

Sergey Bragin, Sergei Obiedkov, & Daria Ryzhova  
National Research University Higher School of Economics  
**“Formal Concept Lattices as Semantic Maps”**

We suggest a new approach to building semantic maps based on formal concept analysis, which offers concept lattices as a convenient way to represent and analyze object--attribute relations [2]. Concept lattices can be used as an intermediate stage in constructing classical semantic maps [4]; they can also be regarded as self-sufficient semantic maps of a new kind [6].

As an illustration, we show below a part of the concept lattice based on the M. Haspelmath's indefinite pronouns data [5]. Every node of the lattice corresponds to a formal concept characterized by its extent, which is a set of words, and intent, which is the set of meanings or functions shared by the words from the extent. These meanings can be read off by looking at the labels immediately above the corresponding node and above all nodes reachable by upward arcs. A node is bold if and only if there is a lexeme whose set of meanings is exactly the intent of the corresponding concept. For example, there is no lexeme whose only function is “Irrealis Non-specific”, and therefore, the corresponding node is not bold. Every lexeme with this function has the function “Specific Unknown” or the functions “Question” and “Conditional”; in the diagram they are reachable by upward arcs from bold nodes below the “Irrealis Non-specific” node. Also concept lattices represent the hierarchical structure of lexemes in a studied field: the more general a concept is the lower on a diagram it lies.

Concept lattices are free of many problems of classical semantic maps mentioned in [3]. Firstly, concept lattices fit the underlying data much better than standard graph-based maps, which usually allow many combinations of meanings or functions that never occur in data. Secondly, concept lattices can be automatically generated from linguistic data. Thirdly, they make it easy to visualize frequency patterns and dependencies between meanings. Also, concept lattices provide a lossless way to represent information in data: the initial data can be reconstructed from its concept lattice. However, all this comes at the price of increased representation complexity as compared with other types of semantic maps. A partial solution to this problem is offered by software tools for interactive lattice exploration.

It often happens that our initial data is incomplete or unreliable. Formal concept analysis offers a technique, conceptual exploration, that can help complete or verify data through communication with “experts” (linguists or native speakers) [1]. The algorithm analyzes dependencies that exist in data and asks experts to verify a dependency or provide a counterexample. For instance, it may happen that every word in our dataset that combines meanings *a* and *b* also has meaning *c*. When asked to verify this rule in general, an expert may provide a counterexample by extending the dataset with a word that has meanings *a* and *b*, but not *c*. The algorithm is designed to ask as few questions as possible. Thus, a small amount of data in the beginning can be efficiently expanded to a large dataset. The set of dependencies verified by the experts

by the end of the algorithm can also be of interest, since it lists universal dependencies that hold in the semantic field under study.

### References

- [1] Ganter, B., Obiedkov, S. (2016). *Conceptual Exploration*. Springer.
- [2] Ganter, B., Wille, R. (1999). *Formal Concept Analysis: Mathematical Foundations*. Springer, Berlin/Heidelberg.
- [3] Georgakopoulos, A. & S. Polis (2018). The semantic map model. State of the art and future avenues for linguistic research. *Language and Linguistic Compass* 12(2), 1-33.
- [4] Haspelmath, M. (1997). *Indefinite Pronouns*. Oxford: Oxford University Press.
- [5] Haspelmath, M. (1997). Dataset for the implicational map of indefinite pronouns. <https://doi.org/10.5281/zenodo.1157061>
- [6] Ryzhova, D., Obiedkov, S. (2017). Formal Concept Lattices as Semantic Maps. In Ekaterina L. Chernyak (Ed.), *Computational linguistics and language science* (pp. 78-87). Aachen CEUR Workshop Proceedings.

