SALC7 – book of abstracts

The seventh conference of the Scandinavian Association for Language and Cognition
Aarhus University, May 22 – 24, 2019, Building 1441, Tåsingegade 3, 8000 Aarhus, Denmark

SALC AARHUS UNIVERSITET CARLSBERGFONDET

Program: Wednesday, May 22nd

8:00 – 9:15	Registration			**Foyer**
9:15 – 9:30	Opening of the conference			**Auditorium 1**
9:30 – 10:30	**Plenary 1: Morten Christiansen.** *Language acquisition as skill learning*			**Auditorium 1**
10:30 – 11:00	Coffee			**Foyer**
Parallel sessions	**Auditorium 2**	**Auditorium 3**	**Room 1441:010**	**Room 1441:110**
	General session (chair: C. Vesper)	**Cognitive approaches to L2 grammar** (chair: L. B. Kristensen)	**Cultural Semantics in the North** (chair: C. Levisen and S. Fernandez)	**Meet MetNet Scandinavia!** (chair: L. Greve and P. Boström)
11:00 – 11:30	G. Bryant *Vocal signals and indirect language use*	M. Vulchanova, et al *U-shaped trajectories in L2 learning: Testing the dual processing hypothesis*	S. Silvia Fernández *The semantics of "Latin America/ América Latina/ Latinamerika" and its impact in Spanish language teaching*	P. Boström *How metaphorization flows in spoken Swedish*
11:30 – 12:00	C. Vesper *Creating non-conventional communication systems through joint action*	E. U. Morgan, et al *Foundational operations preceding L2 acquisition*	M. Uusküla *Why water is grey in Estonian: On a culture-specific colour term vesihall*	A. Hillbom, et al *To follow, take or get? A comparative study of metaphors for education in Danish, Finnish and Swedish*
12:00 – 12:30	A. Aryani, et al *Meaning as aroused by sound: Revisiting the bouba-kiki effect*	K. F. Søby & L. B. Kristensen *A German, an American, and an Englishman walk into a language class … – Crosslinguistic influence in L2 Danish grammar*	K. Fenyvesi, et al *Expressing 'sadness' – differences between the semantics of some Danish and German negative adjectives*	A. Vijay, el al *Is seeing believing? The role of perception verbs in false belief understanding in autism*
12:30 – 13:30	Lunch			**Stakladen**

13:30 – 14:00	J. Olvido Perea-García *The adaptive significance of de-pigmented sclerae reexamined*	J. J. Hansen, et al *The effects of homophony on verbal inflection in L1 and L2 Danish*	J. Hein *Cultural keywords in Buenos Aires: The semantics of lunfardo in Porteño Spanish*	E. Penttilä and M. Nenonen *Metaphors used in the media in relation to migration issues*
14:00 – 14:30	G. Judžentytė-Šinkūnienė *Creation of physical space by deictic expressions in Lithuanian dialects*	L. Kristensen & K. F. Søby *Grammar anomalies and grammatical awareness in native speakers and L2 learners*	J. Romero-Trillo and N. E. Avila-Ledesma *Return to sender? The conceptualization of emotions in written correspondence from the NSM perspective*	S. L. Nacey *Metaphors in L2 Norwegian high-stakes exams*
14:30 – 15:00	P. Gärdenfors and M. Brala *From pointing in space to pointing in language*	N. Silaški and T. Đurović *The portrayal of Europe's migrant crisis in Serbian media discourse – the case of the WALL metaphor*	A. Kacprzak *The conceptualization of KÆRLIGHED in Danish*	S. L. Nacey and L. Greve *'Royal' metaphors in Danish and Norwegian New Year's Eve speeches*
15:00 – 15:30	Coffee			**Foyer**
15:30 – 16:00	(chair: D. B. Thomsen) D. B. Thomsen, et al *Syntactic tools for social cognition: A longitudinal study with 2-to-3-year-olds*	(chair: V. Zimmerer) V. Zimmerer, et al *The syntax-lexicon continuum: Explaining variation in aphasic language*	A. Głaz *The cultural semantic thickness of insides and outsides*	H. Mannsåker *When does a metaphor cease to be a metaphor? The case of schizophrenia*
16:00 – 16:30	J. Egger *Linking Dutch infants' speed of processing to vocabulary size at 18 months*	S. Hartmann *Futures of the past. A corpus study of competing future constructions in historical German*	M. Corum *Beyond a reasonable calque: On the role of metaphor and metonymy in conceptual construal*	T. Wiben Jensen *Metaphoricity as experiential affordances in audio-visual campaign videos*
16:30 – 17:00	C. Kliesch *Parent-child interactions scaffold action segmentation in infancy and early childhood*	D. Noël *Towards a radically usage-based approach to constructional attrition*	C. Levisen *An ethnosyntax of anti-authoritarianism? The grammar of Danish deliberative discourse*	A. Vogel *"There is so little scope for imagination in cookery." How metaphors are used to depict the socialization of Anne in Anne of Green Gables*
17:00 – 18:00	**Plenary 2: Sophie Scott.** *From sound to social meaning: the neural basis of speech and voice processing*			**Auditorium 1**
18:00 – 20:00	Poster session and wine reception (see full list of posters on page 6 - 7)			**Foyer**

Program: Thursday, May 23rd

9:00 – 10:00	**Plenary 3: Sean Roberts.** *Causal graphs will save us all from Big Data*			**Auditorium 1**
Parallel sessions	**Auditorium 2**	**Auditorium 3**	**Room 1441:010**	**Room 1441:110**
	General session (chair: J. Zlatev)	**General session** (chair: D. Jach)	**The Puzzle of Danish** (chair: K. Tylén)	**Language and Thinking in Design** (chair: T. Möttönen, T. Onikki-Rantajääskö and P. Saariluoma)
10:00 – 10:30	M. Wallentin *Gender differences in language. A no-brainer?*	D. Jach *Red, falling, nearest star: Does exposure to Science Fiction literature predict knowledge and processing of genre-specific collocations?*	F. Trecca, et al *Gik guldfisken ind i butikken? Cross-Scandinavian differences in reliance on top-down information*	T. Bajo *Psycholinguistic processes in design thinking*
10:30 – 11:00	M. Messerschmidt *Increasing the valency of motion verbs*	O. Kuparinen, et al *Prototypes and change in real time - hd in Helsinki Finnish*	B. Ishkhanyan, et al *Has she sent or lit an email? Preliminary results of a Danish and Norwegian categorical perception study*	A. Mauranen *Matching perspectives: Co-constructing knowledge in academic discourse*
11:00 – 11:30	Coffee			**Foyer**
11:30 – 12:00	J. Zlatev, et al *Holistic spatial semantics reveals different patterns of motion description in Swedish, French and Thai*	V. Dekalo *German passive constructions with bekommen / erhalten / kriegen: A corpus-based quantitative study*	C. Dideriksen, et al *Kill or tap? Left or right? Preliminary results from a study on dialogue differences in task oriented and spontaneous conversations*	T. Möttönen and T. Onikki-Rantajääskö *Construal of ideas – How to approach planning discourse from Cognitive Linguistic perspective*
12:00 – 12:30	E. Tuuri *Tracing paths and directions in finnish*	J. Klavan, et al *Predicting native speaker choice: the role of frequency in morpho-syntactic alternations*	Discussion (chaired by Ewa Dąbrowska)	P. Saariluoma *Foundational problems in investigating interaction of language and design thinking*
12:30 – 13:30	Lunch			**Stakladen**

Parallel sessions	**General session** (chair: J. S. Philipsen)	**General session** (chair: M. Jensen)	**Frontiers of Nonadjacent Dependency Learning** (chair: M. H. Christiansen)	**Language and Thinking in Design (continued)**
13:30 – 14:00	J. S. Philipsen and S. B. Trasmundi *Gestural reuse as a resource for embodied conceptual transformation*	M. Jensen, et al *Detecting specific neurolinguistic processes using MEG: MVPA analysis of intertrial phase coherence of brain responses to words reliably classifies multiple levels of language processing*	R. Frost, et al *Statistical learning in infants, and its relationship with language development: A study of nonadjacent dependency learning*	J. S. Olier Jauregui and M. Rauterberg *Dynamic representations - building knowledge through an active representational process based on deep generative models*
14:00 – 14:30	K. Skedsmo *Trouble sources in Norwegian Sign Language conversation*	S. Farshchi, et al *Integration of negation in sentence comprehension: An ERP study*	E. Isbilen, et al *Statistically-based chunking of nonadjacent dependencies*	X. Wang and M. Rauterberg *Design Thinking - a dual system approach*
14:30 – 15:00	Y.-L. Lin *Task complexity and speech-gesture production: A cross-linguistic analysis of L1 and L2 narratives*	Y. Shtyrov *Rapid build-up of neocortical representations for morphemes and words: Multi-modal neuroimaging studies*	B. Wilson *Nonadjacent dependency learning in humans and monkeys*	Discussion
15:00 – 15:30	Coffee			**Foyer**
15:30 – 16:30	**Plenary 4: Judith Holler.** *Multimodal signalling for coordination in conversational interaction*			**Auditorium 1**
16:30 – 17:30	**SALC General Assembly**			**Auditorium 1**
18:30 – 23:00	**Conference dinner**			**Restaurant MALT, Ceresbyen 64-68, 8000 Aarhus C**

Program: Friday, May 24th

9:00 – 10:00	**Plenary 5: Alexander Huth.** *Mapping representations of language semantics in human cortex*			**Auditorium 1**
Parallel sessions	**Auditorium 2**	**Auditorium 3**	**Room 1441:010**	**Room 1441:110**
	General session (chair: Y. Esaulova)	**General session** (chair: P. Harder)	**One size fits all** (chair: A. Mauranen and A. Blumenthal-Dramé)	**This is it! Deictic communication and cognition** (chair: M. Wallentin)
10:00 – 10:30	Y. Esaulova, et al *Look this way! How and when visual attention affects language production*	P. Harder *Contested framings of economic rationality and financial responsibility*	A. Mauranen *Chunking for larger and smaller units of meaning. What do listeners do?*	P. González Peña, et al *Spatial demonstratives: The very first words, a very slow development*
10:30 – 11:00	J. Klavan, et al *Tracking choice: An eye movement study of the dative alternation in English*	L. S. Knudsen and D. B. Thomsen *Reciprocity in asymmetry: Cross-domain structuration in Acazulco Otomí*	A. Konina *The explanatory power of clauses in online speech segmentation*	R. Rocca, et al *The neural correlates of spatial deictics: A fast fMRI study using naturalistic auditory stimuli*
11:00 – 11:30	Coffee			**Foyer**
11:30 – 12:00	T. Müller, et al *Color terms: Natural language categories and artificial language category formation*	E. Kornilitsina *Impact of the cross-cultural variation of the conceptual metaphor "A government institution is a body" on the cognitive effort during the Estonian-Russian translation of metaphorical expressions*	A. Blumenthal-Dramé *Chunking below the phrase level and its implications for models of online comprehension*	A. Slonimska and O. Capirci *Encoding transitive actions in Italian Sign Language: Agent's or patient's perspective?*
12:00 – 12:30	P. Falk, et al *Exploring social signals – multimodal data capture & wavelet analysis*	M. Proos *Putting knowledge to the test: A conceptual feature rating task with tundma 'to feel' in Estonian*	Discussion	E. Todisco, et al *Once upon a time in the realm of deixis. Temporal dynamics of spatial demonstratives during mother-child book reading*
12:30 – 13:30	Lunch			**Stakladen**

