. V., Reznikova T. Perfective, performative and present: Some non-standard combinations in Slavic and beyond. *Russian Journal of Linguistics*, 2022, Vol. 26, No. 4. Pp. 1012-1030
8. Reznikova T., Rakhilina E. V., Bonch-Osmolovskaya A. A. Towards a typology of pain predicates. *Linguistics*, 2012, Vol. 50, No. 3, Pp. 421-465.
9. Sherstyuk A., Reznikova T. Semantic Continuity in a Cross-Linguistic Perspective: Evidence from Slavic Verbs of Pulling and Pushing. *Jezikoslovni Zapiski*, 2022, Vol. 28, No. 1. Pp. 55-67.

The results of the present study have also been presented in the following papers:

10. Rakhilina E. V., Reznikova T. I., Borodina M. A. «Taman’ segodnja»: korpusnoe issledovanie russkogo jazyka XIX veka [“Taman today”: corpus research on XIXth century’s Russian language]. *Transactions of the Vinogradov Russian Language Institute*, 2016, No. 10. Pp. 242-255.
11. Reznikova T. I. O razvitii abstraktnoj semantiki: glagoly ‘delat’ v diaxroničeskoj perspektive [On the development of an abstract meaning: Verbs of doing and making in a diachronic perspective]. *Izvestija Rossijskoj Akademii nauk. Serija literatury i jazyka*, 2022, vol. 81, No. 5. Pp. 48-56.
12. Reznikova T. I. Korpusa slavjanskix jazykov v internete: Obzor resursov [Russian Corpora on the Internet]. *Welt der Slaven*, 2008, LIII. Pp. 10-38.
13. Reznikova T. I., Bonch-Osmolovskaya A.A., Rakhilina E. V. Glagoly boli v svete Grammatiki konstrukcij . *Naučno-tehničeskaja informacija Serija 2. Informacionnye processy i sistemy*, 2008, No. 4. Pp. 7-15.
14. Sherstyuk A. Yu., Reznikova T. I. O semantičeskoj nepreryvnosti: pole ‘tolkat’ v slavjanskix jazykax. *Izvestija Rossijskoj Akademii nauk. Serija literatury i jazyka*, 2021, vol. 80, No. 5. Pp. 21-33.
15. Rakhilina E., Reznikova T., Shemanaeva O. Dealing with Polysemy in Russian National Corpus: the Case of Adjectives. In P. Bosch, D. Gabelaia, J. Lang (eds.), *Logic, Language, and Computation. LNCS, LNAI*, vol. 5422. Berlin, Heidelberg: Springer-Verlag, 2009. Pp. 69-79.
16. Bonch-Osmolovskaya A., Rakhilina E., Reznikova T. Conceptualization of Pain: a Database for Lexical Typology // In P. Bosch, D. Gabelaia, J. Lang (eds.), *Logic, Language, and Computation. LNCS, LNAI*, vol. 5422. Berlin, Heidelberg: Springer-Verlag, 2009. Pp. 110-123.

The main results and conclusions of the present study have been presented in 2010-2022 at 37 international and national conferences, including:

- Sixth International Conference on Construction Grammar (ICCG-6), Prague, 2010.
- Tenth Annual Conference of the Slavic Cognitive Linguistics Association (SCLC-2010), Brown University, 2010.
- Sixth Annual Meeting of the Slavic Linguistics Society, Aix-en-Provence, 2011.
- 11th International Cognitive Linguistics Conference (ICLC 11), Xi'an, 2011.
- International Conference On Computational Linguistics and Intellectual Technologies Dialogue-2011, 2012, Bekasovo.
- Fifth International Conference on Cognitive Science, Kaliningrad, 2012.
- III Coloquio internacional sobre tipología léxica (LEXT-III), Granada, 2012.
- 10th Conference of the Association for Linguistic Typology (ALT-10), Leipzig, 2013.
- The Conference on cognitive semantics and lexical typology, Helsinki, 2014.
- 13th International Cognitive Linguistics Conference (ICLC13), Newcastle, 2015
- International Workshop “Neglected Aspects of Motion Event Description”, Paris, 2017.
- 14th International Cognitive Linguistics Conference (ICLC14). Tartu, 2017.
- International Workshop “Verbs of falling in languages of the world”, Stockholm, 2019.
- 13th Conference of the Association for Linguistic Typology (ALT-13), Pavia, 2019.
- International Workshop on Lexical Typology, Helsinki, 2020.
- National Congress on Cognitive Research, Artificial Intelligence and Neuroinformatics (CAICS 2020). Online, 2020.
- The conference on Corpus technologies and computer science in humanities (ConCort-2022), Nizhnij Novgorod.

Several research projects related to this dissertation were supported with grants by Russian research funds:

- 2020–2022 «The problem of semantic continuity in the lexical typological aspect» (Russian Foundation for Basic Research, grant No. 20-012-00240);
- 2017–2019 «Comprehensive lexical typological study of falling and related concepts» (Russian Foundation for Basic Research, grant No. 17-06-00184);
- 2014–2016 «Scientific web portal on qualities: physical properties in the languages of the world (Russian Foundation for Basic Research, grant No. 14-06-00343);
- 2014–2015 Scientific and educational group «Lexical typological studies (the scientific fund grant of the National Research University Higher School of Economics);
- 2011–2013 «Typologically Oriented Database: Lexical Organization of Qualities» (Russian Foundation for Basic Research, grant No. 11-06-00385-a).

1. Introduction

Theoretical semantics usually focuses on the two kinds of figurative meanings – metaphor and metonymy – which are traditionally opposed in terms of similarity-based vs. contiguity-based shifts, respectively. The cognitive paradigm, which largely formed the basis of the contemporary approach to metaphor and metonymy (cf., for example, the works of G. Lakoff, Z. Kövecses, and W. Croft, among the others), has elaborated on this juxtaposition: metaphor is thus understood as a shift across the boundaries of the semantic field (i.e. the secondary meaning belongs to some other semantic field than the original meaning), whereas metonymy occurs within one semantic field.

The research articles comprising the present thesis are devoted to the semantic shifts which deviate from the models above. As a matter of fact, it is quite obvious to researchers of the history of words that far from every process in the semantic evolution of lexis can be reduced to metaphor or metonymy. The changes in the meaning can be conditioned by factors of an extremely varied nature, such as phonetic similarity to another word, the influence of a borrowed word, changes in social and individual practices, culturally significant associations, and the like. However, typically all of these occur sporadically: they may be not uninteresting when describing the diachrony of individual lexemes, but are of marginal interest to the overall semantic theory.

Meanwhile, purely semantic processes may also result in meanings which do not fit into the metaphoric and metonymic canon. Indeed, the classifications of semantic shifts since as early as mid-19th century (see, for example, Paul 1880, Darmesteter 1887, Bréal 1899) have repeatedly mentioned other types of shifts along metaphor and metonymy – namely, extension (generalization) and narrowing (specialization) of meaning. Later studies suggested yet more fine-grained classifications; thus, they defined conversion, shifts between co-hyponyms, development of evaluative meanings, etc., as stand-alone types – cf. the most comprehensive classifications in (Blank 1999) and (Apresyan et al. 2019). Interestingly though, these ‘extra’ shifts have not enjoyed much research attention in terms of the ‘mechanics’ of the shift. In effect, while metaphor and metonymy have given rise to a multitude of theoretical constructs which model them (cf. Lakoff & Johnson 1980, Fauconnier & Turner 1998, Peirsman & Geeraerts 2006, Paducheva 2004), the other types of shifts, such as generalization or specialization, have remained beyond the scope of analysis in terms of the underlying semantic processes; instead, only the original and the resultant meanings of the lexeme have been examined.

Such theoretical ‘disparity’ might be accounted for by several reasons. First of all, note the striking contrast between the numberless examples of metaphor and metonymy and their regular models which are found in research of all stripes, and the extreme paucity of instances of the other shifts. Specifically, the processes of extension and narrowing of meaning, which occur in the general classifications more often than the other ‘extra’ shifts, are commonly illustrated by a narrow range of examples, primarily ones bearing on biological taxonomies, as well as other concrete nouns – cf. the perpetual discussions of narrowing, as exemplified by English *deer* ‘any wild animal’ → ‘specific animal’, English *hound* ‘dog (of any breed)’ → ‘dog of a specific breed’, English *meat* ‘food, in general’ → ‘specific food’, and of extension, as illustrated in German *Tier* ‘wild animal’ → ‘any animal’, English *dog* ‘dog of a specific breed’ → ‘dog (of any breed)’.

On the one hand, the meager scope of the illustrative material is rather understandable, since generalization and specialization, in their classical sense, suggest a shift up or down the taxonomic tree, correspondingly – and concrete nouns vocabulary, specifically the terms of biological genera and species, is where the relations of hyponymy and hyperonymy are most evident. On the other hand, the fact of the material being so limited seems to confidently suggest that the processes under consideration are indeed peripheral, so that the pre-eminence of metaphor and metonymy in the research on the mechanisms of semantic shifts seems to be commensurate with their dominant role among the processes of semantic derivation. Meanwhile, if one is to understand extension and narrowing as respective addition or loss of semantic components (cf. the similar approach in [Apresyan et al. 2019]), then the scope of phenomena embraced by these shifts is certain to be much wider; yet, their magnitude could be measured only upon conducting massive non-exclusive description of all the possible semantic shifts on a large body of language data.

Secondly, the heightened attention to metaphor and metonymy may stem from the specific view on the nature of semantic shifts. Whereas some classifications, as mentioned above, regard metaphor and metonymy on a par with extension, narrowing, conversion, etc., the others divide them into two classes, the first one including metaphor and metonymy, which are recognized to be the mechanisms of semantic shift, and the second class comprised of generalization, specialization, and the change of evaluative semantics, which are seen as results of semantic shift (cf., for instance, [Ullmann 1967]). In this approach, the variety

of types distinguished by existing classification is merely the result of the varying proportions of the original and the resulting meanings, and the variety itself arises from the well-known metaphoric and metonymic processes; therefore, it stands to reason that it is metaphor and metonymy that are in the limelight of research on semantic derivation in the dynamic perspective.

On the whole, such division between the process and the result seems to be quite disputable, as it is not quite clear whether extension or narrowing of meaning could be explained by means of the standard mechanisms of metaphor or metonymy. Nevertheless, some of the types of shifts listed in such classifications indeed fit the canon – as does, for example, conversion; this shift (at least in the view of V.Yu. Apresyan and her colleagues [Apresyan et al. 2019], cf. their example *vymenjat' svoe novoe plat'e na tufli / vymenjat' plat'e na svoi novye tufli* 'to exchange one's new dress for shoes / to exchange the dress for one's new shoes') confidently complies with the view of metonymy as a shift in the focus of attention, see [Paducheva 2003].

Yet other factors might have been at play which have led to the privileged status of metaphor and metonymy, the situation in which the shifts whose result is neither metaphoric nor metonymic reinterpretation of the original meaning are confined to the periphery of contemporary research on semantic derivation, while the title of basic and regular shifts has been firmly granted to metaphor and metonymy. With this status quo in mind, in the present work we will apply the term 'non-standard' to the shifts that cannot be reduced to either of the two basic semantic mechanisms.

The problem of non-standard shifts has been actively discussed in theoretical literature in the few past decades, starting with [Goossens 1990], yet in regard to only one class of shifts. Remarkably, this is the class which is, again, related to metaphor and metonymy; here, the non-standard character of the shift is the outcome of the combination of the two basic mechanisms of shift – cf. Goossens' term 'metaphonymy', or the discussion of remetonymization of metaphor in [Riemer 2002], or the metonymically motivated metaphors and metaphorically motivated metonymies in [Barcelona 2000]. What is important, however, is the fact that such transformations, firstly, imply successive action (in either order) of metaphor and metonymy, i.e. the process involves an intermediate stage, in which the advanced shift is preceded by a mere metaphor or a mere metonymy. In the meantime, as far as we can judge, sequential shifts are not the only ones where metaphor and metonymy act jointly. Secondly, such composite shifts are typically illustrated with the English lexicalized phrasemes (cf. *to beat one's breast, to catch someone's ear*), the kind of expressions which, as a rule, are language- and culture-specific (see [Dobrovolskij, Piirainen 2005]), i.e. which are exceptions, to a certain extent.

Describing non-standard shifts systematically seems to require not handpicked illustrative examples which suite preconceived classifications, but rather the opposite – moving from language data towards distinguishing the types that challenge the classical models of metaphoric or metonymic shifts. In other words, as noted above, it is necessary to conduct a research of exhaustive coverage on a large-scale set of data. It is precisely this approach that is presented in the research articles comprising the present thesis. We analyze shifts in several semantic fields – verbs of falling and hiding, a subclass of verbs of caused motion ('pull' and 'push'), predicates of pain, and adjectives denoting cleanliness – and analyze their mechanisms in relation to the canonical views on the standard shifts; moreover, we identify the parameters in which this or that shift departs from the canon. In doing so, in order to differentiate occasional shifts from regular ones, we address typological data; thus, models attested cross-linguistically corroborate the systemic character of our observations.

Therefore, the present research **aims** to describe the shifts which do not comply with the classical schemas and, at the same time, are motivated by productive semantic mechanisms. The productivity is corroborated by the typological recurrence of the models.

The domain of lexical typology is much more recent than the cross-linguistic studies of grammar or phonetics. Lexical typology saw its most active development in the past two decades, when the scope of analysis has expanded – from the early foci such as the fields of color, body parts and kinship terms – towards a wide array of semantic fields. The attention of lexical typologists is primarily drawn to the principles of categorization of extra-linguistic reality, i.e. how the objects and phenomena of the surrounding world are 'distributed' across the lexemes in different languages (see the works of A. Majid, S. Levinson, and other representatives of the psycholinguistic school, which is the most influential in international lexico-typological research). The primary focus of this approach is on the 'external boundaries' of the applicability of words, i.e., which set of extra-linguistic conditions allow one lexeme, and which will require a different one. On the contrary, the scope of examination normally excludes the internal semantic structure of the word, i.e., the mechanisms that promote the situations to converge in one lexeme in one language, and to diverge into different words in the other. A prominent example of the latter

approach is the CLICS database, the largest collection of colexifications which records convergences of meanings but does not consider the processes which have led to these convergences (Rzymiski et al. 2020; on the term ‘colexification’ also see François 2008).

The nine papers included into the present thesis may be divided into the introductory part and the two blocks devoted to non-standard metaphoric and metonymic shifts, respectively. The introductory part (see Section 2) established the general methodological framework of the study: it examines the essence of the frame-based approach to lexical typology and discusses the significance of frames for the typological analysis of semantic shifts. The papers presented in the metaphor-related part (Section 3) scrutinize several types of lexical data (namely, the verbs of falling and predicates of pain, see 3.1-3.2) to explore the shifts that resemble metaphor in some of the aspects (specifically, in each of the instances under analysis the primary and the secondary meanings belong to different semantic fields), yet they do not fit into the standard view on metaphor as a metaphoric mapping between two domains. As a rule, the mapping is distorted when the implicatures present in the original meanings are conventionalized, or when the constructional properties of the lexemes participating in the semantic shift undergo changes. The metaphor-related part of the thesis is further extended by the study in which the shift affects the pragmatic meaning of the verb rather than lexical one (Section 3.3): here, as well, the decisive factor behind the shift is the properties of the constructions that constitute the environment of the lexeme. The papers presented in the metonymy-related part of the thesis (Section 4) look at the evidence provided by the adjectives from the semantic field ‘clean’ as well as the verbs of caused motion, falling and hiding to analyze the shifts which, just as the classical metonymy, are based on contiguity of two meanings; however, this contiguity – as opposed to the standard view on metonymy – occurs not within one semantic field, but rather across two distinctly different fields. This contradiction offers new insights into the conventional definition of semantic field and redefines the scope of research agenda for exploration of the structure of semantic space.