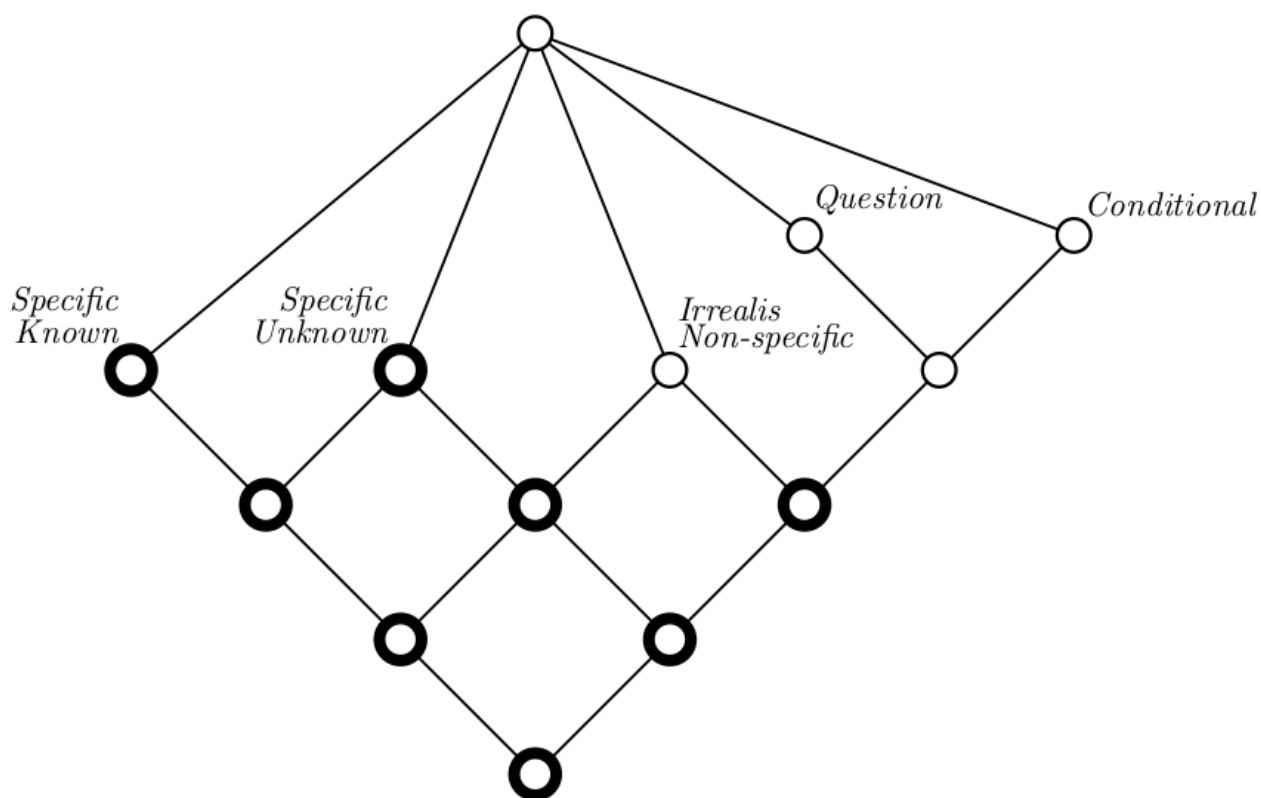


Figure 1: Part of the concept lattice based on the Haspelmath's indefinite pronouns data

Gaëlle Chantrain, Charles University, Prague

## “Mapping the ‘unbounded time’ domain in Ancient Egyptian: a diachronic approach”

In my doctoral dissertation (Chantrain, to appear), I studied the semantic evolution of eight parasynonymous lexemes belonging to the ‘unbounded time’ domain (that is, with no intrinsically defined limit) in Ancient Egyptian. The study has a strong diachronic dimension, spanning over 2000 years (approx. 2700-700 BC), and is based on a large corpus (about 1120 tokens). The chosen lexemes, *3.t*, *wnw.t*, *nw*, *tr*, *h3w*, *rk*, *ḥw*, and *hnty*, which are too often confused in translation, have been organized around three pivot-notions (François 2008, Haspelmath 2003): {moment}, {period} and {epoch}. Each lexeme has to actualize at least one of these notions for at least one stage of its diachronic evolution. Each of these notions corresponds to a subdivision of the ‘unbounded time’ domain.

The first part of my research focused on the semasiological study (Polis & Winand 2015) of these lexemes. It was based on a syntagmatic analysis, for which I devised a distributional semantic model, and on a componential analysis (i.a., Cruse 2011).

In the second part, I studied how these lexemes interact within a semantic network (onomasiology). I then presented the results in a set of semantic maps. Interestingly enough, the semantic map model I developed is the outcome of an intralinguistic lexical study (see also Winand 2016 in the same spirit, and Grossman & Polis 2012 for a study on grammatical polyfunctionality in Egyptian) and has thus no intrinsic typological dimension (in contrast with most semantic map models used in grammatical and lexical studies, i.a. Georgakopoulos et al. 2016, Haspelmath 1997, Narrog 2010). Comparison as the main criterion remains however present since it applies in diachrony to a set of parasynonymous lexemes that build up an elaborated multilevel network.