	General session (chair: L. Okonski)	**General session** (chair: A. Pajunen)	**General session** (chair: S. Robert)	**This is it! Deictic communication and cognition (continued)**
13:30 – 14:00	L. Okonski and L. Corrêa Ferreira *Cross-linguistic comparison of Mother Earth metaphors in Brazil and the US*	A. Pajunen, et al *Transitivity information in reading: The role of derivation*	S. Robert *From reflexive to intensifying uses of the HEAD in Wolof: Semantic continuity of a metonymy*	R. Rocca, et al *Crocodiles, peace and harmonicas: (how) does word semantics modulate demonstrative use?*
14:00 – 14:30	S. Nurmio *Semantic and cognitive aspects of singulatives*	M. A. Aijón Oliva *What needs to be done: Spanish 'haber-que' constructions across oral and written media discourse*	E. Itkonen *Does evidence from spoken language invalidate traditional linguistics?*	Discussion
14:30 – 15:30	**Plenary 6: Ewa Dąbrowska.** *"Functional" and "decorative" grammar in adult L2 acquisition*			**Auditorium 1**
15:30 – 15:45	Concluding remarks and goodbye			**Auditorium 1**

List of poster presentations (in alphabetical order)**:**

1. Alexandra R. Kratschmer. *Double-voicing: Combining the uncombinable in an ideology rooted Facebook exchange*
2. Amy Ma. *The subject omission and pronoun avoidance in children with ASD: A corpus analysis*
3. Andreas Højlund, Nynne Thorup Horn, Stine Derdau Sørensen, William B. McGregor, and Mikkel Wallentin. *No detectable effects of intensive language training on the mismatch negativity (MMN) to relevant phonemic contrasts: A longitudinal EEG study*
4. Athena Szeto and Cassandra Foursha-Stevenson. *Novel word learning and executive function in active and inactive bilinguals*
5. Carla-Sophie Lembke, Per-Olav Folgerø, Alf Edgar Andresen, and Christer Johansson. *Prototypes and recognition of self*
6. Christer Johansson. *The probabilistic Gricean*
7. Flavia Teoc. *Heart is up – seats of memory in skaldic poetry*
8. Hana Gustafsson. *Emergent patterns in cross-sectional L2 data: A complexity theory perspective*
9. Jenna Crossley. *Effects of orthography on temporal cognition*
10. Jukka Mäkisalo, Esa Penttilä, and Katarzyna Wiśniewska. *The retention of cognitive structures in translation*

11. Justin Kuo and Jenny Kuo. *Acquisition of semantic and syntactic countability in a second language*
12. Khalid El Asri. *Putting feelings into words: Do Moroccan learners of English describe others' emotions as native speakers?*
13. Marie Louise Holm Møller, Sabine Grene Thomsen, Karen Østergaard, Mikkel Wallentin, and Andreas Højlund. *Danish-speaking Parkinson's disease patients do not display selective action verb impairment when reading naturalistic stories*
14. Michal Láznička. *Grammatical profiles of Czech nouns: Case and gender*
15. Nataša Ristivojević-Rajković. *Conceptualization of smell in Norwegian*
16. Nawar Golley and Aisha Sayidina. *The power of discourse: Uncovering the ideology of gender representations in Saudi media*
17. Nella Trofimova, Svetlana Kiseleva, and Irina Rubert. *Smell of love: Olfactory metaphor in Romanic discourse*
18. Olga Yarygina and Svetlana Stepanenko. *On linguoperceptive peculiarities of the "life" image in literary discourse*
19. Rasha Hyder, Andreas Højlund, Mads Jensen, Karen Østergaard, and Yury Shtyrov. *Passive neuromagnetic responses to speech as biomarkers of language processing in the brain*
20. Rosario Caballero and Carita Paradis. *HEARING in English and Spanish*
21. Sonia Blomquist. *Metaphorical competence, literature and second language education from an international and Swedish perspective - a research review*
22. Tionenji Lishomwa. *'Greem benches' – can speech errors eliciting the Ganong effect be used as evidence for auditory simulations in the brain during speech production?*
23. Tori Larsen and Christer Johansson. *Processing empty categories in Norwegian*
24. Vassili Bouilov. *The language of the totalitarian system*
25. Wissem Aribi. *Linguistic universals and relativity*
26. Xiaoxia Sun. *The transfer effect from language to music: A study on Chinese and Vietnamese native speaker's perceiving musical pitch*
27. Yi-Wen Huang. *Cultural and linguistic perspectives on my experience teaching Navajo students*
28. Yu Gu and Nan Zhao. *A study of Chinese EFL learners' encoding of motion events in constructions from a linguistic inventory typology perspective*.

Plenary Abstracts

Morten Christiansen (Cornell University, Ithaca):
Language Acquisition as Skill Learning

Abstract: Language acquisition is often viewed as a problem of inference, in which the child—like a "mini-linguist"— tries to piece together the abstract grammar of her native language from incomplete and noisy input. This "language-as-knowledge" viewpoint contrasts with a more recent alternative, in which the challenge of language acquisition is practical, not theoretical: by practicing across myriads of social interactions, the child gradually learns to understand and produce language. In this talk, I explore some key implications of this "language-as-skill" framework, focusing on how constraints arising from the need to process language in the here-and-now shape acquisition. Because experience with language is fundamental to becoming a skilled language user, this perspective predicts substantial differences across individual language users as well as across languages. I discuss evidence from behavioral studies and computational modeling, highlighting experience-driven variation across individuals and languages. I conclude that language acquisition may be best construed as skill learning, on a par with learning other complex human skills such as riding a bicycle or playing a musical instrument. By reconnecting language to psychological mechanisms of learning and memory, this perspective moreover offers the possibility for a reintegration of the language sciences.

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Judith Holler (Max Planck Institute, Nijmegen):
Multimodal signalling for coordination in conversational interaction

Abstract: The natural home of human language is face-to-face dialogue. In such an environment language is multimodal [1–3], meaning we use speech as well as a host of visual articulators conveying meaningful signals. Coordination is at the very heart of human communication, and in this talk, I will present a series of studies showing that visual bodily signals play an important role in coordination for conversation.
For conversational interaction to be successful, interlocutors must coordinate on the level of minds – that is, align in terms of the mental representations that can be derived from the messages the interlocutors encode. For demonstrating that bodily signals

critically influence this process, it is crucial to show (i) that visual bodily signals do in fact carry meaningful information; (ii) that visual bodily signals are linked to the speaker's communicative intent, thus creating the very possibility that they can form part of the message the speaker aims to get across, and that the signals are being recognized as such; and (iii) that the information visual bodily signals convey does indeed facilitate mutual understanding, such as through the processes of repair (in the case of problems in understanding [4]) and grounding (signalling that what has been communicated has been understood [5]). I will demonstrate that these three aspects indeed apply to the visual signals we use to accompany our speech.
Furthermore, conversational interaction requires coordination in terms of taking turns at talk. Here, it is crucial that next speakers produce semantically and pragmatically appropriate next utterances, and that they do so on time, requiring a certain element of prediction due to the tight timing of conversation [6]. In the final part of my talk, I will present findings showing that visual bodily signals significantly influence coordination also when taking conversational turns.
In sum, the findings add to our understanding of human language and communication by showing that being equipped with an intrinsic social orientation, combined with a body and cognitive abilities that maximize our communicative abilities, helps us to engage in the highly coordinated activity of face-to-face conversation and to achieve mutual understanding of the things we intend to communicate about. Trying to understand the role of both words and the body in dialogue may also allow us to go further in discovering why the human communication system has evolved as the multimodal system that it is [7].

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Sean Roberts (University of Bristol, UK):
Causal graphs will save us all from Big Data

Abstract: It's a very exciting time to be a linguist. There's more data than ever and more ways of analysing it. The next generation of Big Data methods even promise to create theories for us. However, with big data comes big trouble. First, there's the danger of drowning in data. With so many possible connections to test, how do we know which to investigate or control for? The second kind of trouble is specific to large-scale cross-cultural studies. Spurious correlations abound in this data due to the historical relations between languages (Roberts & Winters, 2013). This problem is under-appreciated in some fields and can lead to some questionable claims such as the language you speak affecting your bank balance, business decisions, or how likely you are to go to secondary school (Chen, 2013; Kim, 2017; Feldmann, 2019). How do we know which to believe?

I'll argue for three solutions: The first is interdisciplinary collaboration. Working together with experts allows access to the best data and methods (Roberts, Winters & Chen, 2015). Linguists have a responsibility to share their expertise with other researchers. The second solution is to take a robust approach to explanation by using multiple empirical methods (Roberts, 2018). The third solution is to use causal graphs (Pearl & Mackenzie, 2018). They can help us be more explicit about our theories and more rigorous in our quantitative analyses. I'll present some work on a tool for using causal graphs in research: The Causal Hypotheses in Evolutionary Linguistics Database (CHIELD http://chield.excd.org/). It will solve your problems and change your life. Maybe.

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Sophie Scott (UCL, London):
From sound to social meaning: the neural basis of speech and voice processing

Abstract: In human auditory perceptual systems, as in visual networks, there are clear differences between recognition and sensori-motor processes, in terms of anatomy and function. In this talk I will explore the possible computational differences that underlie these distinctions, and show how they make different contributions to aspects of speech perception and production. I will address how these interact with hemispheric asymmetries, and also explore the extent to which this approach might explain more domain general aspects of auditory processing. Finally, I show how social context can modulate the ways that these different neural systems are recruited in communicative interactions.

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Alexander Huth (University of Texas, Austin):
Mapping representations of language semantics in human cortex

Abstract: How does the human brain process and represent the meaning of language? We investigate this question by building computational models of language processing and then using those models to predict functional magnetic resonance imaging (fMRI) responses to natural language stimuli. The technique we use, voxel-wise encoding models, provides

a sensitive method for probing richly detailed cortical representations. This method also allows us to take advantage of natural stimuli, which elicit stronger, more reliable, and more varied brain responses than tightly controlled experimental stimuli. In this talk I will discuss how we have used these methods to study how the human brain represents the meaning of language, and how those representations are linked to visual representations. The results suggest that the language and visual systems in the human brain might form a single, contiguous map over which meaning is represented.