The present work has resulted in the following propositions which are submitted for the defense:

- 1) Massive non-exclusive analysis of lexical data, as opposed to selective examination of fitting illustrative examples, clearly shows that, along with the two standard types of semantic shifts – metaphor and metonymy – other productive mechanisms of meaning change are at work in language.
- 2) The productivity of these mechanisms is evidenced by their recurrence, both within individual languages and typologically, across languages.
- 3) The mechanism of metaphor may be complicated by conventionalization of the implicature embedded into the lexeme’s original meaning. Therefore, such processes are found not only in the course of grammaticalization, which is conventionally discussed in relation to implicatures, but also within the shifts that do not reach beyond the lexical level.
- 4) Non-standard metaphors are often accompanied by changes in the construction properties of lexemes, when the derivative meaning undergoes “adjustment” to the grammatical behavior of the nuclear lexemes of its recipient “host” field.
- 5) Metonymic relations may be established between meanings belonging to different semantic fields. From the typological perspective, this means that a situation which in one language is denoted by a lexeme from a certain field, in another language may be covered by a word from a different field.
- 6) Semantic fields are not closed sets with solid boundaries, as was suggested by the classical theory of semantic field. Rather, fields to a large extent tend to overlap, thus blurring the borderlines. The typological approach proves itself to be an effective tool for indicating such overlaps and, consequently, for understanding the organization and the inner workings of semantic space.

2. Frame-based approach to lexical typology

Paper selected for the defense: [Rakhilina, Reznikova 2013]

Our typological analysis of semantic shifts follows the frame-based approach, since it, unlike the other established methods of cross-language lexical analysis – such as the psycholinguistic school (e.g., see [Majid, Bowerman (eds.) 2007; Kopecka, Narasimhan (eds.) 2012]) and the natural semantic metalanguage (see Goddard, Wierzbicka 2007) – is suitable for examining the shifts between meanings.

Studying them is ultimately made possible via the method of co-occurrence analysis, which is realized within the frame-based approach. In this regard, its ideology draws on the tradition of lexico-semantic analysis developed within the Moscow Semantic School [Apresyan 1974, Apresyan et al. 1979,

NEDS 2004]. The Moscow Semantic School is known for its vast research on quasisynonymy, when the finest semantic distinctions between words with similar meanings are revealed via their co-occurrence patterns. The procedure aims to find the contexts in which the words in question are not mutually interchangeable; these differences are indicative of the semantic distinctions between quasisynonyms.

In typology, quasisynonyms may be paralleled with translation equivalents: by comparing the contexts in which they occur, we, too, can establish the cases in which not all of them are felicitous; the identified differences lay the groundwork for the typology. Thus, corpus analysis of lexemes constituting the semantic field under analysis forms an integral part of a frame-based typological study. Moreover, the lexemes occur in the corpus both in direct and figurative meanings, so the analysis of polysemy and its cross-linguistically recurrent models quite naturally integrates into the design of a frame-based research.

The psycholinguistic school, on the contrary, typically does not take polysemy into consideration – largely due to the fact that the procedure of collecting language data (i.e., recording the reactions of native speakers to extralinguistic stimuli, such as images, videos, etc.) is not intended to examine word usage beyond the targeted semantic field. In fact, when an informant is exposed to a video where a person tears apart a piece of cloth, the researcher is predominantly interested in finding out the lexeme which will describe this situation, and whether this lexeme may be applicable to any other situations from the experimental video set. In doing so, the experimenter is not so much concerned as to whether the lexeme in question occurs in such contexts in its direct or figurative meanings; what matters is its applicability to one or another situation from the predefined set of stimuli.

So, corpus analysis in frame-based approach offers a natural instrument for research of semantic shifts. As distinguished from stimuli-induced data collection, corpus not only reflects the frequency of the lexeme in the set of contexts, but also allows capturing all (or, at least, the most frequent) types of its usage. In a frame-based study, such analysis is applied to each lexeme of the field in question, in every language of the sample, wherever a corpus is available. Meanwhile, it seems that this task could be addressed in a less laborious fashion: since meanings of lexemes are described in explanatory dictionaries, and the submeanings of polysemous words are delineated, the analysis of the links between the submeanings could be approached immediately, with no prior corpus study. In effect, such an approach is implemented in a number of projects.

Thus, dictionary data constitute the basis of the CLICS database; dictionaries also serve as a major source of data for the Catalogue of Semantic Shifts, a project led by Anna A. Zalizniak (Zalizniak et al. 2012). Yet, neither of these projects is intended to classify shifts; rather, they aim to describe the possible models of the convergence of meanings. Whereas CLICS deals with synchronous data, the Catalogue of Semantic Shifts also takes a diachronic perspective: along with synchronous polysemy, it records the diachronic evolution of meanings, the semantic relations between cognates, and the transformations experienced by a lexeme during morphological derivation or when borrowed into a different language. What is important for us, however, is that in both of these resources, the transitions serve to connect the lexicographic meanings of the units under analysis.

Our approach differs from the resources above in that it suggests a different starting point for studying shifts. According to us, the origins of shifts lie not in one of the word's meanings, but rather in a frame; and this is where we arrive at the concept that is central to our lexico-typological method. Frames are understood as basic situations which on a regular basis are juxtaposed through lexical means in natural languages. Thus, the field of aquamotion differentiates between active swimming, the drifting of an inanimate object with a stream of water, floating on water surface, and the motion of vessels or by means of vessels [Maisak, Rakhilina (eds.) 2007]. The field of oscillation contains multiple frames, i.e. pendant-like motion (e.g., of a pendulum), the motion of a rocking chair, of an object attached to a base (e.g., of a tree in the wind), due to deformation (e.g., of an old bridge), the motion of ripples on water surface, etc.

Frames are established by means of analyzing lexical data. The status of a frame is granted to a certain situation when it meets the criterion of being lexically juxtaposed to the other situations present in the field, i.e., when languages provide exclusive lexical means for describing this situation. Thus, 'thick' substances in English are opposed to 'thick' sets (cf. *thick soup* vs. *dense forest*), which lets us postulate the presence of two separate frames within the field of thickness.

In applying the term 'frame' to such situations, we depart from the canonical definition of a frame – the one formulated by Ch. Fillmore [Fillmore 1976; 1982], which is still presently in use – for instance, utilized in the FrameNet model (see <https://framenet.icsi.berkeley.edu>). According to [Boas 2011], a Fillmorean frame is comprised of a set of participants of a certain situation, along with their syntactic expression. In our approach, the notion of a frame is extended with semantic constraints on the participants, since the generic roles in many cases prove insufficient. For instance, a swinging pendulum and a swaying

tree, as well as thick soup and dense forest, would indiscriminately be referred to the same semantic role irrespective of the differences in their semantic coding. However, in the typological perspective these situations may be denoted by different lexemes; therefore, when comparing across languages, we need to postulate two different frames encompassing these situations.

This principle of comparison resembles the principle which has been used in grammatical typology for decades – when frames are seen as proxies of elementary grammatical meanings that may have different distribution patterns across grammatical markers in individual languages [Bybee, Dahl, 1989: 51–52; Plungian 2000: 233–238]. As we establish the elementary meanings, for instance the ones that may be carried by the marker of Dative in this or that language, we can compare this marker with the Dative forms in other languages (see [Haspelmath 2003]). Similarly, on the lexical level, we can compare, for instance, the verbs of hiding by defining the frames pertaining to each of the verbs, and then align the obtained sets of frames across languages.

Frames can go beyond merely comparing the semantic potentials of direct meanings. The most essential for the present study is the ability of frames to play the key role in explaining the nature of semantic shifts. The explanations offered by the frame-based approach link the derivative meaning not to the lexeme as a whole, and even not to any of its meanings (in this regard, cf. the conventional lexicographic practice of recording figurative meanings in the same list as the direct ones, as if all the metaphors originated from the first meanings). For us, the relations of semantic derivation are established between a derivative meaning and a frame.

However, relatedness of secondary semantics and frames cannot always be readily displayed within one language. If a lexeme covers several frames of a semantic field at once, we are left to hypothesize which of the aspects of its original semantics may have served a source of the figurative meaning. Yet, with the typological approach we are able to verify the hypothesis. For example, the Russian verb *plavat'* denotes at least three frames of aquamotion: 'active swimming' (*mal'čik plaval u berega* 'the boy was swimming not far from the shore'), 'the motion of vessels or by means of vessels' (*kapitan triždy plaval v Indoneziju* 'the captain has three times traveled to Indonesia'), and 'being on water surface' (*v supe plavaet morkovka* 'carrots are floating in the soup'). In one of its figurative meanings, *plavat'* denotes the semantics of instability and lack of confidence (*plaval na èkzamene* 'he performed poorly at the exam'). In order to establish which of the primary frames was the source of this metaphor, we turn to the systems where the frames of aquamotion are distributed between different lexemes. One of such systems is English, cf. *swim* for active motion in water, *sail* for vessels and *float* for staying on the surface of water. The metaphor of instability unfolds from *float*, i.e., from the idea of passive aquamotion, in which the subject on water surface is repeatedly moved to and fro. Moreover, all the verbs of the sample that are capable of conveying this metaphor, in their direct meanings are also capable of denoting the situation of floating. Consequently, we claim that the shift towards the zone of instability and uncertainty originated not from the semantics of aquamotion as a whole (as could have been judged from the Russian *plavat'* or from other dominant systems), but rather from the frame of floating, see [Maisak & Rakhilina (eds.) 2007, Rakhilina et al. 2020].

In sum, frames enable more in-depth and typologically motivated understanding of the nature of semantic shifts. Yet, while tracing the origins of shifts back to frames, we – unlike the CLICS database or the Catalogue of Semantic Shifts – cannot rely on the existing lexicographic sources; in each semantic zone, we first need to establish the set of frames which will provide the basis for typological comparison. For this, we use dictionaries only at the very early stages; it is corpora that become the main source of data to us: by examining the lexemes of the field under investigation as they occur in usage, we outline the situation which are relevant in the field. The outcomes of this analysis are used to compile the questionnaire for collecting data from new languages, including those for which no corpora are available.

Overall, the frame-based approach thus involves three types of data, which complement and verify each other – namely, dictionaries, corpora, and questionnaires filled by informants. Another principle relevant for the frame-based approach in general and for the present research in particular, is the design of the language sample. Unlike grammar typologists, we allow genetically related languages in our samples. This is due to the fact that lexicons change much more rapidly than grammar; therefore, lexical divergences between genetically related languages are more pronounced, so that within one language group it is possible to observe the same scope of changes as on a typologically diverse sample, see Rakhilina & Prokofieva 2004, 2005, Kashkin 2013, Koptjevskaja-Tamm 2022. In research of semantic shifts, data from genetically close languages add an extra advantage, since they provide a holistic insight into the universal evolutionary process at its various stages, as attested in different languages.

Now we proceed to examining specific fields which provided data for our analysis of semantic shifts.

3. Non-standard metaphors

This section discusses the semantic fields which act as a source of metaphor-like semantic shifts or result from them, yet not entirely comply with the theoretical views on canonical metaphor. We will examine several types of lexical data and discuss the aspects of difference between the shifts in question and standard metaphoric shifts.

3.1. Verbs of falling

Paper selected for the defense: [Rakhilina, Reznikova, Ryzhova 2020]

In general, falling is understood as uncontrolled downward motion without contacting a surface. An analysis of 42 languages established 4 major frames in this zone, which can be taken as a basis for lexical oppositions in the field under analysis [Reznikova et al. 2020]:

1. falling from a height: uncontrolled motion as a result of which the trajector finds itself on a surface located below the initial level ('the cup has fallen on the floor');
2. loss of vertical orientation: the trajector remains on the same surface yet changes its orientation so that some of its parts, which were initially located above the surface, come into contact with it ('the tree cut down, it fell on the ground');
3. falling-and-destruction: the trajectors are objects of specific kind – primarily, buildings and constructions, which disintegrate in the process of falling ('the house collapsed');
4. detachment and falling out of a container: the trajector to a varying degree is fixed to the initial point or is located within a container ('the towel fell from the hook', 'the nestling fell out of the nest').

Each of these frames is a source for its exclusive set of derivative meanings, which are recurrent across languages, cf., for example, 'decrease in the value of a parameter', 'beginning of some state', 'beginning of an unpleasant situation' for the frame 'falling from a height'; 'loss of functionality (about a human being)' and 'transformation' for 'loss of vertical orientation'; 'discontinuation of functioning' and 'surrender' for 'falling-and-destruction'; 'gap in a sequence of items' and 'falling behind a group' for 'detachment'.

Some of the shifts attested in our data are rather in line with the traditional view on metaphor. Or, in terms of the cognitive metaphor theory, they can be interpreted as a mapping between the Source and the Target domains, which means that the constituent parts of the Source and the Target can be easily aligned. This is the case with the shift from 'falling from a height' to 'decrease in the value of a parameter' (cf. *the temperature fell*, *the demand for books is falling* and the like in many other languages), which manifests the well-known metaphoric model LESS IS DOWN, see [Lakoff & Johnson 1980]. Downward motion implies a difference between the levels of the initial and the final points, which is easily projected onto the difference on the parametric scale.

Another canonical metaphor is exemplified in the shift from 'falling-and-destruction' to 'discontinuation of functioning', which typically applies to abstract objects with a complex structure that require a substantial time to create – as, for example, plans, banking system, political regime, the happiness of an individual. Here, again, the buildings and constructions that function as the trajector in the Source domain, are immediately projected onto the non-materials constructs from the Target domain.

Such uncomplicated cases readily render themselves to interpretation not only under G. Lakoff's theory, but also in terms of E. Paducheva's model; the latter suggests that metaphoric shifts occur through changing the taxonomic (or, in Paducheva's terminology, the thematic) class of the lexemes, which is conditioned by the change in the class of its arguments [Paducheva 2004]. Thus, when in the predicate of falling the concrete noun is substituted with a parametric one, it leads to the transition from the semantics of motion to the semantics of decreasing. Similarly, the substitution of a noun denoting a physical building by an abstract construct pushes the verb from the zone of motion into the class of changes of the state.

So, a number of typologically regular shifts with a source in the zone of falling perfectly fit into the conventional definitions of metaphor – notably, those suggested by different theoretical paradigms. However, semantic shifts from the verbs of the field under analysis also feature more complicated instances – it is them that constitute the focus of the present study. Let us examine four such cases.

1) BAD IS DOWN

The orientational metaphor LESS IS DOWN motivates usage of verbs of falling in application to numerical values (such as temperature, prices, size of population, etc.), as well as other gradable phenomena which can be evaluated in terms of their intensity (desire, inspiration, interest, or excitement). Alongside, however, the verbs of falling may apply to entities which are evaluated along the ‘good – bad’ scale. Such usage reflects a somewhat different type of orientational metaphors which is also discussed in [Lakoff & Johnson 1980] – BAD IS DOWN, cf. the Kazakh set expression *hizmet düştü* ‘the service has become bad (lit. “the service fell”)’). A variation of this shift occurs in the contexts where the deteriorating entity is not an abstract entity but a human being; such contexts describe moral degradation, cf. Russian *kak on mog tak nizko past!* ‘how could he fall so low!’.