I here propose two series of lexical semantic maps: *mono-lexeme diachronic semantic maps* and *pluri-lexeme semantic maps*. The first series illustrates the semantic evolution of each lexeme in diachrony – including the diglossia phenomenon – and its situation within the ‘unbounded time’ domain. The second series, which takes into account all the lexemes considered in this study, visualizes the diachronic evolution of the semantic network.

### References

- Chantrain, G. (doctoral dissertation, to appear), *Éléments de la terminologie du temps dans les textes égyptiens (de l’Ancien Empire à la Troisième Période Intermédiaire). Etude d’un réseau sémantique en diachronie*.
- Cruse, A. D. 2011. *Meaning in Language. An introduction to semantics and pragmatics*. 3<sup>rd</sup> edition, Oxford Textbooks in Linguistics, Oxford.
- François, A. 2008. Semantic Maps and the Typology of Colexification. Intertwining polysemous networks across languages, in: Vanhove M. (ed.), *From Polysemy to Semantic Change*. Studies in Language Companion Series 106, Amsterdam/Philadelphie.
- Georgakopoulos, Th. & al. 2016. The Meaning of Ancient Words for ‘Earth’: an Exercise in Visualizing Colexification on a Semantic Map, in: Gerd Graßhof and Michael Meyer

- (eds.) *eTopoi, Special Volume 6 (2016): Space and Knowledge*, Topoi Research Group Articles, 418–452.
- Grossman, E. & Polis, St. 2012. Navigating polyfunctionality in the lexicon: semantic maps and ancient Egyptian lexical semantics, in: Grossman, E., Polis, St. & J. Winand (eds.), *Lexical semantics in Ancient Egyptian*, 175–225, Hamburg.
- Haspelmath, M. 1997. *From Space to Time. Temporal Adverbials in the World's Language*, Munich – Newcastle.
- Haspelmath, M. 2003. The geometry of grammatical meaning: Semantic maps and cross-linguistic comparison, in: Tomasello, M. (ed.) *The new psychology of language*, vol. 2, 211 – 242, Mahwah, NJ.
- Narrog, H. 2010. A Diachronic Dimension in Maps of Case Functions, in: *Linguistic Discovery* 8.1, 233–254.
- Polis, St. & Winand, J. 2015. Structuring the Lexikon, in: Kousoulis, P. & N. Lazaridis (eds.), *Proceedings of the Tenth International Congress of Egyptologists: University of the Aegean, Rhodes. 22-29 May 2008*, 2, 1503-1512, Louvain.
- Winand, J. 2016. The syntax–semantics interface in Earlier Egyptian: a case study in verbs of cognition, in: Allen, J. P., Collier, M. & A. Stauder (eds.), *Coping with obscurity: the Brown Workshop on Earlier Egyptian grammar*, 109–139, Atlanta.

Hajnalka Dimény, Babeş–Bolyai University, Cluj-Napoca  
“Some meticulous senses and the lessons drawn”

There are cases when there are not one or two words to express something in a language, but more, even ten or twenty words for expressing the same very specific sense. In the case of Hungarian, there are certain domains of activity that can be expressed in extremely detailed terms, i.e. with many different words. This is the case when someone speaks or says something in a way that it cannot be understood.

I have analyzed 30 Hungarian verb meanings that fall in this category and other 28 very similar to these, and also their English and Romanian equivalents. This means a corpus of 132 verbs and 192 verb meanings. The Hungarian data are derived from a corpus based on the Dictionary of Hungarian language, while the English and Romanian data are extracted from dictionaries (cf. the bibliography).

Using the methodology proposed by FRANCOIS 2008 for isolating senses in lexical units, in my poster I present the semantic map of two senses: that of saying something so that it cannot be understood and that of speaking in a way that it cannot be understood. The two differ in their meaning ('speaking' vs. 'telling something') and in their complementation; the first one can have a direct object complement while the latter cannot. Next, I also show a map with links to other meanings related to these senses. Finally, I will show a map in which I replaced the senses with the verbs that express them. Putting these maps side by side we will be able to see the connections (even changes in meaning) and correspondences between the phonological, grammatical and semantic properties of these verbs.

It seems that verbs with different meanings but similar sound form tend to take on another meaning, as if to be similar in meaning if similar in sound form.