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Ewa Dabrowska (University of Birmingham, UK):

"Functional" and "decorative" grammar in adult L2 acquisition

Abstract: There is a large literature showing that adult L2 learners, in contrast to children, often fail to acquire native-like competence in the second language. Because of such age effects, adult L2 learning is often viewed as "fundamentally different" from child acquisition, and defective in some way. Adult learners' failure to develop native-like grammatical comptence is often attributed to maturational changes in the brain such lack of access to UG (e.g. Bley-Vroman 1989) or less effective procedural learning (Ullman 2015), although other researchers argue that the differences are better explained by appealing to first language interference, the quantity and/or quality of the input, and motivation (see Muñoz and Singleton 2011).

However, adult L2 learners do not always do worse than child learners. Studies comparing child and adult learners who have received similar amounts of input suggest that adults learn second languages faster, at least in the beginning (Huang 2015, Krashen, Long and Scarcella 1979, Snow and Hoefnagel-Höhle 1978). There is also evidence that many reach high levels of attainment in some aspects of language. For example, Dąbrowska (2018) found considerable overlap between L1 and L2 speakers in performance on a task tapping morphosyntactic knowledge, with 75% of the adult learners scoring within the native speaker range. Crucially, this study used a picture selection task which tapped mastery of "functional" grammar (i.e. grammatical contrasts which correspond to a clear difference in meaning, such as the assignment of agent and patient roles in sentences with noncanonical word order and quantifier scope). In contrast, most earlier ultimate attainment studies (e.g. Johnson and Newport 1989, DeKeyser 2000, DeKeyser et al. 2010, Flege et al 1999) used a grammaticality judgment task in which participants had to assess sentences such as (1)-(3) below (all taken from Johnson and Newport 1989). This task tests aspects of grammar which are "decorative" (agreement, tense marking, determiners) in the sense that their contribution to the meaning conveyed by the sentence is largely redundant.

- *Last night the old lady die(d) in her sleep.*
- *John's dog always wait(s) for him at the corner.*
- *Tom is reading (a) book in the bathtub.*

In this talk, I report the results of a large-scale study which directly compared native speakers, adult immersion leaners and classroom foreign language learners on tasks assessing both "decorative" and "functional" grammar. As predicted, there was much more overlap between groups on the functional grammar task than on the other two tasks. I conclude by discussing possible reasons for these differences.

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Wissem Aribi

Linguistic universals and relativity

Abstract: Linguists sought to search among the possibilities that could lead to the generation of linguistic universals. Linguistic universals make enable to understand language as providing conditions of reduction, abstraction and generalization. Some of linguists considered language as sign's system, like de SAUSSURE, others considered it as system of transformational rules, like HARRIS, some of them studied it because it seems to be a formal universals that conserve stability, like CHOMSKY and HJELMESLV, others studied it because it seems to be substantive universals that conserve its interrelations and dynamics by the componential analyses, like WEIRSBEKA and TALMY, MARTINET treated it through la langue, AUSTIN treated it through la parole, JACKENDOFF, LANGAKER and DESCLES represented it for representing what is in mind, SEARL, FAUCONNIER and BOYER represented what is in mind for representing it, and so on.

These linguistic theses, models and theories aspire to look at the fixed phenomenas no the variable, however so far its remain relative reseaches despite of their universal linguistic ambition and their ability to finding a universal grammar or to creat a universal language. So this matter asserts the relativity of linguistic universals, that make us suggest a rectification of the chomskian equation in (a) by (b) :

a- Σ s

b- Σ s±

in our paper, (b) results the discussion of a universal symbols like [$\bar{X}$] and [Σ], terms like [archisememe] and [prototype], notions like [universal grammar] and [language].

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Arash Aryani, Erin S. Isbilen, Morten H. Christiansen

Meaning as Aroused by Sound: Revisiting the Bouba-Kiki Effect

Abstract: A striking demonstration of the systematicity of sound-meaning correspondences can be found in how both children and adults from across the world reliably map nonsense words such as bouba to rounded shapes and kiki to spiky shapes (e.g., Bremner et al., 2013; Köhler, 1929; Ozturk et al., 2013). Despite the widespread documentation of this bouba/kiki effect, the cognitive processes that underlie this matching bias have remained controversial. Prior explanations have varied from orthographical influences (Cuskley et al., 2015), the existence of analogies in different sensory modalities (Ramachandran & Hubbard, 2001), to cross- modal statistical learning (Spence, 2011). Given the cross-cultural existence and the implicitness of this phenomenon, we hypothesized that the affective arousal evoked by the sound and the shape of the paired stimuli may be a crucial factor mediating the association between these two different sensory domains.

To test this hypothesis, we first collected subjective ratings of arousal for a number of shapes and words used in previous bouba/kiki studies (Experiment 1). Our analyses showed that the ratings of arousal significantly differ across two matching categories, with kiki-like words and spiky shapes evoking higher levels of arousal than bouba-like words and rounded shapes. We next developed a novel measure of assessing the level of arousal of the words (Experiment 2), by generating a corpus of pseudowords and collecting arousal ratings of their sound. By extracting the acoustic features of pseudowords, we developed acoustic models that strongly predict the variation in the human ratings. Applying these models to the bouba/kiki words from previous studies demonstrated that the predicted values of arousal of kiki-like words were consistently higher than those of bouba-like words. Lastly, we conducted a classic bouba/kiki task (Experiment 3) using the same rounded/spiky shapes from previous studies combined with a new set of words that we categorized in two groups of high-arousal- sounding vs. low-arousal-sounding based on the previous ratings. In line with our hypothesis, participants matched low-arousal-sounding words significantly more with rounded shapes and high-arousal-sounding words with spiky shapes.

Taken together, these results provide support for the idea that the crucial link underlying the matching bias in the bouba/kiki effect is the level of perceived arousal of the stimuli, i.e., the sound of words and the form of shapes. Our findings shed new

empirical light on an old phenomenon, drawing attention to the role of emotion as a mechanism linking information from different sensory modalities.

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Khalid El Asri

Putting Feelings into Words: Do Moroccan Learners of English Describe Others' Emotions as Native Speakers?

Abstract: Emotions are expressed and conceptualized differently across cultures (Pavlenko, 2005). Considering the languages investigated in this study, differences in the conceptualization of emotions between English and Moroccan Arabic would likely be greater since both varieties belong to distinct cultural dimensions (individualism and collectivism). Differences in the way emotions are conceptualized in these varieties, therefore, would pose problems for Moroccan learners of English, because they are required to make finer-grained distinction in using L2 emotion terms that may not exist in their L1. Nevertheless, it is predicted that emotion description would not be as difficult for advanced learners as intermediate learners. Rather, advanced learners would approximate native speakers in describing emotions of others since the range of situations and contexts in which English emotions are used require a higher proficiency level of English. To verify this hypothesis, 60 native speakers of English, 60 advanced learners, and 60 intermediate learners were asked to watch a short film and describe how actors felt at some suggested scenes by using one emotion word. The results revealed that advanced learners of English had rich emotion vocabularies and many of their lexical choices approximated those of native speakers. They, however, did not manage to provide the same emotion terms for some scenes as native speakers. On the other hand, intermediate learners quite managed to provide emotion terms as native speakers, but they differed from native speakers in many of their lexical choices. Based on these findings, some pedagogical implications are suggested.

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Teresa Bajo

Psycholinguistic processes in design thinking

Abstract: Design thinking comprise a iterative set of thinking processes which aim is to understand the users' needs and problems with the idea of redefining them in innovative ways and identifying alternative strategies and solutions (Plattner, Meinel, &Weinberg, 2009). Most systems are designed collaboratively because of their complexity, and the need for specialized expertise. During collaborative design, language exchanges reflect individual thinking processes and the way in which ideas evolve to innovation. In this presentation, we will discuss how theories and methods from the psycholinguistic domain provide useful tools for studies on design thinking. In conducting this discussion, data regarding associative processing, analogical reasoning and the role of second language processing in thinking. More specifically, empirical data with analogical

and remote association tasks will be presented to illustrate how activation and inhibition of relevant and irrelevant knowledge are involved when people solve this type of creative problems. These data indicate that normal psycholinguistic processes contribute to understand the way in which innovative ideas are produced at the individual and group level (Gómez-Ariza, Del Pretre, Valle, Bajo, Fernández, 2017). We also conclude that while some problems are better addressed with classical design methodology, some others are better suited to inquire from psycholinguistic methods.

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Sonia Blomquist

Metaphorical competence, literature and second language education from an international and Swedish perspective - a research review

Abstract: The aim of this presentation is to raise the importance of knowledge concerning metaphorical competence and literature education in Swedish as a second language for students in upper secondary school. This subject area is also the focus of my ongoing dissertation project in didactics and the presentation summarises the results from the first area of research of my compilation thesis.

In the Swedish school system of today, many students have a different mother tongue than Swedish. For almost a fifth of the students in upper secondary school, Swedish is a second or third language (Economou, 2015) and many have difficulty in acquiring a language level in the second language that is equivalent to a native speaker (Abrahamsson & Hyltenstam, 2004; Saleé, 2017). This has resulted in an increased demand of various efforts in language development, especially concerning the teaching of Swedish as a second language.

In Sweden, as well as in many other countries, second-language students often face the challenge of simultaneously learning a new language and acquiring new knowledge via this language that they do not yet really master. Most researchers agree that second language learning takes time. Understanding the communicative language can take a couple of years under favourable conditions, while the more advanced school language can take up to eight years or more to conquer (Cummins 2008; Lӧthagen, Lundenmark & Modigh, 2012). A great challenge for second language learners is the use of figurative language, which affects learner's ability to understand, interpret, process, and/or produce metaphors. International empirical research has shown that integration of conceptual metaphors in language teaching has the potential to improve students' conceptual fluency as well as their productive and receptive language skills (Danesi, 1992, 1995, 2015; Littlemore & Low, 2006; Littlemore 2001, 2009). Some researchers have also shown that metaphorical skills constitute a very important part of literature teaching for second language speakers (Gibbs, 1994; Picken, 2005; Komorowska, 2013).

Even though metaphorical competence has long been explored internationally, studies in the field are unusual in Sweden and other Nordic countries. Until recently, very few Swedish researchers have introduced cognitive semantic perspectives in their investigations. This presentation aims to give an overview of the current research within the field as well as emphasising the importance of conceptual metaphors in the teaching of literature in Swedish as a second language in upper secondary school.

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A. Blumenthal-Dramé

Chunking below the phrase level and its implications for models of online comprehension

Abstract: This presentation deals with processing units smaller than the multi-word-units typically considered in research on language chunks (e.g., at the end of the day, I don't know) (Carrol & Conklin 2015; Mauranen 2009). It will start with a brief overview of different ways in which the chunk status of language strings of various sizes can be assessed in online language comprehension experiments (e.g., priming, self-paced reading paradigms, etc.). Next, drawing on my own research, I will present evidence suggesting that chunks below the size of three- or four-word units are cognitively real. Particular attention will be devoted to complex words (e.g., government) and collocations (e.g., vast majority).