It is important for our study that the shift towards the semantics of deterioration – in contrast to the LESS IS DOWN model – often tends to depart from the canon. This is due to the fact that in the contexts where the verb of falling denotes a negative evaluation of a subject, it typically changes its actional class. In its primary, spatial meaning ‘fall’ belongs to the class of telic processes, whereas evaluative contexts imply a stative property which is redefined as a result of metaphoric falling. The discrepancy between the actional classes disrupts the parallelism between the Source and the Target, since falling as motion is not immediately mapped onto the beginning of the state of ‘becoming bad’. To use different terms, the semantic shift involves not just the change in the taxonomic properties of the predicate and its participants (cf. Paducheva 2004), but also a simultaneous transition from the situation to its result, i.e., a cognitive operation characteristic of metonymy (cf. [Kustova 2004, Paducheva 2004]; also the notion of end-point metonymy, e.g., in [Brugman 1988, Brugman & Lakoff 1988]).

Thus, in developing the meaning discussed above, the mechanism of metaphor is complicated by metonymy which conditions the change of the predicate’s actional class. Remarkably, this change is postulated not only on purely semantic grounds, as it may also manifest itself on the more formal morphosyntactic level. For instance, in Japanese the non-past form of *ochiru* in its primary meaning induces the prospective interpretation (‘is about to fall’), see (1a), whereas in evaluative context it characterizes the permanent property of a subject (1b) (Panina 2020):

(1) Japanese

- (a) *Mama, ano ko ochi-ru yo.*
mom that girl fall-PRS EXCL
‘Mom, that girl is going to fall’.
- (b) *Kore wa mihon yori ochi-ru.*
this TOP specimen than fall-PRS
‘This is inferior to the specimen (lit. it falls in relation to the specimen)’.

In the derivative meaning, the change may affect, on the one hand, the meaning of the form, as is the case in Japanese, and on the other – the form per se, since the new semantics ends up being fixed to a specific morphological context. In particular, a peculiar morphosyntactic manifestation of stativization is found in deverbal nominal forms, where the noun or the adjective, devoid of its finite qualities, is an exemplary demonstration of the idea of stativization. In this regard, it is worthy of note that the meaning of moral degradation is primarily realized in attributive derivatives, cf. Turkish *düşkün*, Russian *padšij* ‘fallen’.

To conclude, the unconventionality of the metaphor modeled after BAD IS DOWN on verbs of falling is due to the concurrent work of resultative metonymy, which leads the predicate to stativization, and the morphosyntactic shifts in the predicate – namely, the change in the grammatical meaning of the form or using special forms that bear stative semantics.

2) Light

An analogous mechanism is employed in the shift from downward falling to the idea of illuminating an object, which is amply attested in European languages. The verb’s subject in such contexts is expressed by the word ‘light’; its “falling” on the object means that it becomes better visible, cf. German *Wir waren im Halbdunkel, nur das Licht vom Flur fiel schwach auf sein Gesicht* ‘We were in half-darkness, only dim light from the hallway was falling on his face’; French *La lumière tombait sur le petit visage étroit* ‘Light was falling on the small and narrow face’, and also (2):

- (2) *Ja sobrala vse svoe xozjajstvo, razložila na podokonnike i stala u okna. Teper' svet padaet šchedro*

i na moju doščečku, i ja mogu pisat' i čitat'. ‘I collected all my belongings, arranged them on the window sill, and stood by the window. Now the light is lavishly falling on my board too, and I can write and read.’ [L. K. Chukovskaya. The process of exclusion (An essay of literary morals) (1978, 1989)]

Here, the same effect is observed as in the previous shift discussed above. The verb *fall* and its counterparts in other languages describe a stative situation – illumination of an object. This meaning is expressed by imperfective forms, which, in the context of falling proper, imply an actually observed (cf. *look, something is falling over there*) or an iterative situation (*trying to take off, but each time falling into water*). In this way, just as in the Japanese example (1), the shift of the semantics and the actional class is accompanied by a change in the grammatical meaning of the verbal form. Note once again, that a similar transformation of grammatical semantics happens in resultative metonymy, cf. the example from (Kustova & Paducheva 1994: 104): *storož napolnjaet bassejn vodoj* ‘the janitor is filling the pool with water’ (a dynamic situation) → *voda napolnjaet bassejn do kraev* ‘water fills the pool to the brim’ (a stative situation). However, metonymic shift describes the immediate result of a situation, while in the case under discussion we are dealing with a metaphoric rethinking of the result. Thus, the falling of light offers one more example of a metaphor which is complicated by metonymy and a shift in the formal properties of the lexeme.

3) Removal of a substance

The semantic shift of a verb may be accompanied by non-standard changes not only in its own form (more specifically, the meaning of this form), but also in the set of its actants. Note that in classical metaphor the participants expressed in the derivative contexts tend to have counterparts in direct contexts: this parallelism is what largely forms the basis of the mechanism of metaphoric mapping. On the formal level, this means that the primary and the metaphoric meanings possess identical or closely similar syntactic constructions, cf. in the zone of falling, the shift from ‘falling from above’ to ‘beginning of a state’, where the derived usage reproduces the construction for falling into a container (a pit, a well, etc.): English *fall into the water* → *fall into disrepair*, Turkish *kuyu-ya düşmek* (well-DAT fall) ‘fall into a well’ → *hata-ya düşmek* (mistake-DAT fall) ‘make a mistake (lit. “to fall into mistake”’), Russian *vpast' v jarost'* ‘fall into rage’, which traces its origin to the archaic direct usage similar to (3); here, the construction not only demands a specific preposition to be used, but also requires the verb to take prefix *v-*:

(3) <...> *ašče by kto vpal v jamu, i ty by ego verevkoju izvlek miloserdstvuja o nem* <...> ‘<...> as if someone fell into a pit and you would have pulled him out with a rope, having mercy on him <...>’ [Metropolitan bishop Stefan (Yavorsky). Sermons (1700-1722)]

Thus, the examples above describe the beginning of a state as a fall into a metaphoric container – that is, disrepair, rage, and mistake are represented as the end points of metaphoric motion and are coded via the same means as container being the end point of physical motion (prepositional constructions in Russian and English, prefixal derivative in Russian, the Dative in Turkish).

Meanwhile, such “inheritance” of participants is not always the case. An example of a change in the set of actants may be seen in the shift from the frame ‘detachment and falling out of container’ towards the idea of ‘removal of a substance’; for instance, this shift was attested in Japanese [Panina 2020: 974]. The original frame in this case implies, along with the subject, the presence of the starting point of motion (‘a leaf fell from the branch’) and, in principle, contains the idea of an end point, although the latter is seldom expressed in the construction. In the derived meaning, as a rule, the starting point is not expressed explicitly (although it is also present in the structure of the situation, as a substance is removed from some surface); as for the idea of the end point, it is completely absent, since we perceive the removed substance as the one that disappears rather than relocates. Yet, the resulting meaning not only “loses” original participants; it also acquires a new one, which has no counterpart among the roles of the original motion – this is the instrument or the means, cf.:

(4) *Chi wa nure taoru de ochi-ru.*
 blood TOP wet towel INST fall-PRS
 ‘Blood is removed (lit. “falls”) with a wet towel’.

The change in the set of actants and, consequently, in the syntactic construction disrupts the straightforward mapping between the Source and the Target domains, so this shift also diverges from the classical model of metaphoric shift. Other cases of shifts associated with changes in the construction will be presented in the discussion of pain predicates (see Section 3.2). For now, note that addition of the

instrument reflects one more transformation to the semantics of falling. In the new construction, the verb denotes the action with a controlling subject – the one who removes the substance. The changes in the agentive characteristics of a situation will be examined in more detail below.

4) Beginning of an activity

One of the characteristics that constitute the situation of falling is its uncontrollability. Notably, among the 22 models of shifts attested by us in the typological data for the verbs of falling, 20 models fully preserve uncontrollability in the resultant situation.

This pattern is violated only twice in our data. In one model, which was discussed above, the derivative semantics features an additional agentive participant: the controlling subject is not expressed in the construction, yet the presence of the instrument signals its presence. The second model allowing emergence of the meaning of controlled action is somewhat different: here, the main participant of the situation, i.e., the trajector of the metaphoric falling, is at the same time the controlling subject. If a person “falls” into an activity, this means that they begin to act, cf. (5) from Punjabi [Khokhlova 2020: 658].

(5) *uh kis dhandh-e vic pai gi-ā*
 he what.OBL business-M.OBL.SG LOC fall go-AOR.M.SG
sab¹ kuch² lutā baiṭh-ā h-ai
 everythng^{1,2} lose sit-PP.M.SG be.PRS.3SG-
 ‘What (what lousy business) is he up to? He has lost everything!’

However, combinations with the terms of activity are typologically not so frequent; much more frequent across languages are the constructions with terms of state (cf. the discussion of cases of the *fall into rage* type). Nevertheless, as long as verbs of falling denote the beginning of a state, the described situations remain uncontrolled, as in the original motion. Again, this change may seem to disrupt the parallelism between the original and the derived domain, thus making the shift more cognitively obscure. Indeed, while the state may be matched with the location where the subject finds itself against their own will as a result of falling, the activity which the subject starts consciously has much less in common with such a location. Very likely, this is not a coincidence that the ratio of shifts into the class of uncontrolled situations is not so large – both within the inchoative model discussed here and among the verbs of falling in general. This evidence suggests the assumption that in a standard case, metaphor preserves the controllability properties of the situation, whereas explicit changes in them (at least the transition from controllability to uncontrollability) indicates a more complex metaphor mechanism.

It is a worthwhile question then, why the shift to the controlled situation is still possible in languages – in other words, which characteristics of falling enable its mapping onto the beginning of an agentive activity. Remarkable in this regard is the combinability of verbs of falling in such figurative contexts. Most likely, the definitive factor here is the negative evaluation, which is “inherited” from direct to derivative meanings. The situation resulting from falling often leads to undesirable consequences, so that figurative meanings – the ones that apply to controlled situations – may denote only negatively evaluated actions, cf. (5) above, also (6) [Khokhlova 2020: 659]:

(6) Hindi-Urdu

mer-ī bāt-oⁿ meⁿ paṛ-n-e kā āp ko
 my-F business-F.OBL.PL LOC fall-INF-OBL GEN you ACC
koī adhikār nahīⁿ
 some right NEG

‘You have no right to interfere in my affairs’.

Let us note that negative evaluation is characteristic of the inchoative shift in general, i.e. it may apply to both controlled and uncontrolled situations. In other words, verbs of falling tend to give preference to negative states over the others; in our sample the most frequent states are negative emotions (rage, sadness, anxiety), negative attitudes towards the subject from other people (disfavor, suspicion), adverse external circumstances (misfortunes, hardships), physiological conditions (illness), and the like.

However, exceptions are also possible: thus, English features a number of contexts describing the beginning of a neutrally or positively evaluated situation, cf. *fall into place*, *fall into good hands*, *fall into line*, as well as *fall in love*, where the final state may bear different connotations. Still, in English such

constructions are rather infrequent, as negative situations predominate. Overall, none of the languages in our sample attested combinations of the kind *'fall into joy/happiness/admiration'* or similar. Presumably, such extension of combinability is not to be expected of verbs of falling in a broader typological perspective, otherwise would mean their evolution into a grammatical marker of the inchoative aspect. Meanwhile, this grammaticalization path is not discussed either in the dictionary [Heine, Kuteva 2002] or in other works which mention the verb 'fall' among the sources of grammaticalization, cf. [Haspelmath 1990; Vostrikova 2003; Maisak 2005].

In present work, the major interest towards the change in evaluation primarily lies in its interaction with the mechanism of metaphor. Our research on another domain, that of quality words, shows that the shift from negative to positive evaluation involves the implicatures of the original meaning and thus is not constrained to metaphoric mapping, cf. English *terrific* and French *formidable*, which evolved from meaning 'terrifying' to the merely evaluative semantics 'extraordinary, wonderful', or German *toll*, which developed the meaning of positive evaluation from 'rabid, insane' (Rakhilina et al. 2010, Karpova et al 2011). However, unlike quality words, verbs of falling (at least in our data) instead of "switching over" to a different evaluation rather tend to extend it with positive situations, thus becoming evaluatively neutral. In this regard their development resembles the evolution of intensifiers originating from adjectives with negative evaluative connotation (cf. *terribly, insanely*): by developing the ability to qualify positive properties (*terribly/insanely beautiful*), they turn into neutral markers of a high degree of something. At any event, verbs of falling – at least in our sample – show no convincing evidence in favor of the change in evaluation; hence, expansion of the evaluative semantics of the verb, as well as the nature of such shifts should be studied on a different lexical material. However, if we admit that such shifts are to lead to grammaticalization (as it happens with qualitative features, and as we hypothesized for verbs of falling), then the change of evaluation should also be regarded as a feature of non-standard metaphoric shifts.

To summarize, we examined four models of semantic shifts found in verbs of falling and showed that the changes which lexemes undergo in the process of metaphorization (i.e., in transition from one semantic domain to another) are not homogeneous. In some cases, the shift in meaning is accompanied only by the change of the taxonomic class of an actant (thus, concrete trajector object may be replaced with a parametric noun, shifting the semantics of motion towards the idea of decrease; or the end point in space may change to a noun expressing emotion – then the verb comes to denote the beginning of a state). Such shifts are cognitively transparent and are well compliant with the conventional view on metaphor. In other cases, however, the changes extend beyond the taxonomy of the actants and the verb – when the actional properties of the predicate or the agentive characteristics of its subject also undergo transformation, which often leads to changes in the morphology and syntax of the construction and undermines the parallelism between the Source and the Target domains. In particular, the grammatical semantics of verbs may shift, the new meaning may develop a bond with a specific morphological context, and the verb may change its set of actants by adding new participants. Importantly, all these shifts are not exclusive to verbs of falling: similar shifts are attested on a regular basis in other lexical zones as well. The next section will discuss similar phenomena observed in predicates of pain.

3.2. Predicates of pain

Paper selected for the defense: [Reznikova, Rakhilina, Bonch-Osmolovskaya 2012]

Whereas discussion of the field of falling focused on shifts with a common Source, verbs of pain, on the contrary, share a common Target, namely, the idea of unpleasant physiological sensations. Analysis of more than 20 languages showed that this semantic field is often catered by verbs "borrowed" from other semantic zones: the number of dedicated, or so-called "primary" verbs of pain (cf. Russian *bolet'* 'hurt') does not exceed four in the languages of our sample, whereas "secondary" predicates (cf. Russian *kolot'* 'stab', *žeč'* 'burn', *gudet'* 'buzz') are numbered in the dozens. Consequently, the zone of pain provides ample material for investigation of semantic shifts.

The Source domain of pain predicates manifest considerable typological regularity: as a rule, the semantics of unpleasant physiological sensations is expressed using the verbs from the following classes: (1) burning, (2) deformation and destruction (including self-destruction), (3) sound, and (4) motion. The process of their shift is particularly interesting for its relation between the actional characteristics of the Source and the Target. A key property of the Target, pain-related, situation is its stativity, whereas the Source domains, on the contrary, represent dynamic situations of various kinds. Therefore, secondary predicates of pain allow us to observe the changes that occur to verbs during metaphorization – when it is accompanied

by a change of the actional class.

Recall that in verbs of falling the shift to a stative situation serves as a factor complicating the mechanism of metaphor. Pain predicates shed further light on this observation. The complexity of the shift depends on the actional type of the verb in the original meaning. The closest to statives are atelic processes (such as sound and motion), the farthest are telic processes (e.g. impact and destruction). This difference in, so to say, cognitive distance is easily observed on the surface level.