In many cases grammatical and semantic meaning can easily be differentiated. But also in many cases they cannot. It seems obvious that sometimes the borderline between what is grammatical and what is semantic cannot be drawn adequately. I believe this suggests that we should not draw that line, and consider analyzing the two, or to be more precise: three dimensions of meaning (grammatical, semantic and phonological) together as a whole. Multi-dimensional semantic maps could make this possible.

## References

- FRANCOIS Alexandre, Semantic maps and the typology of colexification: Intertwining polysemous networks across languages. In: Martine VANHOVE (ed.), *From Polysemy to Semantic Change: Towards a Typology of Lexical Semantic Associations*. Amsterdam: Benjamins. Chapter 6.
- BÁRCZI Géza, ORSZÁGH László (eds.), *A magyar nyelv értelmező szótára* [Dictionary of Hungarian language]. Budapest: Akadémiai Kiadó, 1959–1962.
- dexonline*. Dicționare ale limbii române [Dictionaries of the Romanian language]. <https://dexonline.ro/> [2nd March 2018].
- KELEMEN Béla, SZÁSZ Lőrinc (eds.), *Hungarian–Romanian dictionary I-II*. Bucureşti: Editura Academiei Române, 2010–2011.

ORSZÁGH László, MAGAY Tamás (eds.), *English–Hungarian dictionary*. Budapest: Akadémiai Kiadó, 1998, 2000.

ORSZÁGH László, FUTÁSZ Dezső, KÖVECSES Zoltán (eds.), *Hungarian–English dictionary*. Budapest: Akadémiai Kiadó, 1998, 2000.

Diana Forker, Friedrich-Schiller University, Jena

## “Comparing semantic maps for the dative domain: Evidence from Nakh-Daghestanian”

This paper addresses the dative domain in Nakh-Daghestanian languages. Most if not all Nakh-Daghestanian languages have specialized experiencer (“affective”) constructions that differ from the ergative constructions in terms of case marking of the experiencer argument (lative/dative/affective). Experiencer constructions do not cover all dative functions identified by Haspelmath (2003), but there is considerable overlap. Most notably, experiencer constructions include perception, volition and cognition verbs such as ‘to see’, ‘to hear’, ‘to know’ and ‘to want’, which are not part of the dative domain as presented by Haspelmath (2003). The semantic, morphosyntactic and diachronic properties of experiencer constructions in Nakh-Daghestanian have been studied intensively in the past years (e.g. Comrie & van den Berg 2006, Ganenkov 2006, 2013, Comrie et al. 2018), and on the basis of the data two different semantic maps have been proposed. The maps illustrate the case marking patterns of the experiencer argument and thus show which dative functions are covered by which case markers.

The aim of this paper is twofold. First, I will compare the semantic maps by Ganenkov (2006) and Forker (2010) to the semantic map of the dative functions by Haspelmath (2003). Second, I will take into consideration the data by Ganenkov (2013) who investigates a shift from dative marking to ergative marking of experiencer construction in a subgroup of Nakh-Daghestanian languages. This data allows us to convert the lines in the proposed maps into arrows that indicate a diachronic shift.

### References

- Comrie, Bernard, Diana Forker & Zaira Khalilova. 2018. Affective constructions in Tsezic languages. In Jóhanna Barðdal, Stephen M. Carey, Thórhallur Eythórsson & Na'ama Pat-El (eds.), *Non-canonically case-marked subjects within and across languages and language families: The Reykjavík-Eyjafjallajökull papers*. Amsterdam: Benjamins.
- Comrie, Bernard & Helma van den Berg. 2006. Experiencer constructions in Daghestanian languages. In Ina Bornkessel, Matthias Schlesewsky, Bernard Comrie & Angela D. Friederici (eds.), *Semantic role universals and argument linking: theoretical, typological and psycholinguistic perspectives*, 127–154. Berlin: Mouton de Gruyter.
- Forker, Diana. 2010. Nonlocal uses of local cases in the Tsezic languages. *Linguistics* 48. 1083–1109.
- Ganenkov, Dmitry. 2006. Experiencer coding in Nakh-Daghestanian. In Leonid Kulikov, Andrej Malchukov & Peter de Swart (eds.), *Case, Valency and Transitivity*, 179–202. Amsterdam: Benjamins.
- Ganenkov, Dmitry. 2013. Diachrony of experiencer subject marking. In Ilja A. Seržant & Leonid Kulikov (eds.), *The diachronic typology of non-canonical subjects*, 231–256. Amsterdam: Benjamins.
- Haspelmath, Martin. 2003. The geometry of grammatical meaning: Semantic maps and cross-linguistic comparison. In Michael Tomasello (ed.), *The new psychology of language, Vol. 2*, 211–243. New York: Erlbaum.