This, taken together with other studies on linguistic chunks, will allow me to make a number of central statements: First, chunking must be seen as a phenomenon that occurs at multiple, hierarchically nested levels (viz. from morphology via the levels of lexical combinatorics and syntax up to discourse pragmatics). Second, initial evidence suggests that different chunking levels are strongly interdependent. For example, the "chunkedness" (i.e., chunk status, taken as a gradient property) of a complex word like helpful will depend heavily on the chunkedness of its constituent parts help- and -ful. Third, the need to accommodate these interdependencies poses new challenges in terms of theoretical modelling. For example, does on-line chunking at different levels proceed in parallel or sequentially? Is chunking across different levels influenced by the same variables (e.g., usage frequency, intonation, irregularity)? These and other theoretical questions call for a new generation of experimental studies exploring the interaction of chunks at different levels of linguistic analysis.

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Vassili Bouilov

The language of the totalitarian system

Abstract: In a totalitarian society people are forced to use ready phrases "stored up" by their political leaders. This language acts as a lexically and stylistically marked sig¬nal which helps to select the ideologically loyal people from the political aliens. It acts as "a blotting", "a ticket" for passing into the determined, isolated zone of class and ideological communi¬cation. Only selected people are permitted to think, but all others must work. Only certain people can contrive ideas and thoughts: others must learn and use them mechanically. By creating "the language of utopia" they indirectly, or more often attentively, frustrate the na¬tional literary language. In the language of utopia the complex process of the production of a speech as a process of the gradual realization of the semantic, grammatical and pragmatic rules, which are being formed on the basis of natural cognitive structures, turns into a mechanical substitution of "ready-made" semanticized images, limited ideological, communicative and behaviorist clichés. Such most famous anti-utopists as Orwell, Huxley, Zamyatin and Platonov reflect in their literary works the key elements of this language. One of the main features of Andrei Platonov's language is concerned with the reflection of all the typical elements of the New Language of the Soviet epoch (Novoyaz), of the clichéd speech of ideology. This quasi- language of utopia can be relatively distinguished as one of two basic components of the Russian national linguistic diaglossia, as a secondary semiotic system - "an annex" to the literary Russian language created for an exceptional purpose in a certain political and ideological socium. The new Soviet language was generated by the usage of a limited set of communicative and ideological clichés. This is a language of declarations and prescriptions, slogans and propaganda posters - a convenient language for the proclamation of a New Ideal Society. By compelling people to act and think in that manner the ideologists succeed in the formation of a human "normalized" mass (the expression of Platonov) that is vulnerable to any kind of manipulation and directed programming. In his works Platonov reflects this "zombie effect" at a large scale. Platonov's use of the ideological cliches in the capacity of the stylistic device gives rise to a strong anti-utopian effect. In using them, Platonov severely criticizes the primitiveness of the propaganda, the mythologisation of ideology, the collectivist, stereotyped, clichéd way of speaking and thinking. He defines the basic reason of such mass mental and language deformations which lies in the nature of the Soviet utopia.

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Greg Bryant

Vocal signals and indirect language use

Abstract: When producing indirect speech such as verbal irony, speakers often produce accompanying nonverbal signals. Slowed speech rate is one of the few consistent prosodic features associated with spontaneous and scripted ironic speech, but no work has examined perceptual effects. Laughter often accompanies ironic speech, but has also not been examined for its effect on interpretative judgments. During conversation, people laugh to achieve a variety of pragmatic goals, and laughter plays a complex role in negotiating relationships that goes well beyond its connection to humor. For example, people tend to laugh immediately before and after using indirect speech in which speaker intentions are not explicitly stated but rich meaning is strategically conveyed. Laughter is ubiquitous in human social interaction and homologous to play vocalizations in many nonhuman species. Ironic language use has often been characterized as a form of pretense and play, and thus constitutes an excellent trope to test the predicted play functions of human laughter.

Verbal irony utterances that included adjacent laughter were culled from natural conversations between friends, and then manipulated to either include the laughter or not. Speech portions were isolated from laughter segments, and manipulated in duration (33% decrease and increase). Manipulated utterances (fast and slow) were presented to listeners either paired with laughter or not, and they were asked to rate the indirectness of the speakers' meaning (Exp. 1). As expected, there were main effects for both speed and laughter, with slowed utterances paired with laughter receiving the highest ratings of indirectness. The isolated laughs from these recordings were then played to a different group of listeners and rated for playfulness (Exp. 2). Judgments of playfulness were positively associated with the degree to which laughter increased judgments of indirectness across utterances in the first experiment. These data suggest that spontaneous laughter functions to signal play in social interaction, and prosodic contrasts such as slowed speech rate might enhance the signal's effectiveness. Overall these results reveal one possible connection between linguistic pragmatics and nonhuman animal communication.

Ditte Boeg Thomsen, Anna Theakston, Birsu Kandemirci & Silke Brandt Syntactic tools for social cognition: A longitudinal study with 2-to-3-year-olds

Abstract: During the pre-school years, children's sociocognitive abilities to reason about their own and others' beliefs develop substantially. A line of studies indicate that acquisition of perspective- marking syntax in the shape of complement clauses plays an important role in promoting such abilities to reason flexibly about mental states (e.g. de Villiers & de Pyers 2002, Low 2010).

The complement-clause construction is a syntactic strategy for communicating about relationships between persons and conceptions, as in: She thinks [it's her doll], but I know [it's mine], and it is found in the majority of the languages of the world (Dixon 2006). Correlation and training studies show a tight relationship between acquisition of complement clauses and belief reasoning, suggesting a case of linguistic mediation (e.g. Lohmann & Tomasello 2003, Schick et al. 2007).

However, critical uncertainties pertain to conclusions about this relationship. First, most studies use complement clauses in the sociocognitive tests, thus confounding the skills to be compared. Second, few studies include measures of executive functioning that are likely to influence performance on both types of tasks and could be responsible for the correlations. Third, the experiments typically target children around four years of age, but children make important advances in both belief reasoning and complement-clause acquisition at younger ages (Hansen 2010, Boeg Thomsen 2016), suggesting that the proposed influence from complement-clause acquisition should play its prime role at an earlier stage.

To test whether we still find a relationship between complement-clause mastery and false- belief reasoning when measuring the latter with complements-free tests and including a range of executive-functioning measures, we conducted a longitudinal study with 45 English 2-to-3-year-olds. Our main question was whether complement-clause performance at Time 1 (mean age: 3;1 years) would predict false-belief reasoning at Time 2 (mean age: 3;7 years) when we controlled a range of background measures: inhibitory control, rule-switching flexibility, short-term and working memory, vocabulary, syntax and eye-tracking measures of implicit belief tracking.

Complement-clause performance at age 2;9 to 3;5 emerged as a significant independent predictor of false-belief reasoning six months later, thus confirming the specificity of the relationship between complement syntax and social cognition while adding evidence for its workings at a more fundamental level than previously recognized. While the predictive relationship

yields support for a causal influence, we will scrutinize the question of causality further by comparing these results from natural development with results from an ongoing training study.

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Per Boström

How metaphorization flows in spoken Swedish

Abstract: Metaphorization is dynamic, flexible and situated. And in recent years, an increasing number of researchers highlight metaphor as a "doing" instead of a "using" (e.g. Boström, 2018; Cameron, 2008, 2010; Gibbs, 2012; Gibbs & Cameron, 2008; Müller, 2008; Wiben Jensen, 2016). In spoken discourse, this doing can be identified as a teamwork effort, where speakers "build on each other's or their own ideas, or disagree and offer alternatives" (Cameron et al., 2009, p. 66). In that sense "the dynamic system of discourse develops, adapts, and flows" (Cameron et al., 2009, p. 66; my emphasis). In this paper I discuss how metaphorical flowing can be identified in spoken discourse, with data from semi-structured group conversations on ROMANTIC LOVE in Swedish (Boström, 2018). Questions asked are: does metaphorizations actually flow between the speakers? And if they do; what flows and how?

Previous research with focus on how metaphorizations flow between speakers and across conversations is underrepresented. Cameron et al. (2009) discuss how the discourse is dynamic, but gives few concrete examples of actual "flowing" and how it works. Gibbs and Santa Cruz (2012) discuss the plausibility that different conceptual metaphors are activated during metaphor comprehension; a kind of metaphorical flowing on a conceptual level, however not recognized as such. One might also note that research on mixed metaphors (e.g. Müller, 2008, Chapter 5) possibly relate to a dynamic flowing of metaphorizations. It seems reasonable that "multiple forces simultaneously constrain people's understanding of verbal metaphors" (Gibbs & Santa Cruz, 2012, p. 303), and by focusing on metaphorizations in spoken discourse and how these flow within and between speakers, as well as across the discourse event, we can further discuss the interplay between the situated discourse activity and identified metaphorizations.

The results indicate that some metaphorizations do seem to flow between the speakers, where one speaker's metaphorization seems to influence another speakers metaphorization. In some instances of flowing, one metaphorization seem to influence a similar metaphorization, i.e. one speaker talks about a relationship as continuing on a journey, where another speaker, in the same immediate discourse activity, talks about reaching the end. In other cases, one metaphorization seem to influence another, not always evidently related, metaphorization. Interestingly, evidence of flowing metaphorizations are not, in the analyzed conversations, as prominent as one might think or as common as previous research reasons (Cameron et al., 2009).

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Rosario Caballero and Carita Paradis HEARING in English and Spanish

Abstract: The aim of this study is to identify what meanings are recruited by speakers to describe HEARING events in English and Spanish and those meanings are expressed in the two languages. In contrast to most studies on perceptual language, which start with a list of words pre-selected by the analyst, our approach is concept-driven and not limited to individual words, but to expressions as they appear in a context where a HEARING event is described in texts, as shown in (1) and (2).

1. (1) I was only able to overhear the end of the conversation
2. (2) It seemed that the furniture creaked too much

Following Viberg (2015), we divide the hearing events into Experiencer-based and Phenomenon-based descriptions. Example (1) presents an Experiencer-based perspective of the hearing event. The context is that the protagonist is not just passively overhearing a conversation, but is a spywho is eavesdropping, i.e. is a wilful actor who is listening to the conversation. This can be seen in contrast to a description of a situation where a person just happened to overhear a conversation, which would still be Experiencer-based but would be effected by a passive undergoer. Such different readings of constructions including overhear highlight why it is crucial for the analyst to actually read the whole text where the expression is used. In (2), 'the furniture' is both actor and the source from which the sound comes. This is a Phenomenon-based HEARING event in that the object emits the sound that protagonist hears.

Three questions govern our study:

- How are HEARING events lexicalized?
- What are the differences between experiencer-based HEARING events and phenomenon-based portrayals of the participants of the event?

• What are the typological and distributional difference between English and Spanish?

In order to answer these questions, we have compiled two corpora of fiction in English and Spanish (934.809 and 1.002.743 words respectively). In absolute numbers, we have identified 3,202 instances of HEARING events in the English data set and 2,714 in the Spanish data set, and at this point, in time we see a tendency in English to have a preference for impersonal Phenomenon–based existential constructions such as there was a noise rather than Experiencer–based constructions such as we heard a noise, which seem to be more common in Spanish. The analysis is very much work in progress. The corpora have been compiled and the data will be properly analysed in the spring of 2019.