Thus, the morphological and syntactic characteristics of pain construction with verbs of sound and motion often resemble to the constructions of their direct meanings, cf. Russian *golova kružitsja* ‘the head is spinning’, Hindi *peT kūd rahā hai* ‘lit. the stomach is hopping (PRS.PROGR) [about the feeling of hunger], and Crimean Tatar *ayaqlarım uvulday* ‘legs are buzzing’. The same constructions with the same participants are found in the original meanings (cf. for example, the animate subjects with verbs of motion, as in Russian *balerina kružitsja* ‘the ballerina is rotating’. In this way, the shift is well in line with the classical scheme of metaphor, when the change of the taxonomic class of an actant (animate participant → body part) eventually leads to the change in the taxonomic class of the predicate, and the Source domain is mapped onto the Target. However, this mapping is also not fully precise, since the resulting situation contains participants which are absent from the original – that is, the experiencer of the unpleasant sensation and its cause; they integrate into the construction with the secondary predicate of pain following the pattern of the primary verbs of pain, cf. Russian *u menja golova kružitsja ot ètogo zapaxa* ‘this smell makes my head spin’, which is similar to *u menja golova bolit ot ètogo zapaxa* ‘this smell makes my head ache’. Moreover, shifts from atelic processual verbs may involve an additional mechanism of stativization, when the subject associated with the dynamic character of the motion is eliminated from the syntactic construction – i.e., an impersonal construction is used, cf. Serbian *mi svira u glavi* ‘lit. a musical instrument is being played in my head’, German *es saust mir in den Ohren* ‘lit. it is whistling in my ears’ (about tinnitus in the ears). In such cases the syntactic parallelism between the original and the derived usages is disrupted.

However, in all cases the shift of telic processes into the semantics of pain requires a much greater number of formal transformations which affect not only the syntactic but also the morphological properties of the original verb. On the syntactic level, it is emergence of additional actants and introduction of impersonal constructions – as in the case with predicates of sound and motion. Yet, telic processes may be subject to one more substantial change. This class is primarily comprised of predicates of agentive impact on the object (‘cut’, ‘stab’, ‘bite’, etc.), i.e., transitive verbs. In the meantime, while developing pain semantics, these verbs often occur in intransitive constructions – again, adjusting to the syntax of the primary predicates of pain¹. The intransitive model may realize itself both in impersonal sentences (cf. Russian *V boku kolet* ‘lit. It is stabbing in (my) side’, German *Es beißt mir in den Augen* ‘lit. It is biting me [DAT] in the eyes’), and in subjective constructions with the body part in the position of the subject (Russian, *včera očën' bok kolol* ‘lit. yesterday my side was stabbing badly’, German *Meine Augen beißen* ‘lit. my eyes are biting’).

The changes on the morphological level result from the fact that telic processes, due to the relevance of the end point, may have a larger number of aspectual meanings than atelic processes or states. Consequently, when a telic process transforms into a state, some of the aspectual forms of the verb become “redundant”, as the derived meaning is not capable of expressing the oppositions which were relevant in the original telic situation. As a result, the semantic shift makes the verb “freeze” in the aspectual form which must be suitable for description of a stative situation. Remarkably, this purpose may be served with various aspectual forms; our data provides evidence of two major strategies of this kind.

Firstly, the effect of stativization is achieved via durative forms: indeed, the grammeme of the durative in a sense “unites” states and processes, expressing the idea of durativity in both (see Plungian 2000: 300), cf. Russian imperfective *spinu lomit / lomaet* ‘lit. it is breaking my back’ (while the perfective form **slomalo* is infelicitous), Georgian *saxsreb-ši m-texavs* ‘in-joints-me-it is breaking’ (yet **saxsreb-ši ga-m-texa* ‘in-joints-me-it broke’). Secondly, a natural means of stativization are forms with resultative semantics, as the result of a telic process is a state, cf. French *J’ai le dos rompu de fatigue* ‘lit. my back is broken from fatigue’ (whereas forms with durative meaning are infelicitous, cf. **J’ai le dos qui rompt* ‘lit. I have a back that is breaking’; as opposed to durative verbs of sound which occur in this construction on a regular basis, cf. *J’ai le ventre qui gargouille* ‘lit. I have a stomach that is gurgling’).

The choice between the resultative and the durative coding strategies for telic process is largely defined by the “preferences” of individual languages; thus, Russian and Georgian mostly favor durative constructions, while French prefers resultative constructions (for more detail on the durative-resultative

¹ On sporadic cases of transitivity among primary verbs of pain attested in our data, see (Rakhilina et al. 2010b).

scale, see [Rakhilina et al. 2010, Reznikova et al. 2012]). Along with this, our sample contains telic verbs which cannot enter pain constructions either in the durative or in the resultative or in any other verb form: the meaning of pain can be expressed only by their nominal derivatives – adjectives (participles) or nouns. Thus, the German verb *schneiden* ‘cut’ never occurs in finite contexts similar to the Russian *režet v živote* ‘lit. it is cutting me in my stomach’, yet it can express the same semantics via the participle: *Ich habe schneidende Schmerzen im Bauch* ‘I am having cutting aches in my stomach’. In Hindi, the lexeme *čubhānā* ‘pierce, stab’ is used to describe pain only in the comparative construction (cf. lit. ‘my arm is in pain, as if someone were pricking it with a needle’), while its derived noun – *čubhan* ‘piercing, pricking’ – develops the meaning of pain, cf. *pairō me čubhan ho rahī hai* lit. ‘there is pricking in my legs’ (about intense pain in the legs).

Note that pain construction with verbs do occur both in German and in Hindi, but in Sources with atelic semantics – such as verbs of sound and motion, cf. German *mein Kopf brummt* ‘my head is buzzing’, and Hindi *merā sir ghūm rahā hai* ‘my head is spinning’.

All this evidence corroborates the pattern discussed above: telic predicates in pain constructions depart from their direct usage farther than atelic ones. As we showed above, to achieve stativization, telic verbs utilize a large inventory of formal means: the new meanings may become intransitive, lose some of their morphological forms, and even convert to other parts of speech. Not surprisingly then, the result of the shift of a telic verb stands farther away from the canonical metaphor. We noted above that the shift from atelic predicates of sound and motion on the whole conforms with the conventional view on metaphorical mapping (when the head, stomach or other body part replacing the subject of the original construction is reinterpreted as if it is moving or producing sounds: this is what gives rise to the idea of painful sensation, as normally these body parts are expected to be silent and not so movable).

Meanwhile, the telic situation of impact cannot straightforwardly map onto sensation of pain. Here, the Source and the Target are definitely linked, yet in a nontrivial way: under certain conditions (when a body part serves as an object), the sensation may arise as a by-product of the impact (while the main result is prototypically related with impairing the integrity of the object, as fragments in ‘cut’ or emergence of a hole in ‘pierce’). Meaning change from a situation onto its result is well known in the theory of semantic shifts – yet it is ascribed to metonymy rather than metaphor. At the same time, metonymy implies that both the impact and the result occur within the same event, and this co-occurrence ensures their metonymic contiguity. In the case under discussion, however, the constructions of the type *v boku kolet* (Russian, lit. ‘it is pricking in (my) side’) does not suggest any physical impact; in fact, impact does not come as a part of the situation of pain – thus, this model of the shift is both metaphoric and metonymic in nature.

Thus, the mechanism of developing pain semantics turns out to be much more complex in verbs of impact, as compared to verbs of sound and motion. Consequently, we can elaborate on our observation made on verbs of falling. Let us be reminded, we supposed that the discrepancy between the actional properties of the Source and the Target may lead to non-standard metaphoric shifts. Pain predicates demonstrate that it is not any actional transformation that will lead to non-standardness – primarily this happens in the shifts from telic dynamic situations to statives. Note that this is precisely the kind of shift we witnessed in the domain of falling. Moreover, the models of shifting from falling, on the one hand, and from impact, on the other, appear to bear resemblance to each other, as both manifest interrelation of metaphoric and metonymic processes, when the derivative state is viewed as a probable result of the situation described by the verb in the original meaning, yet this situation in its turn is reinterpreted metaphorically, not literally. As we saw above, this semantic shift is accompanied with formal changes which happen under the influence of the “indigenous” lexemes of the target semantic zone. Such changes narrow the distance between the morphology and syntax of the “newcomer” verb and the prototypical lexemes of the Target domain.

The processes of formal rearrangement of lexemes described above are in good accord with the key assumptions of Construction Grammar (Fillmore et al. 1988, Goldberg 1995), which postulates close interrelatedness between elements on different levels of the language structure. From the standpoint of this theory, our non-standard shifts may be regarded as integration of a word into a new lexical construction, which entails changes in its morphological and syntactic properties. However, it is not only lexical constructions that are capable of coercing such changes. The next section will look at a construction with performative semantics which also can trigger a nontrivial shift in interpretation of verbs.

3.3. Performatives and perfectivity

Following J. Austin, performatives are defined as utterances that are equipotent to committing the action. Traditionally, performativity is recognized in the verbs which can occur in this function (cf. the classical examples *I swear, I vow*, etc.), yet the range of performative utterances is much broader – consider the insightful remark made by Yu. D. Apresyan back in 1988, which is resonant with the cutting-edge Construction Grammar: “performative formula has an upper hand over performative verb” [Apresyan 1988/1995: 203].

In keeping with the principles of Construction Grammar, performativity may be regarded as a construction, special in its kind, which, just as any other construction, has nuclear representatives (utterances with “performative” verbs of speech in the 1st person, present tense) and the periphery (utterances which resemble the nuclear ones only in some of their parameters, yet capable of occurring in performative contexts). Peripheral realizations render themselves to performative interpretation by “adjusting” their characteristics to the prototype, i.e. performativity (similarly to the semantics of pain) imposes the meaning whose influence may change the fundamental properties of the elements that enter the construction.

An example of non-nuclear performative construction in Russian and other East Slavic, as well as West Slavic languages, can be found in utterances of the speech act of refusal, consisting of negation and a verb in the 1st person. Deviation from the performative prototype here occurs firstly, in the lexical contents of the construction (non-speech verbs are possible) and secondly, in the aspectual characteristics of the verb: in the contexts in question perfective verbs are used (whereas the nucleus of performativity is comprised of imperfectives). The three most demonstrative examples of this usage in Russian are *Ne dam!* ‘[I] won’t let [you do it]!’, *Ne skažu!* ‘[I] won’t tell [you]!’, and *Ne pušču!* ‘[I] won’t let [you go]!’.

In terms of morphology, the verbs in these utterances are in the form of perfective present. As is known, the grammemes of present tense and perfective aspect are considered to be semantically incompatible; therefore, verbal forms including markers of both perfective and present either do not exist in the world’s languages or do not express present resp. perfective (cf. [Malchukov 2009] on “present perfective paradox”). In Russian, the shift occurs in the temporal semantics: as a rule, perfective present tense denotes future tense. Respectively, the utterances in question are rendered as future outside of specific context, cf.:

- (7) - *Nu ladno, Toropyžka! - obidelsja Neznajka. - Poprosiš' ty u menja čto-nibud', ja tože tebe ne dam.* ‘Just you wait, Toropyzhka! – said Neznayka resentfully. – Should you ask me for something, I also **won’t give** you that.’ [Nikolay Nosov. *The adventures of Neznayka and his friends* (1953-1954)]
- (8) *Konečno, ja ničego ej ne skažu, èto ee ub'et.* ‘Of course, I **won’t tell** her anything, this will murder her.’ [A. Rybakov. *Children of the Arbat* (1966–1983)]
- (9) — *Ja napoila ee teplym i zavtra ne pušču guljat', a tam posmotrim! — otvečala ona monotonno.* ‘I made her take a warm drink; tomorrow I **won’t let** her go for a walk, and then we’ll see! – she replied in a monotone voice.’ [I.A. Goncharov. *Oblomov* (1859)]

However, in some contextual environments – namely, when the utterance is intended as a response to a request, their temporal reference changes, cf.:

- (10) – *Daj, Zaxar, frak, ne uprjam'sja! – Ne dam! – xolodno otvečal Zaxar.* ‘Zakhar, give me the tailcoat, don’t be stubborn! – I **won’t give** it to you! – replied Zakhar coldly.’ [I.A. Goncharov. *Oblomov* (1859)]
- (11) *A vy mne ne skažete, otkuda vy uznali pro listki i pro moi mysli? — Ne skažu, — suxo otvetil Azazello.* ‘Could you tell me how you got to know about the papers and about my thoughts? – I **won’t tell** you that, Azazello replied dryly.’ [M. Bulgakov. *The Master and Margarita*, Part 2 (1929-1940)]
- (12) *Ručku dveri snaruži v èto vremja krutili i dergali, i slyšno bylo, kak kur'erša za dverjami otčajanno kričala: — Nel'zja! Ne pušču! Xot' zarez'te!! Zasedanie!* ‘Meantime, the door handle was being twisted and pulled, and the courier was heard behind the door shouting in a desperate voice: No, you can’t! I **won’t let in!** Not for the life of me! Meeting in progress!’ [M. Bulgakov. *The Master and Margarita*, Part 2 (1929-1940)]

The speaker refuses to commit the requested action (‘give’, ‘tell’, ‘let’) or prohibits the listener from leaving not in some temporal point in the future, as in (7)-(9), but immediately following the moment

of speech onwards; therefore, the aspectual-temporal semantics of such contexts may be viewed as prospective present tense. The shift in the temporal reference is supported in translation to other languages, which often employ present tense forms, cf. the examples from the parallel subcorpora of the Russian National Corpus – the German translation for (10) with *gebe* ‘[I am not] giving’ (13) and the Italian translations for (11-12), with *dico* ‘[I am not] telling’ and *lascio* ‘[I am not] letting’, respectively (14-15):

- (13) – *Sachar, gib den Frack her, sei nicht eigensinnig! – Ich **gebe** ihn nicht her! – sagte Sachar kühl.* [translated by Clara Brauner (1960)]
(14) *E non vuol dirmi com'è venuto a sapere dei foglietti e di quello che penso? – No, non lo **dico**, – rispose asciutto Azazello.* [translated by Vera Dridso (1967)]
(15) *Nel frattempo la maniglia della porta veniva girata e scrollata dall'esterno, e si sentiva l'inserviente gridare istericamente dietro la porta: – Non si può! Non vi **lascio** passare! Anche se mi ammazzate! Sono in riunione!* [translated by Vera Dridso (1967)]

Thus, pragmatic shift – in this case, usage in the capacity of the speech act of refusal or prohibition, similarly to the shifts discussed in Sections 3.1-3.2 – may lead to reinterpretation of the semantics of verbal forms.

To conclude the Section on non-standard metaphoric shifts, let us reiterate that the definition of metaphor accepted in the cognitive paradigm – as a mapping from the Source domain to the Target domain (in G. Lakoff's terminology), or as blending of conceptual spaces (in the terminology of G. Fauconnier and M. Turner) often proves to be insufficiently operational when non-selective analysis of language data is applied. The question remains open as to which aspects of the original situation are mapped onto the derivative situation, and which characteristics of these situations engage in mapping. Evidently, in each case the Source and the Target are related in some way, but can any relation of this kind be regarded as mapping?

Cognitivists claim that the Target domain preserves the “cognitive typology” of the Source, i.e. former inherits the structural framework of the latter, which consists of the set of the key elements along with their relations, cf. the Invariance Hypothesis formulated by G. Lakoff (see [Lakoff 1990]). Apparently, elements of the Source should be understood as its participants; consequently, their core set is to be expected to reproduce in the Target domain. In other words, it would be natural to view mapping as parallelism between the two domains in regard to the actants of the situation. In this sense, the definition given by E.V. Paducheva appears to be more operational than that of G. Lakoff; according to Paducheva, metaphor is considered to be a change in the taxonomic class of the participants; thus, the instances where the inventory of participants is changed seem to be left beyond the scope of this definition. On the formal level, preservation of participants is promoted by identical syntactic constructions of the lexeme in its original and derivative usages.