Elena Karagjosova, Freie Universität Berlin

**“A diachronic semantic map of temporal, causal and conditional relations”**

I will present a diachronic semantic map showing how the structure of the semantic space synchronically shared by a group of discourse connectors (conjunctions, adverbs and particles) in German, Norwegian, English and Bulgarian may have evolved due to systematic semantic shifts from temporality to causality, conditionality, consecutivity, and contrast.

The map is based on a comparison between the different synchronic uses of Norwegian *da*, its German cognate *da*, German *denn*, *dann*, their English cognates *then*, *than*, and Bulgarian *togava*. This comparison reveals recurring polysemous patterns for these forms, where each item expresses a different subset of the same set of conceptual relations. I take this recurrent polysemy as an indication that the functions expressed by these connectors are semantically related, on the assumption of a form-function iconicity (cf. Haiman 1985, Malchukov 2004). The arrangement of functions on the map and the directionality of semantic change are based on an analysis of the semantic affinities between the individual functions, diachronic evidence, as well as the consideration of general properties of grammatical change, such as increasing abstractness and generalization to new contexts (cf. Haspelmath 2000).

This work contributes to the workshop’s topic “Semantic maps and diachrony” and in particular to clarifying the relation between synchronic and diachronic maps. The diachronic map I will present is the result of employing diachronic evidence as a repair strategy in cases where the synchronic map did not “work” properly for items that only seemed to cover discontinuous regions of the semantic space. For such items, diachronic data revealed that the synchronic discontinuity is due to a loss of earlier uses in the process of semantic change (cf. also Haspelmath 2000 who points at this mismatch between synchronic variation and diachronic change as an urgent problem for future semantic maps research).

**References**

- Haiman J. (ed.) (1985) *Iconicity in Syntax*. Amsterdam.
- Haspelmath, M. (2003) The geometry of grammatical meaning: Semantic maps and cross-linguistic comparison. In M. Tomasello (ed.), *The New Psychology of Language*. Volume 2. New York, 211–243.
- Malchukov, A. (2004) Towards a semantic typology of adversative and contrast marking. *Journal of Semantics* 21: 177–198.



So Miyagawa, University of Göttingen and Kyoto University

Amir Zeldes, Georgetown University

### “A Semantic Map of the Coptic Complementizer *če-* based on Corpus Analysis: Grammaticalization and Areal Typology in Africa”

Coptic forms the last stage of the Ancient Egyptian language, which constitutes by itself an independent branch of the Afro-Asiatic language family. The Coptic complementizer *če-* was grammaticalized from a bound form of the verb “say,” yielding a highly polysemous functional element. Next to continued homonymy with a form of the verb “say,” it is mainly used as a quotative marker introducing direct speech as in (1), but also to introduce names (2).

- (1) *peča-s na-f če-ou pe pai pa-šère ...*  
said-3SGF to-3SGM *če*-what COP.SGM DEM.SGM POSS.SGM:1SG-son ...  
“He said, ‘what is this, my son, ...’ ” (Apophtegmata Patrum)

- (2) *hm-pou-ran če-ap<sup>h</sup>t<sup>h</sup>onia*  
by-POSS.SGM:2SGF-name *če*-Aphthonia  
“by your name ‘Aphthonia’ ” (Besa/To Aphthonia)

By a process of extension, *če-* came to mark object clauses of cognition verbs such as “know” (3), and perception verbs such as “see,” “hear” (4), as well as psych verbs such as “fear.”

- (3) *t<sup>i</sup>-sooun če-e-k-t<sup>i</sup>-oubê-i an*  
1SG-know *če*-FOC-2SGM-give-against-1SG NEG  
“I know that it is not against me you fight” (Shenoute/Not Because a Fox Barks)

- (4) *e-k-šan-sôtm če-a-u-bôk e-m-ma n-šine n-n-daimôn*  
COND-2SGM-COND-hear *če*-PST-3PL-go to-DEF.PL-place of-oracle of-DEF.PL-demon  
“if you hear that they have gone to the oracles of demons, (...)” (Shenoute/Not Because a Fox Barks)

Evolving beyond a complementizer for embedded speech, *če-* developed further functions including causal marking (saying the reason → supplying a reason, (5)), use as part of a lexicalized complex marker *ebol če-* “because” (lit. “out of saying,” (6)), as well as a generic complementizer, e.g. introducing subject clauses without lexical or discourse relation contributions (7).