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Micah Corum

Beyond a reasonable calque: On the role of metaphor and metonymy in conceptual construal and the creole lexicon

Abstract: Creolistics literature does not lack examinations of lexico-semantic contributions from substrate sources on word formation in Afro-Caribbean English-lexifier Creoles (AECs). Indeed, we have found considerable cultural and linguistic continuities from West African languages to Afro-Caribbean Creoles. The identification of certain phraseological manifestations in contact languages have allowed creolists to trace uses of metaphorical and metonymic language to West African sources (Hutter, Essegbey, & Ameka, 2007; Smith, 2015). In Bahamian Creole, for instance, West African influence is apparent in the use of the metonym putting mouth on it, which means 'to curse it'; there are parallels in Yoruba with e nu re and in Twi with n'ano, as both mean 'his mouth' and express the notion of cursing (Alleyne, 1980, p. 87).

Creolists have identified idiosyncratic uses of body part terms that convey property concepts in relevant African languages and, because speakers of those languages were at the right places at the right times, they have argued that those languages were involved in establishing uses of body part terms for ears and eyes, for example, to mean 'stubbornness' and 'greed' in

certain AECs. Current literature suggests that metaphorical and metonymic extensions of property items were based on calques from structures in those relevant West African substrates (Farquharson, 2012; Parkvall & Baker, 2012; Hollington, 2015). In addition to the etymology of calques, we should also emphasize that property items that express stubbornness and jealousy were (and still are!) processed thanks to the imaginative capacities of the human mind, including the interaction of metaphor and metonymy in grammaticalization processes.

It is true that certain lexical items were copied from structures in languages that are known to have been present during contact language formation. But, their continued polysemous uses are due to universals in language, namely in metaphorical and metonymic conceptualizations of abstract expressions that make up the "human semantic potential" in language use (Regier, 1996). Superstratist and substratist approaches underscore that potential, but each camp stresses in different ways how persons in contact situations drew on their creative capacities to bridge diverse backgrounds. In this paper, I deconstruct seemingly idiomatic language use, for example eyes and ears to convey abstract notions of 'greed' and 'stubbornness', to underscore the regular and unsurprising nature of the mind's creative capacities when it comes to languaging, whether it emerges in pidgins and Creoles, their West African substrates and adstrates, or in regional varieties of European languages today.

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Jenna Crossley

Effects of orthography on temporal cognition

Abstract: Central to this study is the notion of the mental timeline, which refers to a spatial continuum upon which individuals arrange events when conceptualising them. Experimental findings (e.g., Tversky, Kugelmass and Winter, 1991; Fuhrman and Boroditsky, 2010, Chan and Bergen, 2005; Miles, Tan, Noble, Lumsden and Macrae, 2011) suggest that an individual's orthography direction has an influence on the way they perceive time. Speakers of rightward flowing languages (such as English, Dutch or Spanish) thus perceive time as flowing in a left to right direction, whereas speakers of leftward flowing languages (such as Arabic, Hebrew or Iranian) perceive time as flowing from right to left.

Recent findings suggest that exposure to reversed orthography (i.e. orthography that flows in the opposite direction to what it does standardly) can have an influence on an individual's mental timeline (e.g., Casasanto and Bottini, 2014; Román, Flumini, Lizano, Escobar and Santiago, 2015; Crossley, 2017). These findings show that, after exposure to reversed orthography, individuals can demonstrate a complete reversal in the directionality of their mental timelines, where rightward flowing orthography users demonstrate directionality consistent with that of a leftward flowing mental timeline.

The present study focuses on the conditions under which the above can be demonstrated. The study makes use of online methods (i.e. eye-tracking technology and reaction time tests) and a within-participants design in order to investigate vital

questions surrounding the priming of the mental timeline. These questions include: i. Can physiological aspects such as handedness play a role in the priming of the mental timeline, and if so, what role do these play? ii. What priming effects can be observed in the focusing of a participant's attention on stimuli as seen in eye tracking results? and iii. To what extent does previous orthography exposure influence the priming of the mental timeline through reversed orthography?

The above is assessed through testing English-Afrikaans bilinguals residing in the Western Cape, South Africa.

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Volodymyr Dekalo

German passive constructions with bekommen / erhalten / kriegen: A corpus-based quantitative study

Abstract: The proposed talk will discuss the usage particularities of non-canonical German passive constructions with bekommen / erhalten / kriegen in modern German. They represent a combination of a respective passive auxiliary verb (bekommen / erhalten / kriegen) and a schematic slot for verbal complements occurring in the past participle form (see ex. 1–3 from DWDS Core Corpus, Geyken 2007).

(1) Sie bekamAUX.V ein kleines Stück Erde zugewiesenLEX.V.PP, das sie bebauen durfte.
(2) Zuerst erhältAUX.V die Partei mit den meisten Stimmen das erste Mandat zugesprochenLEX.V.PP.
(3) Er ist Arzt, das ist sein Beruf, dafür kriegtAUX.V er bezahltLEX.V.PP!

These constructions express the passive meaning 'to be done for smb / smth' and can be formalized by the following general schema: [AUX.VBEKOMMEN/ERHALTEN/KRIEGEN LEX.V.PP]. Accordingly, the verbs bekommen / erhalten / kriegen function as grammatical markers of passive meaning. Regardless of sharing similar grammatical or rather abstract content, they differ in their verbal lexeme preferences as well as in their functionality in terms of semantic and syntactic usage features.
This case study aims to ascertain the item-based, viz. distributional, differences between three passive constructions using a simple and distinctive collexeme analysis (Gries & Stefanowitsch 2004; Stefanowitsch & Gries 2003). The simple collexeme analysis identifies the typical (or salient) verbal items occurring in the schematic LEX.V.PP-slot of the respective construction. Sorting top ranked, viz. highly attracted, lexical verbs into semantic classes enables to compare the semantic core potentials of passive constructions introspectively. In contrast to this, the distinctive collexeme analysis identifies the lexical verbs that exhibit a strong preference for one of three passive constructions. Correspondingly, this method allows to figure out distributional differences between the members of a family of non-canonical German passives that shouldn't be necessarily allocated within the core potential.
In addition, this study is to determine the functional divergences between the passive constructions applying random forests & conditional inference trees (Baayen & Tagliamonte 2012; Hothorn et al. 2006). The results of these quantitative techniques demonstrate what (bundles of) usage features (e.g. semantic class of verbal lexemes, grammatical form of passive auxiliary verb, mood etc.) operationalized as predictors give evidence for a stronger or weaker preference of the constructions under

investigation coded as response variable. The empirical basis of these surveys represent exhaustive sets of observations from the DWDS Core Corpus (Geyken 2007).

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Christina Dideriksen, Riccardo Fusaroli, Christer Johansson, Kristian Tylén, and Morten H. Christiansen

Kill or tap? Left or right? Preliminary results from a study on dialogue differences in task oriented and spontaneous conversations

Abstract: The phonetic structure of Danish seems to pose a problem for language learners, both L1 and L2 (Bleses Basbøll, & Vach, 2011, Gooskens et al., 2010). A high amount of vocalic sounds and a tendency to reduce consonants result in a highly vocalic sound structure that makes it difficult to segment word boundaries (Basbøll, 2005). However, adult native speakers do

not seem to show any evident impairment in language use and understanding. A possible explanation is that compensatory conversational mechanisms (e.g. repair, backchannel, etc.) might be used to mitigate the opaque sound structure.

To test this hypothesis, we contrasted Danish with Norwegian, a phonotactically similar language, but with a lower degree of e.g., consonantal reduction. We focused on three conversational mechanisms: backchannel, other initiated repair and interactive alignment. We expected to observe differences between the use of conversational features in the two languages, but also between different conversational situations.

We collected 2 10-minute task-oriented and 2 10-minute spontaneous conversations from each of 40 Norwegian and 40 Danish pairs of adult native participants. The two task-oriented conversations differed, with one focusing on making a joint decision and the other on a more asymmetric giving and receiving instructions to reach a specific outcome.

The recordings were transcribed and coded for instances of vocal backchannel (Yngve, 1970) and repair (Schegloff, Jefferson, & Sacks, 1977). We define backchannels as conversational features that signals that there are no problems with the interaction and that the interlocutors have established common ground (Clark & Brennan, 1991). Repairs, on the other hand, are defined as a signal of a problem in communication and as a signal that the interlocutors need to realign and reestablish common ground. We define interactive alignment as the propensity to re-use the interlocutor's linguistic forms across successive turns, calculated in terms of cosine similarity. Lexical alignment is calculated at the level of lemmas, syntactic alignment at the level of 2-grams of parts of speech, semantic alignment using the averages across sentences of 300-dimensional word2vec scores (based on FastText's Wikipedia-based semantic representations of Danish and Norwegian).

We observe credible cross-linguistic differences. Danish consistently presents higher amounts of alignment and lower amounts of repair than Norwegian. Backchannel is also higher in Danish, but only in spontaneous conversations. Moreover, we observe consistent pair- and individual variability (e.g. consistently using more repair than average) with trade-offs between repair and backchannel (the more of one, the less of the other, that is, negative correlation between varying effects). The implications of the above findings for interactional research will be discussed.

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Julia Egger, Caroline Rowland and Christina Bergmann

Linking Dutch infants' speed of processing to vocabulary size at 18 months

Abstract: In language acquisition research, visual reaction times during looking-while-listening paradigms have been used as an indicator of infants' lexical speed of processing (SoP). This measure is very powerful as it can be applied from a young age and it has been linked to future language development. For example, Fernald and Marchman (2012) measured the visual reaction times of 18-month-old children learning American English and showed a positive link between the SoP and the productive vocabulary reported by parents at 18, 21, 24 and 30 months (CDI). However, some studies do not find this link between the SoP and later vocabulary size (Fernald, Marchman & Weisleder, 2013). Additionally, most evidence on SoP

predicting concurrent and subsequent language development stems from infants learning American English and the generalizability of this relation has not yet been tested. Dutch is closely related to American English, but some interesting differences have been observed. For example, Dutch infants show behavioural evidence of wordform segmentation only several months after their American English learning peers (Kuijpers, Coolen, Houston & Cutler, 1998).

We are currently testing 18-month-old infants learning Dutch (target n = 40 included, tested n = 28) in a looking-while-listening paradigm. In the standard looking-while-listening paradigm, the infant has to look at a distractor while the target is being named in order to be able to measure visual reaction times. This means that usually, at least half the trials cannot yield reaction time data as the infant was already fixating the target object (e.g. 3-32 trials in Fernald & Marchman, 2012). To provide more reliable SoP measures we developed a new, gaze-triggered paradigm. The gaze-triggered paradigm improves this state of affairs by naming the object the infant is not fixating in a specific time window. Pilot data show that this small change leads to a 50% increase in usable trials without affecting the individual SoP estimate.

Using both the standard looking-while-listening and the gaze-triggered paradigm within the same participants, we measure infants' SoP and link it to their CDI comprehension score of 18 months. Our goal is to investigate if Dutch infants show the same link between SoP and concurrent language development as their American English learning peers.