Besides preservation of the elements (or the participants), the Invariance Hypothesis assumes that the relations between them are also preserved. However, while it is quite logical to draw parallels between the elements of a domain and the participants of a situation, cross-element relations are not so easy to establish on language data. In fact, relations between the participants are defined by the predicate; yet the question remains open as to which of the properties of the predicate are to be inherited by the resulting domain from the original one. Our data allows us to presume that in a metaphoric mapping it is relevant to preserve the actional and the intentional characteristics of the predicate: at least, the changes that affect the set of participants are often seen to manifest themselves in modifying the situation in regard to these properties. Anyway, the shifts examined above (which are likely to be treated as metaphors by the classical theory, on the grounds that the original and the resultant meanings in each of the instances belong to different semantic fields) are extremely heterogeneous in terms of preserving the inventory of the main participants and the fundamental properties of the predicate. On the one hand, our data contains a substantial number of “ideal” metaphors which support our interpretation of the Invariance Hypothesis, i.e., the inheritance of the actants and the type of the predicate. On the other hand, divergences from the “canon” are also typologically regular, i.e., when the ideal alignment between the Source and the Target is disrupted.

It is important to note that the extent of such disruptions may vary. The farthest away from the prototypical metaphor are the shifts from dynamic telic situations to statives; in such cases, the predicate's set of actants and its morphological characteristics may change, so the immediate metaphoric similarity on the semantic level cannot be established; moreover, the mechanism of the shift is complicated with resultative metonymy. However, not any shift in the actional properties will disrupt the metaphoric similarity; in particular, the shift from atelic processes to statives turns out to be less radical as the previous one, although the formal level also displays divergences from the metaphoric prototype – thus, when verbs

of sound or motion shift into the zone of pain, additional new participants are introduced into the situation.

Changes in the set of actants deserve special attention in relation to the theory of metaphoric shifts. The tentative assumption is that some of them undoubtedly violate the similarity between the original and the derivative situation, including the shift from transitive to intransitive usages. Note that we are not speaking about lability of such units, since the meanings of the transitive and the intransitive versions of labile verbs belong to the same semantic field rather than to different fields, as in the case under discussion (see Letuchiy 2013 on labile verbs). Instances of the intransitive model which is derived from the transitive one are quite numerous, cf., in addition to the cases of the type *v boku kolet* (Russian lit. 'it is pricking in (my side)') consider the shifts of the Russian verbs *vtykat'* 'prick into' [^]*ja kak-to ne vtykaju, kak možno žit' v obščestve, no ne sledovat' ego normam* 'I do not understand [lit. "prick into"] how one can live in society and not follow its norms'; *katit'* 'roll (tr.): *predloženie ne katit* 'the suggestion is not particularly good [lit. "does not roll"]', *zažigat'* 'burn (tr.): *zažigaet v klube* 'partying [lit. "burning"] in the club', *tjanut'* 'pull': *tjanet s ovetom* 'stalling [lit. "pulling"] with the answer', *mešat'* 'stir' (*mešaet pape* 'bothering [lit. "stirring"] Dad'. It appears that shifts adding obligatory actants are also perceived as non-standard, cf. *taščit'sja* 'pull oneself' where the derived meaning mandatorily requires the role of stimulus to be filled, cf. *taščus' ot etoj muzyki* 'this music turns me on [lit. "I pull myself from this music"]', cf. [Rozina 2005, Reznikova 2014].

The metaphoric parallelism of situations also happened to disrupt due to the changes in controllability. We observed a shift from the uncontrolled situation of falling to the idea of the beginning of a controlled action, as well as shifts in the opposite direction, i.e., from controlled situations to various kinds of uncontrolled sensations of pain. Having said that, it seems that not any change in controllability will lead to disruption of similarity; thus, the classical metaphor of animacy, as a direct mapping, may represent a shift from a controlled to an uncontrolled situation, cf. Russian *čelovek bežit* 'the man is running' → *ručej bežit* 'the brook is running', *deti igrali na polu* 'the children were playing on the floor' → *teni igrali na ix licax* 'shadows were playing on their faces'. Very likely, loss of controllability per se does not impede the similarity between the Source and the Target: rather, this similarity diminishes when other factors enter the picture (as does, for example, in the pain zone when the change of the actional class occurs).

Overall, the "sensitivity" of the metaphoric mechanism towards each type of change accompanying semantic shifts is an issue for future research. For us here it was important to scrutinize the range of these change from the typological perspective and to show the heterogeneity within this class of shifts which are conventionally treated as metaphors.

4. Non-standard metonymies

While the cognitive paradigm views metaphor as a shift across semantic fields, metonymy is considered to be a shift within a field – namely, a shift which is based on contiguity of two situations. The non-standardness of the metonymies discussed below consists in the fact that the original and the derivative situations, while being contiguous, belong to different semantic fields.

4.1. Adjectives of cleanliness

Paper selected for the defense: [Pechnikova, Reznikova 2021]

The analysis presented in this section is based on data from Slavic languages, which allows us not only to classify the types of systems but also – due to the availability of cognates which vary in scope – to trace the mechanism of semantic divergences between lexical units. At the same time, the work that was previously performed in this field, which embraced a broad typological perspective [Arkhangel'skij et al. 2011, Pechnikova 2017], enables evaluation of the degree of diversity among the Slavic systems. The structure of the field 'clean' is comprised of four frames. Their common feature is the idea of absence of certain entities on the surface of an object or inside the object (cf. the notion of the caritive in [Tolstaya 2008]). There are two central frames, which are juxtaposed along the type of the absent entity: firstly, dirt, stains, or litter (cf. 'clean clothes/room') and, secondly, impurities or admixtures (cf. 'pure gold').

Two more frames are distinguished according to the type of the object itself (i.e., the carrier of the quality of cleanliness). Thus, there are specific lexical means to describe the cleanliness of objects through which other objects can be seen (cf. water, glass, etc.); such cleanliness implies transparency of the object. Yet another type of 'clean' objects is exemplified by the sky: its cleanliness means the absence of clouds

Typological differences among systems primarily concern coding of the two central frames of the field, i.e., absence of dirt or admixtures. These frames may colexify, as in Russian, Finnish, or Georgian, or they may be lexically juxtaposed, as in English, Italian, or Korean. In this respect Slavic languages tend to manifest a uniform pattern: in all of the languages under analysis, including Russian, the cleanliness of hands and absence of admixtures in a substance may be described with a common lexeme, which is the cognate of Russian *čistyj* ‘clean’. A minor departure from this model is found only in the West Slavic languages, where in descriptions of pure metals the dominant lexeme competes with the dedicated lexeme; moreover, in Polish and Czech/Slovak this function is performed by etymologically unrelated adjectives, cf. Polish *szczyry* (*szczere zloto* ‘pure gold’) and Czech *ryzí*, Slovak *rydži* (Czech *ryzí zlato* ‘pure gold’).

Differences among Slavic languages are also attested in the zone of transparency. East Slavic languages may have both a dominant and a dedicated lexeme (Russian *prozračnyj*, Ukrainian *prozorij*, Belarusian *prazrysty*). In West and South Slavic languages, this zone is more nuanced, additionally differentiating between transparency to light (‘transparent glass’, ‘translucent fabric’) and absence of opacifying substances (‘transparent water’). In Czech and Slovak this juxtaposition is further extended with the adjective *čirý / číry* which denotes objects that are both transparent and rigid (glass, crystal).

Of special interest to us is the lexeme describing the transparency of water in South Slavic languages. It has the stem *bystr-* (cf. Slovene *bister*, Croatian *bistar*, Bulgarian *бистър*), which in East and South Slavic languages is associated with the idea of high speed (cf. Russian *bystryj*, Polish *bystry* and others – ‘quick, rapid’). Evidence from South Slavic languages demonstrates how the semantics of speed may have transformed into a seemingly unrelated meaning of cleanliness. The most frequent collocates of the adjectives under discussion are nouns denoting natural streams of water, cf. ‘river’, ‘brook’, ‘spring’. In this class of objects, high speed and transparency turn out to be a contiguous property – in fact, fast flowing rivers typically have clear water.

In extending the meaning of transparency with objects of the ‘river’ type, the *bystr-* lexemes continue expansion to eventually cover other liquid substances which do not imply any motion thus precluding the idea of speed. Such liquids may be natural objects (cf. Bulgarian *bistro ezero* ‘transparent lake’) as well as man-made artifacts, e.g. food and drinks (cf. Slovene *bistra juha* ‘transparent soup (broth)’, Croatian *bistri sok* ‘transparent juice’, Bulgarian *bist"r raztvor* ‘transparent solution’).

Thus, by “penetrating” into the zone of ‘cleanliness’, the *bystr-* lexemes seem to have “encroached” on the territory of adjectives cognate to the Russian *prozračnyj*, so that their scope of application narrowed to solid substances and artifacts made of them; this, in turn, led to the rise of the lexical juxtaposition discussed above – that between transparency to light, on the one hand, and absence of opacifying substances, on the other.

The history of the *bystr-* stem in South Slavic languages is a vivid example of a transition in which contiguity lies at the basis of the shift across the boundaries of semantic fields. Yet this example is not unique in its kind; a similar shift is observed in the Czech adjective *čirý* and its Slovak counterpart *čirý*. These lexemes are cognates to the Polish *szczyry* which, as was shown above, may denote absence of admixtures in metals, although its main area of application synchronically are non-physical usages describing the sincerity of emotional reactions (‘surprise’, ‘smile’, ‘sympathy’, etc.). The Czech *čirý*, in its turn, characterizes transparent solid objects (‘glass’). Etymologically, the original semantics of this stem seems to be that of absence of admixtures rather than of transparency, see M. Vasmer on the relation between *szczyry* with lexemes originating to the Proto-Germanic **skeira-*, cf. Middle High German *schier* ‘unadulterated, pure’.

If absence of admixtures is primary, then data on combinability of *szczyry* shows that it is being gradually displaced by the adjective *czysty* into the sphere of figurative usage. However, the semantic evolution of the Czech and Slovak cognates appears to be not so trivial. The key to understanding this development can be found in comparing collocations with these words in the three West Slavic languages in the respective TenTen corpora (accessed via the Sketch Engine platform). Among the physical contexts, Polish *szczyry* gives preference to precious metals; collocations with lexemes denoting other jewelry materials also belong to this type of usage. However, while the Polish *szczyry diament*, which has been almost entirely replaced in the corpus by the construction with *czysty*, is marginally frequent in the corpus, its Czech and Slovak counterparts, on the opposite, are rather frequent.

Presumably, it is this diamond-related usage that served as the interim link in the semantic evolution into the zone of transparency. In effect, the purity of a diamond implies absence of impurities, hence a high degree of transparency. Therefore, in combination with ‘diamond’ the lexemes *čirý / čirý* developed an association not only with absence of impurities but also the transparency, which furthered their application to other transparent materials in which the idea of absence of admixtures is not relevant. Note that this path

of semantic evolution also explains the synchronous combinability of the lexemes under consideration. As shown above, *čirý / číry* largely tend to “prefer” ‘glass’ and ‘crystal’ among transparent objects – i.e., the objects whose external characteristics most closely resemble those of diamonds.

Finally, the third example of a contiguity-based shift is seen in the Czech adjective *ryzí* and its Slovak counterpart *rydzi*. These lexemes denote absence of admixtures in metals – thus having replaced *čirý* and *číry*. Of interest here is, firstly, the very fact of emergence of a new word for absence of admixture, i.e., the need in the system to lexically differentiate this frame, even if the specific word for its realization was lost. The sustainability of this structure, apparently, is supported by areal influences. As is well known, the lexicon of West Slavic languages is characterized by numerous borrowings from German and calques of semantic shifts, cf. Czech *běžet* ‘run’ as ‘work’ (about machines) after German *laufen* [Skorvid 2005]. In our case the influence is manifested on the level of abstract model: German, as well as some other Germanic languages, has a distributive system in the zone of ‘clean’, cf. *sauber* ‘clean’ (free of dirt) vs. *rein* ‘pure’ (with no admixtures). Most likely, this Germanic model explains the strategy of lexicalization of the field in West Slavic languages, which is not attested in other Slavic languages.

Secondly, of interest also are the words that develop the semantics of absence of admixture. The etymology of *ryzí / rydzi* definitively shows that its original meaning was that of color (cf. Russian *ryžij* ‘red’, Polish *rdza* ‘rust’). In the synchrony, the semantics of color is totally lost, although the dictionary SŠJČ (1960-1971) still recorded this meaning, yet as an archaic one. It is probable that the shift was based on the idea of the color of “good” admixture-free metal (likely, of gold), since red color was associated with absence of undesirable admixtures in the metal. Ultimately, the idea of absence of admixtures became central to the semantics of the adjectives *ryzí / rydzi* and spread onto other pure metals whose color was far from red, cf. *ryzí stříbro / rydže stříbro* ‘pure silver’ or *ryzí / rydza platina* ‘pure platinum’.

Thus, in all the three cases we observe the same principle underlying the shifts: a lexeme denoting a certain property occurs in contexts implying some other principle property due to contiguity of the two situations. For instance, *bister* is used to describe streams of water, a context in which the idea of high speed is associated with transparency. Similarly, *ryzí* describes metals for which red color is an indicator of absence of admixture, and *čirý* denotes the same idea in materials with high transparency to light.

Then the second, implied, property becomes so prominent in the semantics of these adjectives that they begin to appear in situations where the original property is no longer relevant (cf. respectively ‘transparent lake’ where the water does not flow and has no property of speed; ‘pure silver’ with no red color to it; ‘transparent glass’ for which absence of admixture is irrelevant). Eventually, the first meaning is entirely lost, so that it can be reconstructed only via etymology.

Note that a similar evolutionary mechanism is characteristic of grammaticalization. Emergence of a new grammatical meaning is usually preceded by the stage at which this meaning is concurrent with the earlier meaning in the same context (for instance, cf. development of causal semantics in the temporal *since* in [Traugott, König 1991]).

Such graduality is much less common in shifts within the lexical domain. Moreover, the mechanism of shifts is also unconventional. Both metaphor and metonymy in quality words typically imply changes in their combinability. In metaphor, the qualified is replaced with a word from another taxonomic class, so that the semantics of the quality is shifted (*dry handkerchief* → *dry answer*); in metonymy the qualified is replaced with a word which is connected with the original one via mereological or some other relationship (*‘soft seat’* → *‘soft chair’*), see [Rakhilina et al. 2010a]. At any rate, different meanings are associated with different contexts (basically, this is why the shift cannot be gradual – substitution with a new noun immediately results in the semantic shift of the adjective). In the examples cited above the shift in meaning occurs without abrupt changes in combinability. In each case there is a range of objects which can be qualified by the adjective in question both in the original and the derivative meanings (thus, *bister* at a certain stage of its semantic evolution may have applied to both a fast running and transparent brook).

To conclude, we examined the zone ‘clean’ to discuss non-standard metonymies in respect to quality words. The next sections will look at metonymy in verbs.

4.2. Verbs of caused motion (‘pull’ and ‘push’)

Paper selected for the defense: [Sherstyuk, Reznikova 2022]

While in stative situations (including those of qualities) the cross-field contiguity relies on implied relations (if a river is fast flowing, it is also transparent; if a diamond is free of impurities, it is also transparent), the contiguity of dynamic situations is based on the structure of the event, i.e. on distinguishing

several relevant stages in it – first and foremost, the initial, medial, and the final ones. The medial stage, as a rule, corresponds to the nuclear semantics of the field, whereas the initial and the final stages may bear resemblance to the adjacent fields. Foregrounding of either the initial or the final stages may lead to a shift in the verb’s semantics towards a “neighbor” field. Comparison of data from several languages reveals different stages of this “drift” from one semantic zone to another, whereas evidence from genetically related languages reflects historical shifts between adjacent fields.