- (5) *če-ntok pe teu-helpis*  
*če*-2SGM COP.SGM POSS.SGF:3PL-hope  
“because you are their hope” (Shenoute/Not Because a Fox Barks)

- (6) *ebol če-se-šône*  
out *če*-3PL-sick  
“Because they are sick” (Apophtegmata Patrum)

- (7) *ou-katakrima na-k n-ouêr pe*  
INDEF.SG-condemnation to-2SGM of-how\_much COP.SGM

*če-k-paraba*                      *hm-pe-hme*                      *n-hoou*  
*če*-2SGM-transgress      in-DEF.SGM-40                      of-day  
 “How much of a condemnation is it to you, that you transgressed in the 40 days?”  
 (Shenoute/Not Because a Fox Barks)

Shisha-Halevy (1991:202) indicated the adnominal usage of *če* which is a characteristic of Shenoutean Sahidic (8).

(8)      *mmn-ce-pistis*                      *mmn-ce-helpis*                      *n-hôb*  
 NEG.EXIST-other-faith      NEG.EXIST-other-hope      of-thing  
*n-agat<sup>h</sup>on*      *če-n-f-šoop*                      *na-s*                      *an*  
 of-goodness      *če*-NEG-3SGM-belong      to-3SGF                      NEG  
 “There is no faith, there is no hope of goodness that does not belong to it” (Chassinat 1911:125.38ff., quoted and translated by Shisha-Halevy 1991:202)

Finally, Shisha-Halevy (1986:78) also suggests a possibility that there is a usage of *če*-denoting “as if” with a circumstantial clause (9).

(9)      *hn-t<sup>h</sup>upokrisis*                      *če-e-u-šlêl*  
 in-DEF.SGF-hypocrisy      *če*-CIRC-3PL-pray  
 “(They raise their hands) in the hypocrisy as if they were praying” (Leipoldt 1908:45.5, also quoted by Shisha-Halevy 1986:78, footnote 84)

In this paper, we explore the semantic map of *če*- in Coptic corpora from Coptic SCRIPTORIUM (<http://copticcriptorium.org/>, cf. Schroeder and Zeldes 2016) using quantitative analysis across genres and periods. We analyze its grammaticalization process against the background of Pre-Coptic Egyptian corpora from the Thesaurus Linguae Aegyptiae (<http://aaw.bbaw.de/>), and draw a semantic map of this grammaticalization pattern. There are two possible scenarios of the historical change of *če*-: (i) developed from *r-dd* as in (10) (cf. Collier 2007:43-6), (ii) developed from *m-dd* as in (11). Stéphane Polis also discusses the grammaticalization path and the semantic conditions of the extension of *dd* to perception verbs at length in his Ph.D. thesis (Polis 2009:344-97).

(10)      *sdm(=j)*                      *r-dd*      *nɜ*                      *rm̄t*                      *hn*  
 hear.PST(-1SG) *r-dd*      DEF.PL people      proceed.STAT  
*r*                      *jr-t*                      *hɜw*                      *m*                      *pɜj*                      *pr-n-s̄tɜ*  
 to                      take-INF                      possession                      in                      DEM.SGM                      portable\_chest  
 “I noted that the people proceeded to take possession of this portable chest (i.e., funerary equipment).” (pMayer A rt. 1, 14-15, Junge 2001:219, quoted and glossed by Kramer 2012:102-3, ex. 55)

(11)      *jw=tw*                      *r-rd-t*                      *ʕrq*      *pɜ*                      *z*                      2                      *m-dd*      (...)  
 COMP=DETR      FUT-give-INF      swear      DEF.SGM                      man      2                      *m-dd*  
 “The two men shall be made to swear as follows: (...)” (P. UC 32055, ro 9, transcribed, glossed and translated by Stauder 2014:468, ex. 10)

Finally, we consider areal aspects of the phenomenon from a typological perspective based on Güldemann's work on quotatives in Africa (Güldemann 2008).