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Y. Esaulova, et al
Look this way! How and when visual attention affects language production

Abstract: The present study examines systematic variations in visual and language behavior in event scene descriptions. Directing speakers' attention towards the patient and not the agent in scenes with transitive actions has been shown to increase the production of passive voice sentences. Also, there is evidence that speakers display a preference for agents positioned to the left of patients. Furthermore, voice and word order variations may depend on conceptual characteristics, such as animacy, with speakers assigning subject/agent roles to animate rather than inanimate referents. This study brought visual and conceptual factors together to reveal how they may interact affecting gazing behavior, speech initiation and voice selection.

Two experiments were conducted on native German speakers (N1 = 44, N2 = 45) who were tested in a picture description task while seated in front of a computer screen with an eye- tracker. Participants were instructed to describe each picture using one sentence. The pictures depicted scenes with animate agents and either animate or inanimate patients who were situated to the right or to the left of agents (Figure 1). Half of the patients were preceded by a short (60 ms, Experiment 1) or a long (600 ms, Experiment 2) visual cue (Figure 2).

The results show that scenes with left- rather than right-positioned patients lead to longer speech onset times and a higher number of passive sentences. In addition, passive utterances occurred more often for scenes with animate rather than inanimate patients in Experiment 1, and the same was observed in case of left-positioned patients in Experiment 2. Visual cueing did not only produce more looks to cued vs. non-cued patients but – in case of longer cues – also caused a significant increase in the number of produced passive descriptions. Moreover, visual cueing and patient position affected initial eye movements, whereas patient animacy also influenced utterance production at a later stage.

When examined together rather than separately, visual and conceptual factors of event scenes influence different aspects of behavior. The visual orientation of patients pervasively affected both the initiation of utterances and the voice selection. Moreover, voice selection was also sensitive to the animacy of patients. The observed gaze patterns indicate changes in the relevance of visual and conceptual factors over time, with visual factors having rather short-lived effects and conceptual

factors being relatively long lasting. The discussion of findings integrates cognitive and linguistic models relating differences in linguistic output to attention and prominence effects.

Figure 1.

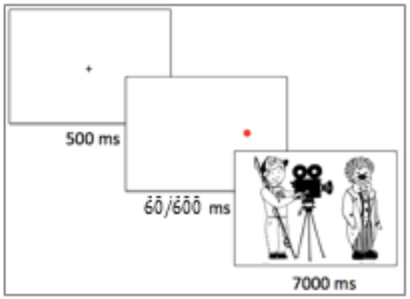

Figure 2.

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Patrick Falk, Jamie A Ward, Marco Gillies, and Antonia Hamilton
Exploring Social Signals – Multimodal Data Capture & Wavelet Analysis

Abstract: Human social interaction involves rich and complex behaviours where verbal and nonverbal signals are exchanged in dynamic patterns. To understand these behaviours, it is helpful to have detailed high-resolution data and to analyse this with appropriate methods. Here, we present initial results from a multimodal study of dyadic conversation behaviour in three different contexts: a one-sided information sharing task (i.e. picture description), a co- recollection task, and a joint planning task. We used high-resolution motion capture to record motion in these dyadic conversations and wavelet coherence analysis to understand the dynamic patterns of head movements and hand movements in these contexts, testing if coherence is seen in different frequencies and if it differs across contexts. In addition, we simultaneously recorded facial expressions, gaze, and speech signals. By preserving the temporal relationship between social cues we demonstrate the ability of multimodal data to capture a rich description of the original social interaction.

We find that in the picture description task, dyads show positive coherence (relative to pseudo-dyads) at low frequencies (0.48 – 0.96 Hz) and show reliable anti-coherence at high frequencies (2.6 – 5.4 Hz), which replicates previous findings in our lab. However, in the other conversational contexts, we find no significant effect of either low-frequency mimicry or an anti-coherence pattern. Further analysis will examine the links between these head motion signals and the gaze and speech signals. Overall, our aim is to explore new ways of modelling coordinated behaviour as it naturally occurs in social interactions, and this talk demonstrates how high-resolution data capture and novel analysis methods can give new insights into social coordination and can be important for studies of the social brain, such as improving the automatic detection and interpretation of social signals, or to create computational models of realistic social behaviour. It can also advance the development of socially realistic virtual characters.

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S. Farshchi, et al
Integration of negation in sentence comprehension: An ERP study

Abstract: This study examines the integration of negation in sentences. It compares the affirmative forms with two forms of negation: 1. Prefixal negation (unauthorized) and 2. Sentential negation (not authorized). The aim is to determine (i) whether there is a delay in the integration of negation, and (ii) whether prefixal negation is processed in a similar way to the negated form or the affirmative form.

Previous studies using event-related brain potentials (ERPs) have shown that negation is ignored in early processing in the presence of semantic priming effects and incongruent world knowledge (Ferguson, Sanford & Leuthold, 2008, Fischler, Bloom, Childers, Roucos & Perry, 1983; Lüdtke, Friedrich, De Filippis & Kaup, 2008). Based on these findings, the "two- step simulation hypothesis" was developed (Kaup, Lüdtke, & Zwaan, 2006; Lüdtke et al., 2008). According to this hypothesis, language users first simulate the affirmative concept and only later integrate negation (e.g. 'open door' and 'closed door', respectively, in The door is not open) (Kaup et al., 2006). Other studies have provided evidence suggesting negation can be integrated

immediately if the context in which it occurs is optimal and negation fulfills its most natural function of rejecting a plausible statement (Nieuwland & Kuperberg, 2008; Nieuwland & Martin, 2012).

The present study. Using ERPs, this study revisited this issue by investigating the integration of negation in a sentence comprehension task. Participants (N=26) read sentences such as The White House announced that the new Obama biography was authorized/unauthorized/not authorized therefore the details in the book were correct/wrong in actual fact, where the first part of the sentence contained the negated adjective and the second part contained one member of an antonym pair (correct/wrong), according to which the sentence was either congruent or incongruent. ERPs were time-locked to the antonym in the second part of the sentence and amplitudes were analyzed in two time-windows of 300-400-msec and 500- 700-msec.

Results and discussion. In affirmative sentences, Incongruent condition resulted in a larger N400 followed by a larger P600 in the Parietal region and Central region. For Prefixal negation, a larger negativity was observed in both time-windows in the Frontal and Central regions. For sentential negation, no effect of Congruency was found between 300-400 msec. However, in the 500-700-msec time-window, a larger negativity was observed for Incongruent compared to Congruent sentences in the Parietal region.

Conclusion. These findings suggest that while participants react to anomalies in affirmative sentences, they have difficulty processing sentences with prefixal and sentential negation. Both negation types elicit a larger negativity different from the typical N400 which suggests that negation has not been fully integrated at that point in time.

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Katalin Fenyvesi, Klaus Geyer and Eckhard Bick

Expressing 'sadness' – differences between the semantics of some Danish and German negative adjectives.

Abstract: The emotion 'sadness' seems to be a culture-specific concept. Unlike in European languages, in many Pacific languages, for example Tahitian, there is no expression for 'sad' (Goddard, 2007). 'Sadness'-expressions have been compared through relatively distant languages, such as English and Chinese (Zhang, 2016). Our hypothesis is that linguistic expressions for sadness differ even between two genetically and typologically closely related neighbouring Germanic languages in Europe, Danish and German. To our knowledge, 'sadness'- expressions in these two languages have not been studied so far, from a comparative point of view.

The German adjective traurig 'sad' can in many contexts be equivalent with the Danish adjectival expression ked af det 'sad' if it refers to a person. In contexts where traurig refers to the object causing the emotion of 'sadness', on the other hand, it can be equivalent with the Danish adjective trist 'sad'. In some very specific contexts, the Danish adjective kedelig 'boring, embarrassing or flat' can also be equivalent with traurig.

Our aim is to analyse the similarities and differences between the semantic structure of some Danish and German negative adjectives (and adjectival expressions) expressing 'sadness', possibly as an example for linguistic relativity. The study seeks to answer the following research questions:

RQ1 How do expressions for sadness differ conceptually, lexically and/or grammatically in Danish and German, and what do they have in common?

RQ2 Do some of the adjectives represent a unique concept of 'negative emotion'?

For the analysis of the semantics of the adjectives we will use definitions from monolingual dictionaries and two different methods. Quantitative corpus analysis based on dependency analysis relations with help of the tool DeepDict (Bick, 2009) will shed light on co-occurrence patterns and use of the adjectives. Natural Semantic Metalanguage analysis will explain native speakers' language use and intuitions about the meaning of the adjectives.

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Susana S. Fernández

The semantics of "Latin America/ América Latina/ Latinamerika" and its impact in Spanish language teaching

Abstract: The purpose of this presentation is to explore how the concept of "Latin America" is constructed in the region itself and in Europe - more specifically Denmark.

The concept of Latin America is controversial from its very origin. The most extended theory of how the word was coined claims it appeared for the first time in 1861 in the journal Revue des Races latines within a context of French imperialism and with an aspiration of strengthening French colonial intentions in the region. This theory is contested by claims that the term was already in use by Latin American scholars a decade before (Quijada, 1998). Regardless of its origin, the term establishes an antagonism between two Americas, the Anglosaxon and protestant North, on one side, and the Latin and catholic South, on the other. At the same time, it seems to forget/exclude the non "Latin", original population.

Today the term is widely used on both sides of the Atlantic, as well as around the world, but the question is whether it is conceptualized in the same way and whether it serves the same purposes. In the context of Spanish teaching as a foreign language, there is a tendency in Scandinavia to construct the Spanish-speaking world as consisting of two blocks, Spain and Latin America. In this paper, I will explore what this means for the view that Scandinavian learners of Spanish have of the region, and whether the use of the term contributes to create a Eurocentric and highly simplified view of a vast geographical area consisting of a large number of countries, each with their rich and varied history, society, cultural values and language landscape. My claim is that this dichotomic presentation of the Spanish-speaking world may hinder the promotion of critical cultural awareness in the classroom (Byram, 1997; Risager, 2018; Fernández, in press).

Through corpus analysis and informant consultations in both the region itself and in Denmark, I will try to unravel some meanings and uses associated to the term. NSM will provide a metalanguage for explanations.

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Rebecca L.A. Frost, Caroline Rowland, Samantha Durrant, Michelle Peter, Amy Bidgood & Padraic Monaghan
Statistical Learning in Infants, and its Relationship with Language Development: A Study of Nonadjacent Dependency Learning

Abstract: To acquire language, infants must learn how to identify individual words in speech, and master the constraints that govern the way those words are used. Implicit statistical computations have been suggested to play a critical role in these tasks (e.g. Saffran, Newport, & Aslin, 1996, Gomez, 2002), however infants' capacity to use statistical information to identify words and structure has been suggested to be contingent on additional cues, such as pauses between words. Marchetto and Bonatti (2013; 2014) demonstrated that 12- and 18-month-olds could use nonadjacent transitional probabilities to identify words from continuous speech, but could only discern structural information about these words when speech was segmented - in line with prior findings with adults (Pena et al., 2002). However, recent advances in the adult literature indicate that adults can perform both tasks at the same time, in the absence of additional cues, when methodological confounds in the original studies are addressed (Frost & Monaghan, 2016).