Verbs of ‘pulling’ and ‘pushing’ describe caused motion of an object, where the prototypical causer is moving along with the object. The motion forms the medial stage and the nucleus of the situation, while the initial and the final phases may approach other actions. According to data from Slavic languages, the relevant factors of semantic shift is, firstly, the beginning of the action in ‘push’ (contact between the subject and the object); Secondly, foregrounding may apply to the specific type of the initial (in ‘pull’) or the final (in ‘push’) location of the object – namely, its location in a container, when ‘pull’ corresponds to taking out of the container and ‘pull’ – to placing into a container. Let us examine these three models below.

a) ‘push’ and contact with the object

At the initial stage the subject contacts the object while exerting certain force in order to move the object. If the object is animate, the subject’s actions resemble the situation of aggressive impact. This semantics is often foregrounded in the semelfactive derivative of the Russian *tolkat’ – tolknut’*, cf.

- (16) *Tot grubo tolknul ego v plečo, vypixivaja iz spal’ni, ottesnjaja k lestnice, molča ukazyvaja podborodkom — ubirajsja, pošel von!* ‘He aggressively pushed him on the shoulder, driving him out of the bedroom towards the staircase, silently pointing with his chin – go away, get out!’ [Dina Rubina. Russian canary. Prodigal son (2014)]

Although the focus here is on the idea of aggressive impact (cf. the syntactic coding of *v plečo* ‘on the shoulder’, which is typical of other verbs of this zone (*udaril v život* ‘hit [somebody] on the stomach’, *vystrelil v spinu* ‘shot [somebody] in the back’ and the like), the idea of relocation of the object is still preserved, as reflected in the broader context. However, the subject no longer relocates along with the object, so the entire situation somewhat differs from the prototype.

A more pronounced shift occurs in foregrounding of the initial phase in *pchać*, the Polish verb which is nuclear to the field (or, more exactly, its derivative *pchnąć*): in some contexts it may entirely lose the original idea of relocation. This effect is particularly noticeable in the constructions where the verb in question is used with nouns denoting instruments, cf.:

- (17) *Watson najpierw pchnął go nożem, a potem kilka razy strzelił z bliska.* [Sketch Engine]
 ‘Watson first stabbed him with the knife; then he fired several shots from a short distance.’

The remnant part of the original semantics of *pchać/pchnąć* in (17) is that of the initial phase, i.e. the contact between the subject and the object (here the contact occurs by means of the instrument). The object does not start to relocate, so the verb in such contexts should be referred to the zone of aggressive impact rather than to the field of caused relocation. In other words, the original and the resultant meanings of the verb end up in different fields, and the mechanism of the shift is distinctly metonymic.

The link between pushing and aggressive impact is also traced in the diachronic perspective on cognates. Thus, a reflex of the Proto-Slavic **tьkati*, according to M. Vasmer, is found, on the one hand, in the Bulgarian *tikam*, which is one of the central verbs of the ‘push’ zone, and on the other – in Russian *tykat’*, which implies impact with a sharp instrument. Moreover, this etymological evidence suggest the next possible step of this evolution – a neutral contact devoid of the idea of aggression (‘touch’). This semantics is attested in Polish *tykać*, although in modern Polish this meaning is negatively polarized and predominantly occurs in combination with certain kinds of food, cf.:

- (18) *W moim przypadku jest tak, że nie tykam żadnych słodyczy, fast food’ów, białego pieczywa i ryżu.* [Sketch Engine]
 ‘In my case it is like this – I do not touch any sweets, fast food, pastry from white flour, and rice.’

b) ‘push’ and relocation into a container

Indicating the container as the goal of relocation (i.e., specifying the type of the final point) takes the semantics of verbs of pushing away from its prototype. Firstly, the properties of the object are modified: as a rule, it is no longer a heavy bulky object which relocates in contact with the surface; now objects may

be entities of various kinds including light ones, e.g. clothes, papers, etc. Secondly, the idea of caused motion itself is put into the background: it is the stage of placing into the container which is foregrounded now, so that the preceding stage, the relocation, is no more relevant than it is in other verbs of placing an object (cf. 'put', 'stand').

Still, the foregrounding of the container does not automatically shift the verb of caused motion into a different domain. This transition is gradual, as is well seen in cross-language comparison. Initially, the verb 'push' preserves the idea of force applied: in the case of container this means that either there is not enough space within the container, or the inlet is smaller than the object. In Russian such usage is most vividly observed in *pixat'* 'thrust' (the idea of placing into a container is even attested as an individual entry in the Minor Academic Dictionary of Russian), cf. *Ja беру из вазы две карамел'ки и pixaju v karman*. 'I am taking two candies from the bowl and thrusting them into my pocket.' [R.S. Veresk. The thief // The Volga magazine, 2011], yet even the nuclear verb of the field, *tolkat'*, may also be found in such contexts (although this function is more often fulfilled by the specialized prefixed derivative *zatakivat'*).

Further development of "container" constructions is linked with the blurring of the idea of insufficient space, although the "heritage" of this idea may still linger in the evaluative connotation – namely, of inappropriateness of the action (cf. the similar meaning in Russian *sovat'* 'thrust' which also denotes placing into a container [Rakhilina 2015]). Thus, the Ukrainian cognate of Russian *pixat'* – *pxati* – is possible in the contexts where the semantics of lack of space in the container is entirely lost, cf. about placing one's hands into water:

- (19) *Jak toj ribalka, ščo jomu virvet'sja z ruk živa riba j šubovsne v riku, to vin u nestjami pxaє ruki v vodu, či ne vđast'sja šče ribu pijmati, tak voni oba probuvali najti jaščirku v travı.* 'Just like a fisherman who lets the live fish out of his hands, and it slips into the river, would frantically thrust his hands into the water in the hope of catching it – likewise those two were trying to find the lizard in the grass.' [Les Martovich. Prejudice (1909-1911)]

The final step of this evolution is the loss by the lexeme of the original semantics, when the verb may cease to occur in contexts describing relocation of a heavy object by pushing it in front of oneself, and come to be used only in the meaning of placing into a container. This stage is observed in the Bulgarian cognate of Russian *pixat'* and Ukrainian *pxati* – *pāxvam*:

- (20) *Raztārkvax prāstite i dlanite si, pāxax rāce v džobovete na baltona, no studāt kato če pronikvaše i prez šajaka i ščipeše bolezveno.* 'I rubbed my fingers and palms, and thrust the hands into the pockets of my coat – but the cold seemed to be penetrating through the clothes and was painfully pinching.' [G. Karaslavov, Selected works VIII]

c) 'pull' and taking out of a container

Development of the semantics of taking out of a container in 'pull' is largely similar to the process observed in 'push' above. At the first stage the semantics of relocation is reduced to application of force which in this case implies heavy weight of the object or a tightly packed container. Two synonymous Russian verbs, *tjanut'* and *taščit'* provide a noteworthy comparison. Initially, both of them can describe the action of the subject who is moving the object which is located behind. Constructions containing an indication of the initial point (i.e. container) more often tend to feature the prefixal counterparts of these two verbs (*vytjanut'* and *vytaščit'*, respectively), although *taščit'* in principle may also denote taking out of a heavy object (cf. *iz bolota taščit' begemota* 'to pull the hippo out of the swamp'). Remarkably, the derivatives *vytjanut'* and *vytaščit'* are differently distanced from the semantics of taking out an object. Whereas *vytjanut'* retains the idea of tightly filled container so that the object enters the subject's field of vision gradually (cf. *vytjanut' platok iz karmana* 'pull the handkerchief out of the pocket'), *vytaščit'* eliminates the constraints on the properties of the container and the character of the motion – and thus may use synonymously with the general verbs of this field, cf. *vytaščit' (vynut' / dostat') komp'juter iz rjukzaka* 'pull (take) a laptop out of the backpack'.

Again, the final stage of this development is loss of the original semantics of relocating the object and functioning of the verb in the capacity of a basic verb for taking out of an object. As suggested by etymological data, this evolution occurred to the verbs originating to the Proto-Slavic **vaditi* in many South Slavic languages. The reconstructed meaning of the Proto-Slavic verb is 'pull', whereas in modern Serbian and Bulgarian the reflexes of this verb denote taking out of a container, cf. Bulgarian *izvadja masloto ot xladilnika* 'take butter out of the fridge'.

Thus, we saw three models of semantic shifts in the zone of ‘pull’ and ‘push’. All of the examined cases may be reduced to a common pattern: (1) foregrounding of the initial or the final stage of the situation of caused motion, so that the meaning of the verb includes some adjacent action, (2) indicating a special subtype of this adjacent action (namely, with application of force), (3) loss of the idea of force and, consequently, functioning of the lexeme on the same grounds as the general verbs of the adjacent field.

The existing theoretical approaches to metonymy seem to consider mainly the shifts involving foregrounding of certain aspects of the situation (a participant or one of the stages), see [Radden, Kövecses 1999, Paducheva 2004, Peirsman, Geeraerts 2006] – notably, implying that the metonymic and the original meanings remain within the same domain. Meanwhile, our verbs “touch” upon the adjacent field as early as this stage. And yet the mechanism of their shift – that of foregrounding by change in the semantic construction – is well in accord with the classical models (see, for example, [Paducheva 2004] on shifting the focus of attention as the semantic basis for diathetic shifts, cf. *probit' dyru v stene* → *probit' stenu* ‘break a hole in the wall → break the wall’; *Veter xlopaet dver'ju* → *Dver' xlopaet* ‘The wind is banging the door → The door is banging’).

A shift that appears less canonical is the transition from the special kind of adjacent situation to the neutral denotation of this situation. This process involved blurring of individual semantic characteristics of the action, hence the broadening of the lexeme’s scope of application. However, this evolution does not fit into the notion of metonymy let alone metaphor – thus breaching the classification of semantic shifts accepted in state-of-the-art research (including the cognitive school). Yet, as was noted above, such classifications – especially the early ones – recognized other types of shifts along with metaphor and metonymy, including broadening (generalization) and narrowing (specialization) of the meaning. Nevertheless, such shifts – unlike metaphor and metonymy – firstly, are not subject to scrutiny in regard to their mechanisms and secondly, are usually illustrated with examples from the domain of concrete nouns.

Meanwhile, generalization occurs also beyond the scope of concrete nouns vocabulary, and its models are particularly interesting due to the fact that the genus-species relations are much less applicable to these layers of the lexicon. A limited attention was devoted to semantic broadening by researchers of grammaticalization, as the transformation of a lexeme into a grammatical indicator is preceded by the so-called bleaching which extends the combinability of the unit undergoing grammaticalization. Still, semantic generalization, as we saw in the examples above (on development of the abstract meaning in ‘do’, see also [Reznikova 2022]; on blurring concrete components of meaning also see [Apresyan и др. 2019]), is not limited to shifts into the zone of grammar.

Contiguity, which lies at the foundation of the shifts examined above, brings to the fore one more theoretical problem – the notion of semantic field. The classical theory of J. Trier [Trier 1931] sees fields as closed sets of semantically related lexemes. These sets do not overlap; there are no “empty spaces” between them, hence every word in a language belongs to one definite field. This understanding of semantic field is contradicted by the gradual shifts across the boundaries discussed in this Section. This means that fields do not exist in isolation, they do overlap, thus creating some sort of “transition zones” which make the graduality of shift possible.

Another evidence to corroborate overlapping of fields is found in the frames which in different languages are denoted by lexemes from different domains. An example is the frame ‘extracting a tooth’. In Russian, Polish, and Slovak this situation is described with a verb expressing abrupt detachment of a fixed object (such as weeds, hairs, a sheet out of a copy-book), cf. Russian *vyrvat'*, Polish *wyrwać*, Slovak *vytrhnúť* ‘tear out’. In Slovak, *vytiahnuť* ‘pull out’ may also be used; the same model is found in English (*pull out*) and German (*rausziehen*). Finally, extraction of a tooth may also be described with the general verbs of taking out an object (Bulgarian *izvadja*, Serbian *izvaditi*). Each of the three strategies highlights a specific aspect in the structure of the situation: ‘tear’ conceptualizes the tooth as a growing object, ‘take out’ – as an object within a container (the gum), ‘pull’ emphasizes the direction of the impact, which is towards the subject. With this being said, the situation turns out to belong to all the three fields at once, i.e., at the point of their intersection. Typologically, across multiple languages cases of similar competition among fields in lexification of the same frame are rather numerous.

To summarize, analysis of verbs from the zones of ‘pull’ and ‘push’ demonstrates the fact that semantic fields are not unrelated; rather, they intersect and overlap due to contiguity of the corresponding situations. An effective tool for identifying such intersections is offered by comparative research into the semantics of cognates and – even broader – the typological approach to the study of the lexicon.

4.3. Verbs of hiding

Paper selected for the defense: [Reznikova 2022]

Availability of a variance of lexicalization strategies is particularly common in situations implying a well-defined goal of the action. If a language possesses conventional lexical means for expression of this goal, these means may “compete” with the terms of actions required for attaining the goal. Verbs with a lexicalized goal include, among the others, *seek*, *repair*, *please*, and *hide*; the latter will be discussed below.

Semantic peculiarity of these verbs consists in their underspecification (see [Geeeraerts 2015], cf. also the notion of “abstract verbs” in [Plungian, Rakhilina 1990]): while characterizing the goal of an action, they give no indication of the method to achieve it. Thus, in the process of searching the subject may engage in a wide range of operations – pacing up and down the room, rearranging, scrutinizing, or feeling things, and so on, see [Ryzhova et al. (eds) 2018], and any of these situations may be denoted by the verb *seek*. Similarly, when *hiding* an object, one may choose to take it to a secret location, bury it in the ground, cover it with something, and the like. Thus, variation in lexicalization in such cases is predetermined by the very nature of the situation, as it can be described either in terms of its goal, or it may express the physical action performed by the subject.

Typological analysis on 28 languages shows that in a number of cases the “alternative” description, the one via a physical action, may happen to be the only available way to represent a situation. The constraints may be due to the fact that verbs specifying the goal of action – in the present case, the verbs with the meaning of hiding – typologically may vary in the spectrum of situations they cover. As a consequence, lexemes with narrower semantics do not extend to certain types of contexts which in other languages are expressed with verbs of hiding, and the only remaining strategy then is an alternative lexicalization via the description of a concrete physical action.

According to our data, the typological prototype of hiding is found in the situation in which the subject puts an inanimate object to a secret location in order to prevent the counteragent from finding it. In other words, prototypically the situation implies a specific object (concrete and inanimate), a specific method of acting (relocation into a secret place), and a specific goal (to prevent the counteragent from finding). This situation is established with a verb which can be regarded as the nuclear lexeme of the field. However, nuclear verbs differ typologically in how far they may depart from this prototype. The widest scope is possessed by lexemes capable of describing any type of object (including abstract ones, e.g. thoughts and feelings), any type of hiding (including the cases when the object is covered or screened without being relocated), while also being able to depart from the prototypical aim (verbs of hiding may sometimes cover the situations in which the object is to be protected from some other factor rather than the counteragent, cf. ‘hide the food into the fridge’, ‘hide the knife into the case’, ‘hide one’s hands into the pockets (from cold), and so on). Such broad scope is found in Arabic (*aḥafā*), the North Russian dialect of Romani (*garavés te*), and in Ossetian (*æmbæxsyn*).

More often, however, nuclear verbs of falling are subject to certain limitations on usage in non-prototypical situations. Thus, Russian *prjatat’*, as well as Swedish *gömma*, cannot apply to abstract objects (in relation to thoughts and emotions Russian uses *skryvat’* rather than *prjatat’*); Norwegian *gjemme* and Turkish *saklamak* cannot describe situations in which the object is not relocated in the process of hiding (if it is covered or screened, *skjule* and *gizlemek* are used, respectively); finally, Kazakh *жасыру* and Korean *kam-chwu-ta* are not applicable to situations without a counteragent.