## References

- Chassinat, Émile (1911). *Le quatrième livre des entretiens et épîtres de Shenouti*. MIFAO, 23. Cairo: l'Institut Français d'Archéologie Orientale.
- Collier, Mark (2007). 'Facts, situations and knowledge acquisition': *gm̄i* with *iw* and *r-dd* in Late Egyptian. In: Thomas Schneider and Kasia Szpakowska (eds.) *Egyptian stories: a British Egyptological tribute to Alan B. Lloyd on the occasion of his retirement*. *Alter Orient und Altes Testament*, 347. 33-46. Münster: Ugarit-Verlag.
- Güldemann, Tom (2008). *Quotative indexes in African languages: A synchronic and diachronic survey*. *Empirical Approaches to Language Typology*, 34. Berlin: De Gruyter Mouton.
- Junge, Friedlich (2001). *Late Egyptian grammar: an introduction*. Transl. from the German by David Warburton. Oxford: Griffith Institute.
- Kramer, Ruth (2012). Egyptian. In: Lutz Edzard (ed.) *Semitic and Afroasiatic: Challenges and Opportunities*. *Porta Linguarum Orientalium* 24. 59-130. Wiesbaden: Harrassowitz.
- Leipoldt, Johannes (1908). *Sinuthii archimandritae vita et opera omnia*. *Scriptores Coptici Series 2, vol. 4, Corpus scriptorum c tianorum orientalium* 42. Paris : Imprimerie nationale.
- Polis, Stéphane (2009). *Étude de la modalité en néo-égyptien*. Unpublished doctoral thesis, Université de Liège, Belgium.
- Schroeder, Caroline T. and Amir Zeldes (2016). "Raiders of the Lost Corpus." *Digital Humanities Quarterly* 10.2. Available at <http://www.digitalhumanities.org/dhq/vol/10/2/000247/000247.html>.
- Shisha-Halevy, Ariel (1986). *Coptic grammatical categories: structural studies in the syntax of Shenoutean Sahidic*. *Analecta Orientalia*, 53. Rome : Pontificium Institutum Biblicum.
- Shisha-Halevy, Ariel (1991). Shenoutean Idiom. In: Aziz Atiya (ed.) *Coptic Encyclopedia*. Vol. 8. 202-4. New York: Macmillan.
- Stauder, Andréas (2014). A rare change: The degrammaticalization of an inflectional passive marker into an impersonal subject marker. *Egyptian-Coptic Linguistics in Typological Perspective*. *Empirical Approaches to Language Typology*, 55. 455-532. Berlin: De Gruyter Mouton.

Natalia Perkova, Stockholm University

## “Revisiting semantic maps: the case of comitatives”

In my talk, I'm going to focus on the existing semantic maps proposed for comitatives and related functions (Luraghi 2001; Haspelmath 2004; Stolz et al. 2006, Narrog & Ito 2007; Narrog 2010, etc.). It can be said that two major perspectives are usually taken: the first is typically based on the idea that comitatives encode a specific semantic role or are treated as a case-like function (the so-called comitative-instrumental continuum and similar matters); the other relates comitatives to coordination. However, a more general perspective of participant plurality can be taken: it has been developed by Arkhipov (2009a, b) and can be seen as a fruitful approach allowing for the search of stricter definitions and valid comparable contexts.

By analysing some additional data, mostly taken from the Circum-Baltic languages, I will discuss how some markers and constructions that are sometimes neglected in grammars as peripheral can actually enrich our knowledge about particular grammatical domains. For instance, a Latvian non-basic comitative marker *līdzi* is in fact dedicated, encodes a very remarkable type of comitative constructions and can be argued to function as a presupposition trigger. This allows both to single out an additional comitative function and to address the similarity of such markers to additive markers (particles), which is particularly interesting, as Forker (2016) has no information on comitatives in her semantic maps of additives. In fact, there is additional evidence in favour of this similarity: in Swedish, the comitative marker *med* is already widely used as an additive particle in the contexts that are distributionally different from typical comitative constructions.

In addition, I will address the usually neglected sociative function (‘together’) and will discuss how it fits the existing knowledge on comitatives and how it can be mapped at the semantic space of related categories.