We adapted the stimuli used by Marchetto and Bonatti (2013; 2014) in line with Frost and Monaghan (2016), and explored whether infants too can segment and generalise statistically- defined non-adjacent dependencies without additional cues, to shed light on the nature of these processes in infant language acquisition. We familiarised 65 17-month-old infants with a continuous stream of artificial speech, then examined their implicit knowledge of words and structure using an eye-tracked adaptation of the head-turn preference paradigm. At test, infants completed segmentation trials, which measured infants' preference for words (e.g. bamuso, lifodu) versus part-words (which straddled word boundaries, e.g. solifo), and generalisation

trials, which examined infants' preference for part-words versus rule-words (a trained dependency intervened by a novel syllable, e.g. baveso).

Linear mixed effects analysis revealed 17-month-olds could use nonadjacent dependencies to identify individual words in continuous speech, and could distinguish words from close competitors – building on Marchetto and Bonatti's (2013) demonstration that infants can use nonadjacencies to distinguish between words and previously unheard strings, and indicating the powerful nature of these computations in infant learners. There was evidence to suggest infants were also sensitive to the structure these words contained, though this effect was less pronounced, supporting the suggestion that these processes may have different developmental trajectories. Critically, infants' statistical segmentation performance was found to relate to their vocabulary development (indexed by UK-CDI scores). This relationship will be discussed.

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Peter Gärdenfors and Maja Brala

From pointing in space to pointing in language: A cognitive semantics of demonstratives and articles

Abstract: The basic distinction for demonstratives concerns location in space. All languages seem to have a binary distinction between 'here' and 'there' or a ternary distinction between 'here', 'there' and 'yonder' (Diessel 1999). Some languages only include demonstratives for location, but many languages use them for other domains, for example 'this' and 'that' for objects.

In the central part of the paper we argue that the semantics of deictic expressions can be based on a theory of mind that enables the communicative partners to adopt the perspective of another person. This view is taken to anchor the hypothesis that demonstratives stem from the pointing gesture (a precursor of language) while, at the same time, demonstratives represent the possible source of lexically coded joint attention elements that drive the emergence and development of language (e.g. articles).

We argue that demonstratives originate in the locational meaning and are extended to other domains by metaphorical extensions. We have performed an analysis of Croatian demonstratives that form a very rich system (Gärdenfors and Brala 2018), including not only the domains of location and object, but also path, time, manner, size and other properties, and even discourse properties. We study in which ways the different semantic categories of meanings expressed by different demonstratives in the Croatian language map onto the system of different word types, i.e. grammatical categories in language (thus providing further arguments for some grammaticalization theories).

As regards articles, they have historically evolved out of demonstratives. We argue that semantically determiners function as demonstratives 'pointing' metaphorically to an epistemic domain created by the knowledge of the interlocutors. This domain emerges from two basic distinctions: (1) Whether the speaker S can uniquely identify the referent or not (specificity); and (2) whether the speaker believes that the hearer H can uniquely identify the referent in the S-H shared universe of discourse (common ground) or not (definiteness). We take definiteness and specificity to be intrinsically linked to the identifiability of the referent in the universe of discourse by the discourse participants. Combining these two dichotomies generates a 2-by-2 grid that represents a minimal structure of the epistemic domain. In English, and many other languages with articles, the definite article 'the' only refers to the case (specific, definite), while the indefinite 'a(n)' refers to the three other cases. Other languages have other combinations of articles and may rely on further distinctions of the knowledge of the interlocutors.

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Adam Głaz

The Cultural Semantic Thickness of Insides and Outsides

Abstract: Much as one would like to resist it, the theme of this session does invoke the famous/notorious container schema. By practicing cultural semantics in the North, one is immediately plunged into the cognitive linguistic notion of embodied schemas actualised and elaborated in usage, as well as into the cultural linguistic commitment to view these schemas (including the container schema) as cultural (or, in effect, cognitive-cultural).

Being in the North or South can thus be viewed as being inside vs. outside, a contrast that is as much topographical/geographical as it is political, economic, and cultural, and ultimately evaluative and axiological. Insides and outsides involve variable degrees of knowledge, insight, and expertise, a continuum of analytic vs. synthetic perspectivisation, as well as an implied directionality of viewing and/or fictive motion. If then, to take an example tangential with the North-South Divide, Karen Blixen's Out of Africa suggests movement outside (and the loss of) the place that she made her home, CNN's feature series Inside Africa and African Voices try to assume the insiders' perspectives, whereas BBC World's Focus on Africa zooms in onto the continent from an external (northern?) vantage point (this at least is suggested, perhaps erroneously, by their titles). Thus, inside(s) and outside(s) are indeed semantically and culturally "thick" notions that by default function in contrast to each other but need not be symmetrical. Being an outsider can be bad and uncomfortable but can also be an admired act of rebellion. Being inside can mean the spirit of solidarity and the feeling of affinity but also an unwelcome enclosure with no possibility to obtain a broader and a more balanced view.

By exploring the semantics of insides and outsides in contemporary British and American journalism, the present study aims to address the issues of (i) the cognitive-cultural contextualisation of these notions, (ii) the spheres of connection between inside/outside and North/South, (iii) the ambivalence of the inside/outside (a)symmetry. On the theoretical side, it revisits the notions of languaculture (Agar 1994) and cultural mindset (Underhill 2012).

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Nawar Golley and Aisha Sayidina

The Power of Discourse: Uncovering the Ideology of Gender Representations in Saudi Media

Abstract: The investigators assume that the representation of women in official newspapers in Saudi Arabia parallel the current political process towards gender equity in the country. To ascertain this hypothesis, the project examines the linguistic representation of women in current official newspaper stories in comparison to representations of women in the same or similar media from the 1990s, the decade that preceded the beginnings of recent changes regarding women's rights in the country. The analysis of these representation will reveal the ideology behind them. The project is interdisciplinary as it combines linguistic, media and gender studies. Relying on Feminist Critical Discourse Analysis, which investigates the relationship between power, ideology, discourse and gender, the project applies Transitivity Analysis, a system within Systemic Functional Linguistics which contends that language performs social functions that can be understood by examining the linguistic system. Transitivity Analysis starts with the clause. Sentence in the news stories will be parsed at the clause level and analyzed in terms of their functional components, namely, Processes, Participants and Circumstances. Transitivity Analysis, the analysis of the three functional categories will reveal the choices made to enact a social function. At a second level, using the principles of Critical Discourse Analysis, the interpretation of the choices in each clause will disclose the ideology behind the news story. As Saudi Arabia slowly opens up to debates on women's rights, the project is significant because it deals with an important topic that governs the lives of women and men in a country that is witnessing great shifts in its present reality. The project is timely as it examines whether the ideology behind current official media representations of women correlates with the current positive legal and political endeavors regarding women in Saudi Arabia. The project is also significant as it deals with timely issues in an under-researched region.

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Patricia González-Peña, Andrew P. Bayliss, Kenny Coventry, Martin J. Doherty Spatial demonstratives: the very first words, a very slow development.

Abstract: Demonstrative words ('this' and 'that' in English) are among the first utterances of infants. In combination with deictic pointing, they function to establish joint attention [1]. However, very little is known about their acquisition [2]. We present two studies, on the spontaneous production of demonstratives, and on comprehension.

Demonstrative choice is mediated by the distance between object and speaker (i.e., 'this' for objects in the near space and 'that' for objects further away) but is also affected by other properties of the object such as object ownership [3]. The aim of our first study is to determine at which age children produce demonstratives in the same way as adults. Two experiments investigated the demonstrative choice in seven-year-old children, eleven-year-old children and adults. Participants had to refer to objects on a table using 'this or 'that'. Object distance and ownership was manipulated. Use of demonstratives to discriminate near and far locations was minimal in younger children and strongly increased with age. There was also an overall tendency to refer to owned objects using 'this'.

Despite minimal distinctions in demonstrative use in seven-year-olds, even five-year-olds show adult-like comprehension. In an object search task [4], five-year-old children were able to find the object using verbal cues including 'this', 'that', 'here' and 'there'. Ongoing research examines younger children's demonstrative comprehension in relation to their theory of mind ability, as well as language and spatial skills. Preliminary data indicates that the acquisition age could be around the fourth year.

Our findings show that the development of the use of spatial demonstratives is strikingly slow: The firsts demonstrative words appear in the second year, comprehension is achieved at the age of four or five, and spontaneous adult-like production starts developing around the age of seven and continues beyond the age of eleven. Implications for the development of joint attention and theory of mind will be discussed.

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Y. Gu and N. Zhao

A study of Chinese EFL learners' encoding of motion events in constructions from a linguistic inventory typology perspective

Abstract: Guided by Goldberg's Cognitive Construction Grammar and Liu's Linguistic Inventory Typology, this paper investigates how Chinese EFL learners use constructions to encode motion events, by adopting induced experiments. This study aims to find if the mighty grammatical Inventory means in one's native tongue will affect his on-line thinking pattern, and consequently have an impact on his L2 construction encoding of motion events. The result shows, L2 learners' motion event encoding is significantly affected by their L1 on-line thinking pattern, which result from both L1 mighty grammatical categories and L1 information flow structure. This impact is mainly manifested in the Chinese learners' use of noun verbalization/verb nominalization constructions, static constructions and serial verb constructions.

The subjects of this study are 42 Chinese EFL learners (English majors in a university) and 20 English native speakers (US college students), who are asked to describe 19 video clips of motion events carefully selected by writing down one English sentence for each clip.

The experiment result shows that the Chinese learners' on-line thinking, restricted by the mighty categories of L1 linguistic inventory, has significantly influenced the subjects' construction encoding of motion events: (1) Chinese learners have profound production of noun verbalization constructions (eg. Two people are boating…), while native speakers use lots of verb nominalization constructions (eg. …he tried to maintain control of the plane…). It seems contradictory to Liu's claim that verb is the mighty category in Chinese and noun in English, but when we put the converted words into the syntactic level of constructions, it's clear that L1 mighty categories do exert an influence on learners' construction encoding of motion events. From Chinese mighty category verb "hua chuan (row a boat)" to English mighty category noun's functional expansion "boat (v.)", semantic function is matching while syntactic structure is simplified, hence such a construction is easily activated in production. And when the situation is reversed, learners have difficulties in production. (2) Chinese learners' encoding rate of static constructions is higher than that of natives, especially of there-be construction (there-be-NP-doing) which is not seen in natives' production. It's the joint work of Chinese information structure projection and Chinese mighty category ("you" construction). (3) As for serial verb construction, three types of corresponding Chinese construction have been proposed: Type I (V1+and+V2), Type II (V1+to+V2 or V1+V2ing), Type III (V1+NP+to+V2), and the experiment shows Chinese learners' heavy use of Type I and III. Indeed from serial verb construction to Type I, only "and" is added without any inflection involved, thus it's easily activated. Type III corresponds to Chinese pivotal structure (a causative construction), while the prototypical English structure with causative sense is caused-motion construction. Therefore, Chinese subjects' profound use of Type I and III indicates the significant influence of mighty categories in mother tongue's linguistic inventory.