In some languages the semantics of nuclear verbs is even narrower than that, due to limitations imposed by several factors. Thus, German *verstecken* requires a canonical object and a mode of action (i.e. it describes only hiding of concrete objects by means of relocating), and Khmer *leak* applies only to situations with a prototypical mode and goal (it denotes relocation of an object in order to prevent the counteragent from finding it). Finally, Basque *ezkutatu* and Persian *qāyem kardan* are subject to all the three limitations, i.e., they denote only the prototypical hiding. In all the contexts where the nuclear lexeme is disabled, other verbs are used.

The nature of such peripheral verbs is essential for the problem of semantic shifts. In the majority of cases, they do not come from the field’s own stock of lexemes but rather are borrowed from other semantic zones². Sources of such verbs are typologically regular, as lexemes from other fields indicate the

² An exception to this is found in verbs linked with derivational relations to the abstract noun ‘secret’ or the adjective ‘secret’, cf. ‘hide, conceal’ in Russian *tait’* (< *tajna* ‘secret’), German *verheimlichen* (< *heimlich* ‘secretly’), Shughni *pinûn čīdow* (< *pinûn* ‘hidden, secret’ + *čīdow* do).

mode of fulfilling the action. In other words, if in a given non-prototypical situation the verb describing the goal of the action (i.e., the nuclear ‘hide’) is unavailable, the situation undergoes lexicalization via description of the mode (‘cover’, ‘bury’, ‘put’); then, strictly speaking, it no longer belongs to the zone of hiding (cf. ‘put’ and similar verbs for the situation ‘hide into the fridge’).

Typological variation in strategies of lexicalization thus reflects the cross-language mobility of the boundaries of the semantic field. Yet, the boundaries are mobile not only in the typological but also in the diachronic perspective: one of the major processes observed in lexemes borrowed from other fields is their semantic evolution which leads to expansion of the “alien” verb into the zone of hiding.

From the theoretical standpoint, shifts of this kind are heterogeneous; their characteristics are defined by the original meaning of the verb. The shifts from ‘cover’ and ‘bury’ are more transparent: they involve metaphoric rethinking of the situation, which is achieved through the change of the taxonomic class of a participant (in the case of ‘cover’ the object is expressed by an abstract entity in place of a concrete object, cf. German *Narben verdecken* lit. ‘cover the seams’ → *seine Absichten verdecken* lit. ‘cover one’s intentions’; in the case of ‘bury’ rethinking affects the type of the location: instead of the ground a new secret location appears, cf. Spanish *enterró el dinero en la caja fuerte* lit. ‘he buried the money in the safe’).

Less trivial are the shifts from the verbs of the type ‘put’ or ‘move away’. In synchrony, we observe their functioning only in situations where the idea of protecting the object from somebody is not expressed in the verb. Nevertheless, a number of nuclear verbs of hiding in our sample etymologically go back to the idea of placing something somewhere. Thus, German *verstecken* is formed from the verb *stecken* ‘thrust’; a similar source is found in Shughni *jo(y) čīdow* lit. ‘make place’ (=‘place’) [Rakhilina et al. 2021]. Moreover, the most likely etymology of Russian *prjatat’* links it with the semantics of ‘put away’ (specifically, about hay or harvest) [Kurkina 2002; 2011]).

However, semantic development here is not based on metaphoric reinterpretation. Unlike the lexemes ‘cover’ or ‘bury’, where the original and derived semantics corresponded to different situations, the evolution from ‘put’ to ‘hide’ does not change the situation at all: the same action may be described both with the predicate ‘put’ (‘put away’) and the predicate ‘hide’; the latter, additionally, ascribes a specific aim to the action – that of preventing the counteragent from finding the object.

Thus, this shift, involves narrowing of the meaning (since the verb is no longer applicable to whatever type of placing the object, but only to the types where the subject intentionally puts the object to place where it is not to be found). If one is to attempt to classify this shift in terms of the binary opposition metaphor vs. metonymy, then, on the one hand, the transition from ‘put’ to ‘hide’ is definitely based on contiguity, since both of these actions are integral parts of one event – thus resembling metonymy. On the other hand, the situations of ‘putting’ or ‘putting away’ may hardly be seen to be in the same field as the situations of hiding, unless we are to admit a field with an extremely wide scope including a very broad range of physical actions with the object. Yet, semantic descriptions of fields typically expect more generic categories, cf. for example, the frames adopted in [FrameNet]. Consequently, the field of ‘hiding’ once again displays a non-standard – cross-domain – metonymy.

5. Conclusion

The papers included into the present thesis present typological studies of several semantic fields – verbs of falling, pain, caused motion, hiding, and adjectives of cleanness, as well as the pragmatic zone of quasiperformative constructions. The shifts of meaning identified on this data shed new light and elaborate on the theoretical views on the major types of semantic derivation established within the cognitive paradigm.

Although the most exhaustive of the existing classifications number more than 10 types of shifts, discussion of semantic mechanisms is habitually reduced to only two shifts – metaphor and metonymy. Metaphor is conventionally regarded as mapping between Source and Target domains, where the structural framework of the original situation is preserved. If we look at the elements of this framework as participants and the relations between them as the properties of the predicate which links the participants with each other, then we will see that the shifts claiming to be metaphors form an extremely heterogeneous class in regard to sustainability of this framework.

On the one hand, in some cases the participants and the actional and intentional properties of the predicate are inherited precisely; on the other hand, the framework often undergoes changes, when the set of participants may extend or narrow; the changes may affect the aspectual behavior of the verb or the controllability of the situation it describes. The observed violations may impact the relation of semantic similarity to a varying extent: it is quite expected of a change affecting only the peripheral roles to be less

“destructive” for direct metaphoric similarity between the Source and the Target than addition or loss of nuclear participants (for example, the object). In its turn, transition from an atelic process to a state is less “impactful” than development of stative semantics from a telic process. Notably, loss of controllability seems to affect the situation to a lesser extent than the opposite shift, from an uncontrolled to a controlled situation.

Apparently, absence of metaphoric parallelism between the two situations is more distinct when the violations affect several structural elements at once; thus, loss of object correlates in our data with reduction of the verb’s paradigm, with shifts in the grammatical semantics of the form, and so on. On the semantic level, the derivative situation in such cases displays similarity not to the original situation but rather to an adjacent event, i.e., the metonymic mechanism of the shift is at play along with the metaphoric one.

The shifts of metonymic nature attested in our data also often break away with the canon, which expects contiguity-based shifts not to trespass boundaries of semantic fields. The typological approach reveals regular instances of one and the same situation being lexified in different languages with words from different semantic fields. In the stative zone of qualities such competition arises due to the implied relation between the properties, when the presence of one typically entails the presence of the other (cf. ‘fast’ and ‘transparent’). In dynamic situations the alternatives are promoted by foregrounding different stages of their development (cf. ‘fall’ and ‘hit’; ‘move away from oneself’ and ‘place into a container’) or by choosing between expression of the goal and the action required to attain it (‘hide’ and ‘put away’).

In the diachronic perspective contiguity between fields is at the basis of semantic shifts. The borderline situations, which belong to two fields at once, often represent only one narrow subtype of situations in each of the fields. Thus, various objects can be ‘fast’, but the transition into the zone of ‘transparent’ occurs only in the context of rivers and other moving water bodies. ‘Pushing’ an object can be done for various reasons, and pushing into a container is only one subtype of such relocation. By associating in some contexts with a new semantics, the lexeme comes to occur in situations where this new semantics comes to the fore, while the original meaning is no longer relevant, cf. ‘transparent’ about a lake, or ‘placing into a container’ about cases which do not involve application of force. In this way, the shift between fields often takes its course through a “narrow bridge” connecting the two semantic zones; “entering” this bridge requires specialization of the lexeme in one of the classes of the original situation, while “exiting” occurs through generalization of the meaning at the expense of widening the coverage of situations from the Target domain.

Most visibly such shifts can be seen in genetically related languages, when cognates are found in different semantic fields, or when different combinability of cognates allows us to reliably determine the potential course of their semantic evolution.

Overall, the data convincingly proves that shifts in meanings must not be reduced to only two major types in their conventional understanding. The shifts indiscriminately referred to as “metaphors” or “metonymies” are in fact heterogeneous sets of semantic changes, calling for further classification. Typological recurrence of the properties differentiating this or that class from the canonical models corroborates their regular character and the consequent relevance of the identified classes for the semantic theory.

References

- Apresyan 1974 — Apresyan Yu. D. *Leksičeskaya semantika: sinonimičeskie sredstva jazyka* [Lexical semantics: Synonymic means of language]. Moscow: Nauka, 1974.
- Apresyan 1988/1995 — Apresyan Yu. D. Glagoly momental'nogo dejstvija i performativy v russkom jazyke [Verbs of Instantaneous Action and Performatives in Russian]. In Yu. D. Apresyan. *Izbrannye trudy. Vol. 2. Integral'noe opisanie jazyka i sistemnaja leksikografija*. M.: Jazyki russkoj kul'tury. 1995. Pp. 199–241.
- Apresyan et al. 1979 — Apresyan Yu. D.; Botyakova V. V.; Latysheva T. E. et al. *Anglo-russkij sinonimičeskij slovar'* [English - Russian Dictionary of Synonyms]. Moscow: Russkij jazyk, 1979.
- Apresyan et al. 2019 — Apresyan V. Yu., Apresyan Yu. D., Dragoj O. V., Iomdin B. L., Laurinavichyute A. K., Levontina I. B., Lopukhin K. A., Lopukhina A. A., Uryson E. V. O metode kompleksnogo semantičeskogo, statističeskogo i psixolingvističeskogo analiza mnogoznačnosti [A Multifaceted Approach to Semantic, Statistical, and Psycholinguistic Analysis of Lexical Polysemy]. *Russkaya reč'*, 2019, 1. Pp. 8–17.
- Arkhangel'skij et al. 2011 — Arkhangel'skij T. A., Tagabileva M. G., Kholkina L. S. Kačestvennye priznaki ‘čistyj’, ‘grjaznyj’, ‘prozračnyj’, ‘mutnyj’: k postroeniju semantičeskoj tipologii [Qualitative

- features 'clean', 'dirty', 'transparent', 'opaque': towards a sematic typology]. *Acta Linguistica Petropolitana. Trudy Instituta lingvističeskikh issledovanii RAN*, 2011, 7(3). C. 257–60.
- Barcelona 2000 — Barcelona A. On the plausibility of claiming a metonymic motivation for conceptual metaphor. In A. Barcelona (ed.), *Metaphor and metonymy at the crossroads: A cognitive perspective*. Berlin & New York: Mouton de Gruyter, 2000, pp. 31–58.
- Blank 1999 — Blank A. Why do new meanings occur? A cognitive typology of the motivations for lexical semantic change. In A. Blank, P. Koch (eds.), *Historical Semantics and Cognition*. Berlin/New York: Mouton de Gruyter, 1999, pp. 61–90.
- Boas 2011 — Boas H. C. Constructing parallel lexicon fragments based on English FrameNet entries: Semantic and syntactic issues. In: H. Hedeland, T. Schmidt, and K. Woerner (eds.), *Multilingual Resources and Multilingual Applications. Proceedings of the German Society for Computational Linguistics and Language Technology (GSCL) 2011*, Hamburg. University of Hamburg: Center for Language Corpora, 2011, pp. 9–18.
- Bréal 1897 — Bréal M. *Essai de sémantique: Science des significations*. Paris, Hachette, 1897.
- Brugman & Lakoff 1988 — Brugman C. M., Lakoff G. Cognitive topology and lexical networks // G. W. Cottrel, S. Small, M. K. Tannenhouse (eds.), *Lexical ambiguity resolution: perspectives from psycholinguistics, neuropsychology and artificial intelligence*. San Mateo (CA): M. Kaufman, 1988, pp. 477–508.
- Brugman 1988 — Brugman C. M. *The story of 'over': Polysemy, semantics and the structure of the lexicon*. New York: Garland, 1988.
- Bybee & Dahl 1989 — Bybee J., Dahl Ö. The Creation of Tense and Aspect Systems in the Languages. *Studies in Language* 13-1, 1989, pp. 51–103.
- Darmesteter 1887 — Darmesteter A. *La vie des mots*. Paris: Delagrave, 1887.
- Dobrovolskij & Piirainen 2005 — Dobrovolskij D., Piirainen E. *Figurative language: cross-cultural and cross-linguistic perspectives*. Amsterdam; Heidelberg: Elsevier, 2005.
- Fauconnier & Turner 1998 — Fauconnier G., Turner M. Conceptual Integration Networks. *Cognitive Science*, 22 (2), 1998, pp. 133–187.
- Fillmore 1976 — Fillmore Ch. J. Frame Semantics and the Nature of Language. *Annals of the New York Academy of Sciences*, 280, 1976, pp. 20–32.
- Fillmore 1982 — Fillmore Ch. J. Frame Semantics. In *Linguistics in the morning calm*. Seoul, South Korea: Hanshin Publishing Co., 1982, pp. 111–137.
- Fillmore et al. 1988 — Fillmore Ch. J.; Kay P.; O'Connor M. C. Regularity and idiomaticity in grammatical constructions: The case of LET ALONE. *Language*, 64.3, 1988, pp. 501–538.
- François 2008 — François A. Semantic maps and the typology of colexification: intertwining polysemous networks across languages. In: M. Vanhove (ed.), *From Polysemy to Semantic Change*. Amsterdam: John Benjamins, 2008, pp. 163–215.
- Geeraerts 2015 — Geeraerts D. Sense individuation. In N. Riemer (ed.), *The Routledge Handbook of Semantics*. London & New York: Routledge, 2015, pp. 233–247.
- Goddard & Wierzbicka 2007 — Goddard C., Wierzbicka A. NSM analyses of the semantics of physical qualities *sweet, hot, hard, heavy, rough, sharp* in cross-linguistic perspective. *Studies in Language*, 31(4), 2007, pp. 765–800.
- Goldberg 1995 — Goldberg A. *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago: University of Chicago Press, 1995.
- Goossens 1990 — Goossens L. Metaphonymy: The interaction of metaphor and metonymy in expressions for linguistic action. *Cognitive Linguistics* 1, 1990, pp. 323–340.
- Haspelmath 1990 — Haspelmath M. The Grammaticization of Passive Morphology. *Studies in Language*, 14(1), 1990, pp. 25–72.
- Haspelmath 2003 — Haspelmath M. The geometry of grammatical meaning: semantic maps and cross-linguistic comparison. In M. Tomasello (ed.), *The new psychology of language*, vol. 2, New York: Erlbaum, 2003, pp. 211–243.
- Heine & Kuteva 2002 — Heine B., Kuteva T. *World lexicon of grammaticalization*. Cambridge: Cambridge University Press, 2002
- Karpova et al. 2011 — Karpova O. S., Rahilina E. V., Reznikova T. I., Ryzhova D. A. Ocenočnye značeniya rebrandingovogo tipa v priznakovoj leksike (po materialam Bazy dannyx semantičeskix perexodov v kačestvennyx prilagatel'nyx i narečiyax) [Rebranding in quality terms (on the Database of semantic shifts in qualitative adjectives and adverbs)]. *Komp'juternaja lingvistika i intellektual'nye texnologii: Trudy meždunarodnoj konferencii «Dialog-2011»*. M.: RGGU, 2011. Pp. 292–304.