### References

- Arkhipov, Alexandre. 2009a. *Tipologija komitativnyx konstrukcij* [Typology of comitative constructions]. Moscow: Znak.
- Arkhipov, Alexandre. 2009b. Comitative as a cross-linguistically valid category. In: P. Epps and A. Arkhipov (eds.) *New Challenges in Typology: transcending the borders and refining the distinctions*. (Trends in linguistics: Studies and monographs 217). Berlin, New York: Mouton de Gruyter. Pp. 223-246.
- Forker, Diana. 2016. Toward a typology of additive markers. *Lingua* 180, 69-100.
- Haspelmath, Martin. 2004. Coordinating constructions: An overview. In: Haspelmath, M. (ed.) *Coordinating constructions*. [=Typological Studies in Language 58]. Amsterdam: John Benjamins, 3-39.
- Luraghi, Silvia. 2001a. Syncretism and the classification of semantic roles. *Sprachtypologie und Universalienforschung* 54 (1): 35-51.
- Narrog, Heiko & Ito, Shinya. 2007. Reconstructing semantic maps: the comitative-instrumental area. *Sprachtypologie und Universalienforschung* 60(4): 273-292.
- Narrog, Heiko. 2010. A diachronic dimension in maps of case functions. *Linguistic Discovery* 8(1): 233-257.
- Stolz, Thomas, Stroh, Cornelia. & Urdze, Aina. 2006. *On Comitatives and Related Categories*. A Typological Study with Special Focus on the Languages of Europe.

Berlin – New York: Mouton. Gruyter. (Empirical Approaches to Language Typology 33).

Anna Smirnitskaya, Institute of Oriental studies, Moscow

### **“The Catalogue of semantic shifts as a way to represent semantic variability”**

After being for a long time considered as a lateral branch of etymological studies, the phenomenon of semantic change has become an object of intensive research within the framework of various theoretical approaches: grammaticalization theory, cognitive diachronic semantics and lexical typology (see, e.g., Juvonen and Koptjevskaja-Tamm 2016; Newman 2015). The wide variety of terms – lexical change, semantic derivation, semantic shift, regular polysemy, semantic associations, colexification, etc. – is indicative of the complexity of this phenomenon (see Vahnove 2008 and various articles therein that make use of different labels).-

The conception of *The Catalogue of semantic shifts* is being developed in the Institute of Linguistics in Moscow by a research group under the guidance of Anna A. Zalizniak. It is realized in the form of a Database of semantic shifts in languages of the world (DatSemShift; see Zalizniak et al. 2012). In the wider approach adopted in compiling the database, a “semantic shift” between two different meanings is understood as “a cognitive proximity of two meanings A and B that reveals itself in synchronic polysemy, diachronic semantic evolution, morphological derivation, cognates and borrowings” (Zalizniak et al. 2012).

The methodology of semantic shifts used in the DatSemShift can be seen as an alternative to that of semantic maps, each of them having advantages and disadvantages. On the one hand, the semantic maps methodology, first suggested for the description of grammatical meanings, allows us to display the possibilities of linguistic articulation of a given conceptual domain and to compare variants chosen by different languages (see Haspelmath 2003; van der Auwera & Plungian 1998, among many others). On the other hand, the semantic shifts methodology is best designed to handle big data of pairs of associated meanings belonging to different semantic fields. The two methods are complementary to each other. The DatSemShift does not show the whole picture of relations within one semantic field, but it can serve as a good open online platform aimed to reveal semantic shifts in languages of the world and to estimate their regularity and areal distribution.

In this presentation, I will compare the two methodologies and reflect on which one is more suitable for what types of linguistic data and for what research purposes. As a case study, I will focus on the semantic field of Kinship terms, with a special reference to Dravidian languages.

### **References**

DatSemShift: Database of semantic shifts in the languages of the world. Zalizniak

Anna A., M. Bulakh, D. Ganenkov, I. Gruntov, T. Maisak, M. Rousseau:

<http://semshifts.iling-ran.ru>

Haspelmath, M. The geometry of grammatical meaning: Semantic maps and cross-linguistic comparison. // *The New Psychology of Language*. Vol. 2, M.

Tomasello (ed.), 2003. p. 211-243.

- Juvonen P., Koptjevskaja-Tamm M. (eds.). The lexical typology of semantic shifts. Berlin: De Gruyter Mouton, 2016.
- Newman J. Semantic shift. // Riemer N. (ed.). The Routledge Handbook of Semantics, 2015. 266–280. London: Routledge.
- van der Auwera J., Plungian V. Modality's semantic map. Linguistic typology 2 (1998), 79–124.
- Vanhove M. (ed.) From polysemy to semantic change. Towards a typology of lexical semantic associations. (Studies in language companion series, 106.) Amsterdam, 2008.
- 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. 2012. 50 (3). p. 634–670.