- Kashkin 2013 — Kashkin E. V. Jazykovaja kategorizacija faktury poverxnostej (tipologičeskoe issledovanie naimenovanij kačestvennyx priznakov v ural'skix jazykax) [Linguistic categorization of surface texture (typology of qualities in Uralic)]. Dis. ... kand. filol. nauk. Moskva: Lomonosov Moscow State University, 2013.
- Kashkin 2017 — Kashkin E. V. Komi jazyk i leksičeskaja tipologija: glagoly padenija [Komi and lexical typology: verbs of falling] // *Permistika-16: Dialekty i istorija permskix jazykov vo vzaimodejstvii s drugimi jazykami: sbornik naučnyx statej*. Syktyvkar: Izd-vo SGU im. Pitirima Sorokina, 2017. Pp. 86–94.
- Khokhlova 2020 — Khokhlova L.V. Semantičeskoe pole padenija v trex rodstvennyx novoindijskix jazykax: hindi-urdu, pandžabi i gudžarati [Semantic domain of falling in three related Indo-Aryan languages: Hindi-Urdu, Punjabi and Gujarati]. *Acta Linguistica Petropolitana. Trudy instituta lingvističeskix issledovanij*, 2020, 16(1). S. 638–674.
- Kopecka & Narasimhan (eds.) 2012 — Kopecka A., Narasimhan B. (eds.). *Events of Putting and Taking: A Crosslinguistic Perspective*. Amsterdam, Philadelphia: John Benjamins, 2012.
- Koptjevskaja-Tamm 2022 — Koptjevskaja-Tamm, M. Talking temperature with close relatives: semantic systems across Slavic languages. In E. V. Rakhilina, T. I. Reznikova, D. A. Ryzhova (eds.), *The typology of physical qualities*. Amsterdam, Philadelphia: John Benjamins, 2022.
- Kuleshova 2016 — Kuleshova M. L. Glagoly padenija v slovenskom jazyke: leksiko-tipologičeskij aspekt [Verbs of falling in Slovenian: A lexical typological aspect]. *Filologičeskie zametki*, 2016, 14(2). Pp. 188–201.
- Kurkina 2002 — Kurkina L. V. K etimologii slav. **prętati* [On the etymology of the Slavic **prętati*]. In V. V. Ivanov (ed.), *Balto-slavjanskije issledovanija*, XV. M.: Indrik, 2002. Pp. 194–203.
- Kurkina 2011 — Kurkina L. V. *Kul'tura podsečno-ognevoogo zemledelija v zerkale jazyka*. Moscow: Azbukovnik, 2011.
- Kustova & Paducheva 1994 — Kustova G. I., Paducheva E. V. Slovar' kak leksičeskaja baza dannyx [Dictionary as a lexical database]. *Voprosy jazykoznanija*, 1994, 4. Pp. 96–106.
- Kustova 2004 — Kustova G. I. *Tipy proizvodnyx značenij i mexanizmy jazykovogo rasširenija* [Types of derivative meanings and mechanisms of linguistic extension]. Moscow: Jazyki slavjanskoj kul'tury, 2004.
- Lakoff & Johnson 1980 — Lakoff G., Johnson, M. *Metaphors We Live By*. Chicago: University of Chicago Press, 1980.
- Lakoff 1987 — Lakoff G. *Women, Fire, and Dangerous Things. What Categories Reveal about the Mind*. Chicago, London: The University of Chicago Press, 1987.
- Lakoff 1990 — G. Lakoff. The Invariance Hypothesis: is abstract reason based on image-schemas? *Cognitive Linguistics* 1 (1), 1990, pp. 39–74.
- Letuchiy 2013 — Letuchiy A. B. *Tipologija labil'nyx glagolov* [Typology of labile verbs]. M.: Jazyki slavjanskoj kul'tury, 2013.
- Maisak & Rakhilina (eds.) 2007 — Maisak T. A.; Rakhilina E. V. (eds.). *Glagoly dviženija v vode: leksičeskaja tipologija* [Verbs of aquamotion: a lexical typology]. Moscow: Indrik, 2007.
- Maisak 2005 — Maisak T. A. *Tipologija grammatikalizacii konstrukcij s glagolami dviženija i glagolami poziciji* [Typology of Grammaticalization of the Constructions with Motion and Posture Verbs]. Moscow: Jazyki slavjanskoj kul'tury, 2005.
- Majid & Bowerman (eds.) 2007 — Majid A., Bowerman M. (eds.), *Cutting and breaking events: a crosslinguistic perspective*. *Cognitive Linguistics*, 18.2, 2007.
- Majid et al. 2007 — Majid, M., Gullberg M., Staden M. van, Bowerman M. How similar are semantic categories in closely related languages? A comparison of cutting and breaking in four Germanic languages. *Cognitive Linguistics* 18/2, 2007, pp. 179–94.
- Majid et al. 2015 — Majid A., Jordan F. M., Dunn M. Semantic systems in closely related languages. *Language Sciences* 49, 2015, pp. 1–18.
- Malchukov 2009 — Malchukov A. Incompatible categories: Resolving the “present perfective paradox”. In L. Hogeweg, H. de Hoop & A. Malchukov (eds.), *Cross-linguistic semantics of tense, aspect, and modality*. Amsterdam: John Benjamins, 2009, pp. 13–32.
- Mazanaev 2014 — Mazanaev Sh. A. *Agul'sko-russkij slovar'* [Aghul-Russian Dictionary]. Maxačkala: DGU, 2014.
- NEDS 2004 — *Novyj ob"jasnitel'nyj slovar' sinonimov russkogo jazyka* [New Explanatory Dictionary of Russian Synonyms]. Yu. D. Apresyan (ed.). Moscow, Wien: Jazyki slavyanskoj kul'tury, Wiener slawistischer Almanach (2nd ed.).

- Paducheva 2003 — Paducheva E. V. K kognitivnoj teoriji metonimii [On the cognitive theory of metonymy]. *Komp'juternaja lingvistika i intelektual'nye texnologii: Trudy meždunarodnoj konferencii «Dialog-2003»*. Moscow: RGGU, 2003. Pp. 239–246.
- Paducheva 2004 — Paducheva E. V. *Dinamičeskie modeli v semantike leksiki* [Dynamic models in lexical semantics]. Moscow: Jazyki slavjanskoj kul'tury. 2004.
- Panina 2020 — Panina A. S. Glagoly padenija v japonskom jazyke: prjamyje i perenosnye značenija [Verbs of falling in Japanese. Physical senses and semantic shifts]. *Acta Linguistica Petropolitana. Trudy instituta lingvističeskix issledovanij*, 2020, 16(1). Pp. 968–996.
- Paul 1880 — Paul H. *Prinzipien der Sprachgeschichte*. Tübingen, Niemeyer, 1880.
- Pechnikova 2017 — Pechnikova V. M. Prilagatel'nye semantičeskix zon 'čistyj' i 'grjaznyj': tipologija prjamyx i perenosnyx značenij [Adjectives of cleanliness and dirtiness: a typology of physical and derived meanings]. *Problemy komp'juternoj lingvistiki i tipologii: Sbornik naučnyx trudov 6*. Voronež: Izdatel'skij dom VGU. 2017. Pp. 85–97.
- Peirsman & Geeraerts 2006 — Peirsman Y., Geeraerts D. Metonymy as a prototypical category. *Cognitive Linguistics*, 17(3), 2006, pp. 269–316.
- Plungian & Rakhilina 1990 — Plungian V. A., Rakhilina E. V. 1990. Sirkonstanty v tolkovanii? // Z. Saloni (ed.). *Metody formalne w opisie języków słowiańskich*. Białystok: Wydawnictwo Uniwersytetu Warszawskiego, 1990. Pp. 201–210.
- Plungian 2000 — Plungian V. A. *Obščaya morfologija. Vvedenie v problematiku* [General morphology. Introduction]. Moscow: Editorial URSS, 2000.
- Radden & Kövecses 1999 — G. Radden, Z. Kövecses. Towards a theory of metonymy. In K.-U. Panther, G. Radden (eds.), *Metonymy in language and thought*. Amsterdam & Philadelphia: Benjamins, 1999, pp. 17–59.
- Rakhilina & Nekushoeva 2020 — Rakhilina E. V., Nekushoeva Sh. S. Sistema glagolov dviženija vniž v šugnanskom jazyke [Falling verbs in Shughni]. *Acta linguistica Petropolitana*, 2020, 1. Pp. 579–609.
- Rakhilina & Prokofieva 2004 — Rakhilina E. V., Prokofieva I. A. Rodstvennye jazyki kak ob'ekt leksičeskoj tipologii: russkie i pol'skie glagoly vraščeniya [Lexical typology of cognate languages: Russian and Polish verbs of rotation]. *Voprosy jazykoznanija*, 2004, 1. Pp. 60–78.
- Rakhilina & Prokofieva 2005 — Rakhilina E. V., Prokofieva I. A. Russkie i pol'skie glagoly kolebatel'nogo dviženija: semantika i tipologija [Russian and Polish oscillation verbs: Semantics and typology]. In V. N. Toporov (ed.). *Jazyk. Ličnost'. Tekst. Sb. k 70-letiju T. M. Nikolaevoj*. Moscow: Jazyki slavjanskix kul'tur, 2005. Pp. 304–312.
- Rakhilina 2015 — Rakhilina E. V. Stilističeski markirovannye glagoly v ruskom jazyke: *sovat' – sunut'* [Stylistically marked verbs in Russian: *sovat' – sunut'*]. *Vestnik Tomskogo gosudarstvennogo universiteta. Filologija*, 2015, 3 (35). Pp. 73–92.
- Rakhilina et al. 2010a — Rakhilina E. V., Reznikova T. I., Karpova O. S. Semantičeskie perexody v atributivnyx konstrukcijax: metafora, metonimija i rebranding [Semantic shifts in attributive constructions: metaphor, metonymy and rebranding]. In E. V. Rakhilina (ed.), *Lingvistika konstrukcij*. Moscow: Azbukovnik, 2010. Pp. 396–455.
- Rakhilina et al. 2010b — Rakhilina E. V., Reznikova T. I., Bonch-Osmolovskaya A. A. Tipologija preobrazovanija konstrukcij: predikaty boli [Typology of constructions transformation: pain predicates]. In E. V. Rakhilina (ed.), *Lingvistika konstrukcij*. Moscow: Azbukovnik, 2010. Pp. 456–539.
- Rakhilina et al. 2020 — Rakhilina E. V., Reznikova T. I., Ryzhova D. A. Metafori glagolov padenija [The metaphors of falling]. *Acta Linguistica Petropolitana. Trudy instituta lingvističeskix issledovanij*, 2020, 16(1). Pp. 64–112.
- Rakhilina et al. 2021 — Rakhilina E. V., Nekushoeva Sh. S., Armand E. E. K istorii ponjatij: lingvističeskij rakurs. Šugnanskoe PRJATAT' [On the history of notions: A linguistic perspective. Shughni 'hide']. *Izvestija RAN. Serija literatury i jazyka*, 2021, 80(6). Pp. 69–78.
- Reznikova 2014 — Reznikova T. I. Slog u avtora neplox, real'no dostavljaet: o nestandartnyx semantičeskix perexodax v glagol'noj leksike (po dannym interneta) [On non-standard semantic shifts in verbs]. In E. V. Rakhilina, Ya. E. Akhapkina (eds.), *Sovremennyj russkij jazyk v Internete*. Moscow: Jazyki slavjanskix kul'tur, 2014. Pp. 169–180.
- Reznikova 2022 — Reznikova T. I. Glagoly prjataniya: tipologija system [Verbs of hiding: A typology of systems]. *Voprosy jazykoznanija*, 2022, 4. Pp. 66–94.
- Reznikova et al. 2012 — Reznikova T. I., Rakhilina E. V., Bonch-Osmolovskaya A. A. Towards a typology of pain predicates. *Linguistics*, 50(3), 2012, pp. 421–465.

- Reznikova et al. 2020 — Reznikova T. I., Rahilina E. V., Ryzhova D. A. Glagoly padenija v jazykax mira: frejmy, parametry i tipy system [Verbs of falling in the languages of the world: frames, parameters, and types of the systems]. *Acta Linguistica Petropolitana. Trudy instituta lingvističeskix issledovanij*, 2020, 16(1). Pp. 9–63.
- Riemer 2002 — Riemer N. When is a metonymy no longer a metonymy. In R. Dirven & R. Pörings (eds.), *Metaphor and metonymy in comparison and contrast*. Berlin & New York: Mouton de Gruyter, 2002, pp. 379–406.
- Rozina 2005 — Rozina R. I. *Semantičeskoe razvitie slova v ruskom literaturnom jazyke i sovremennom slenge: glagol* [The Semantic Development of the Word in the Russian Literary Language and in Contemporary Slang: The Verb]. Moscow: Azbukovnik, 2005.
- Ryzhova et al. (eds.) 2018 — Ryzhova D. A., Dobrushina N. R., Bonch-Osmolovskaya A. A., Vyrenkova A. S., Kyuseva M. V., Orekhov B. V., Reznikova T. I. (eds.). *EVRika! Sb. statej o poiskax i naxodkax k jubileju E. V. Rakhilinoj* [EVRika! Collected papers on searching and finding in honor of E. V. Rakhilina]. Moscow: Labirint, 2018.
- Rzymiski et al. 2020 — Rzymiski C., Tresoldi T., Greenhill S.J. et al. The Database of Cross-Linguistic Colexifications, reproducible analysis of cross-linguistic polysemies. *Sci Data* 7, 13, 2020.
- Sherstyuk & Reznikova 2021 — Sherstyuk A. Yu., Reznikova T. I. O semantičeskoj nepreryvnosti: pole 'tolkat' v slavjanskix jazykax [On Semantic Continuity: the Domain of 'Pushing' in Slavic Languages]. *Izvestija RAN. Seriya literatury i jazyka*, 2021, 80(5). Pp. 21–33.
- Skorvid 2005 — Skorvid S. S. Češkij jazyk [Czech Language]. In A. M. Moldovan, S. S. Skorvid et al. (eds.), *Jazyki mira: Slavjanskije jazyki*. Moscow: Academia, 2005: Pp. 234-274.
- Snoj 2016 — Snoj M. *Slovenski etimološki slovar*. Ljubljana: Založba ZRC, 2016.
- SSJČ — Havránek B. (hl. red.) *Slovník spisovného jazyka českého*. Praha: ČSAV, 1960-1971.
- Tolstaya 2008 — Tolstaya, S.M. *Prostranstvo slova: Leksičeskaja semantika v obščeslavjanskoj perspektive*. Moscow: Indrik, 2008.
- Traugott & König 1991 — E. C. Traugott, E. König. The semantics-pragmatics of grammaticalization revisited. In E. C. Traugott, B. Heine (eds.), *Approaches to grammaticalization*. Vol. 1. Amsterdam, Philadelphia: John Benjamins, 1991, pp. 189–218.
- Trier 1931 — J. Trier. *Der deutsche Wortschatz im Sinnbezirk des Verstandes: die Geschichte eines sprachlichen Feldes*. Heidelberg: C. Winters, 1931.
- Ullmann 1967 — Ullmann S. *Grundzüge der Semantik. Die Bedeutung in sprachwissenschaftlicher Sicht*. Berlin: Walter de Gruyter, 1967.
- Vostrikova 2003 — Vostrikova N. M. Grammatikalizacija glagolov kauzicii dviženija i izmenenija položenija v prostranstve [Grammaticalization of caused-motion and posture change verbs]. *Komp'juternaja lingvistika i intelektual'nye texnologii: Trudy meždunarodnoj konferencii «Dialog-2003»*. M.: RGGU, 2003.
- Zalizniak 2012 — Zalizniak Anna A., Bulakh M., Ganenkov D., Gruntov I., Maisak T., Russo M. The Catalogue of Semantic Shifts as a Database for Lexical Semantic Typology. *Linguistics* 50(3), 2012, pp. 634–670.