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Hana Gustafsson

Emergent patterns in cross-sectional L2 data: a complexity theory perspective

Abstract: I propose in this paper that the cognitive usage-based model of language (Dabrowska 2014) can benefit from the complexity theory concept of emergent patterns; and I show this on a study of L2 English data (Gustafsson, forthcoming).

Firstly, I argue that this concept is implicit in the cognitive usage-based model. According to Dabrowska (2014), linguistic patterning represents central tendencies in language use at a community level and is best understood from a complexity theory perspective on language (Beckner et al, 2009; de Bot et al 2007). Patterns observable in complex systems are nested

(larger patterns contain smaller patterns in scale-free and self-resembling structures) and emergent (patterns are the sedimented by-products of reccurring processes in the system). Similarly, the cognitive usage-based model sees the characteristic nested structure of language as the result – or, the by-product - of productive cut-and-paste mechanisms utilizing various degrees of schematicity. Patterns in language at community level can, therefore, be interpreted as the accumulated traces of constructions and productive mechanisms employed by individual language users; and they can likely be observed at different levels of schematicity.

Next, I present a qualitative study of learner expressions for two task-elicited notions (DEPOSITING MONEY and DONATING MONEY) in a community of L2 English learners (N=167; L1 Dutch). Analysis of all learner expressions across the learner community revealed emergent patterns at various structural and schematic levels. For example, for the notion of DEPOSITING MONEY, a pattern in the use of verbs (e.g., put) is also part of an emergent V PREP pattern (e.g., put on), which is part of an emergent slot-frame (e.g., put NP on the bank); and all these are part of an emergent abstract schema V NP on NP.

Finally, based on this study, I suggest that emergent patterns at community level can provide insight into productive mechanisms and developmental processes. For example, the findings indicate that the learners do not use target-like L2 constructions derived from the most frequent, generic, and prototypical L2 English exemplar which became entrenched or schematized (put NP in the bank - only 4% of all learner expressions for DEPOSITING MONEY). Instead, learners tend to break the notions down into their constituent meaning units (PROCESS, THING, LOCATION) then construct a linguistic solution for each meaning unit, and finally paste the linguistic solutions in the correct slots of an abstract L1 Dutch or L2 English verb-argument construction in order to assemble the whole expression for the notion (do it on the bank). The commonalities in their solutions then give rise to the patterns at different structural and schematic levels of the expressions (V NP on NP schema sanctions 56.3% of all learner expressions for DEPOSITING MONEY).

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J.H. Hansen, L.B. Kristensen, K.F. Søby

The effects of homophony on verbal inflection in L1 and L2 Danish

Abstract: In written Danish, there is a clear distinction between regular verbs in the present tense (inflected with the suffix -er) and the infinitive (inflected with the suffix -e). In spoken Danish, however, the two word forms are sometimes homophone e.g. kør-e 'to drive' and kør-er 'drive/driving'; both pronounced [ˈkhøːɐ̯]. Previous research has shown that Danish middle schoolers as well as university students have difficulties with inflection of such homophone verb forms (e.g. Blom et al. 2017, Jervelund & Schack 2016). When the difference between present tense and infinitive was audible, middle schoolers showed almost no difficulties (Jervelund & Schack 2016).

As the homophone verb forms seem most problematic, we investigated the frequency of errors in the written production of present tense and infinitive verbs in cases of homophony vs. heterophony. To examine whether difficulties with homophone variants are specific to native speakers of Danish, we compared texts from native Danish speakers (L1 texts) to texts from nonnative speakers whose native language was English (L2 texts). L1 texts were 36 high school essays (61,803 words in total) and L2 texts were written by 28 students at a Danish language school (5,685 words in total). For L1 texts, we expected more errors when present tense and infinitive were homophone. For L2 texts, we expected anomalous inflection to correlate with other factors than homophony, e.g. the frequency or context of the verb (e.g. after modal verb).

Overall, we found more inflection errors in L2 texts than in L1 texts. However, homophony- related errors were more pronounced in L1 texts than L2 texts: a potential error analysis (Thewissen 2015) showed an error rate of 21.6% in L1 texts in cases of homophony compared to 0.4% in cases of heterophony. L2 texts had an error rate of 3.5% in cases of homophony compared to 8.0% in cases of heterophony. The L1 results indicate that L1 speakers of Danish predominantly utilize their

phonemic knowledge in writing rather than their morphological knowledge, which is consistent with other findings (Jervelund & Schack 2016, Juul 2005).

We discuss these results further and account for other factors that correlate with the L2 errors. Additionally, we discuss how the results from both groups can be used as point of reference for psycholinguistic studies of grammar anomalies.

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Peter Harder

Contested framings of economic rationality and financial responsibility

Abstracts: The present study takes up the issue of the role of conceptualizations of economics in present-day politics, focusing on the development in recent decades of the role of the Danish Ministry of Finance. Two sets of competing conceptualizations

are described: First of all, the different and contested versions of rationality associated with economic theories and practices. Secondly, three competing ways of conceiving of the role of a Ministry of Finance.

The existence of competing variants of the content of a concept does not rule out precise description of contested conceptualizations, cf. Gallie (1956). A basic variant of rationality is the 'capacity for rational action', arguably presupposed by more elaborated views of rationality, e.g. Habermas (1981), Searle (2001), definable as the ability to act in ways where means bring about intended ends, so that e.g. attempts to satisfy hunger bring about acts of eating.

In the specific case of economic rationality, three variant conceptualizations may be discerned, with different relations to basic rationality: 'textbook economic rationality': 'ideal economic rationality' and 'raw economic rationality'. 'Textbook economic rationality' (cf. e.g. Paul A. Samuelson's classic, 1948 and later) is predicated on the laws of supply and demand in the market, optimizing the relation between cost and revenue, and getting the maximum profit that conditions make possible for the economic agent (= the economic man).

In 'ideal economic rationality', basic economic rationality is upgraded to address also outcomes where no monetary dimension is directly involved, making it possible to prioritize between potential actions by calculating the outcome in relation to all types of relevant goals. On the other hand, there is also what may be termed 'raw economic rationality'. This is the rationality associated in various forms with cutthroat capitalism as prevalent in international finance, the defining characteristic being the prioritization of hard-core financial gain under disregard of all other considerations. A key reason for trying to unravel the three is that it is often unclear which of them is at work in political discussion and decision-making.

The uncontested core of the way Ministries of Finance are conceptualized may be rendered as 'having control with government spending'. Three variants of this may be discerned in Danish politics over the past 40 years. The 'core' or 'classic' version is when the Ministry of finance actually controls that expenditure does not exceed the collectively decided level. A weaker version involves the 'book-keeping' variant, where the Ministry collects the invoices but does not in fact control public expenditure. A stronger role, which has some connection with the situation in European economic policy as conceived and partially controlled also by the powerful German Ministry of Finance, is when the Ministry of Finance controls not only the maintenance of fiscal responsibility, but the whole area of public expenditure. This entails the pre-eminence of purely economic considerations in the prioritization of public policy over qualitative dimensions. All these roles can be practiced with

reference to the three different versions of economic rationality (as illustrated with reference to a corpus of texts on or by the Danish Ministry of Finance).

In conclusion, the role of variational combination of societal efficacy with conceptual understanding, and the ensuing interplay of cognitive and societal framings are argued to be underrated factors in understanding problems of political deliberation.

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Stefan Hartmann
Futures of the past: A corpus study of competing future constructions in historical German

Abstract: In historical stages of German, various ways of expressing future reference compete: Apart from werden 'become' + Infinitive, which is nowadays considered the future tense construc- tion of German, modal verb constructions as well as werden + Participle could be used to ex- press future reference in the Middle High German and Early New High German periods (see e.g. Saltveit 1960, 1962, Diewald 1999, Diewald & Habermann 2005, Zeman 2013). Howev- er, it is unclear how the different constructions relate to each other (e.g., how the older modal verb constructions as well as werden + Participle contribute to the emergence of the younger werden + Infinitive construction) and to what extent they are actually temporal rather than modal. This paper re-addresses these questions on the basis of newly available corpus data from the Reference Corpus of Middle High German (Klein & Dipper 2016). In particular, it focuses on the relationship between werden + Participle and werden + Infinitive. A quantita- tive, explorative approach is combined with a more qualitative analysis of sample data. For a quantitative exploration of the data, collostructional analysis is used (Stefanowitsch & Gries 2003). It can be shown that regarding the full verbs it combines with, werden + Participle be- haves very similar to werden + Infinitive in later stages of German (as attested, for example, in the Bonn Early New High German corpus analyzed by Hilpert 2008, among others). This sup- ports the hypothesis that werden + Participle is among the most important sources for werden + Infinitive and might even be the single most important analogical template. A more qualita-tive analysis reveals that diachronically, werden + Participle undergoes a fairly prototypical process of context expansion (Himmelmann 2004, Traugott & Trousdale 2013) in that it first combines with state verbs in the sense of Vendler (1957) and then extends its domain to ac-tivities and achievements. werden + Infinitive, by

contrast, seems to combine with all those verb classes from its inception. As such, werden + Infinitive can plausibly be conceived of as the immediate "successor" of werden + Participle, although its development was probably influenced by the increasing use of other constructions involving the infinitive, such as modal verb constructions, as well.

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Jan Hein

Cultural Keywords in Buenos Aires: the semantics of lunfardo in Porteño Spanish.

Abstract: The word lunfardo refers to the speech ways and vocabulary of Porteños, the residents of the capital city of Buenos Aires. To the Porteño mind, the word inevitably invokes rich local narratives and knowledges of lunfardo's early days. For example, it is often said that, originally, lunfardo was the secret vocabulary of thieves in 19th century Buenos Aires, and that the Porteño masses later incorporated it into their everyday language. The lyrics of tango, a musical genre created by both immigrants and local Porteños, also feature many lunfardo words, and therefore many people would describe lunfardo as, simply, the language of tango. Crucially, it is often asserted that the majority of lunfardo words emerged due to contact with the languages—in particular, Italian dialects—brought by the European immigrants that flooded the Argentine capital in the late 19th and early 20th century. Lunfardo, then, is a historically rich word, designating something which is distinctively local and yet strongly connected to the North.

In this paper I use the NSM metalanguage approach of simple, cross-translatable terms (Goddard & Wierzbicka 2014; Goddard 2018; Levisen & Waters 2017; Ye 2017) to capture the exact meanings which guide Porteños when they use the

word lunfardo. I will champion that, with powerful semantic compression, the word articulates a sense of belonging to the North in the South, as also do the meanings of expressions such as "We Argentines descend from ships", "Buenos Aires is the Paris of South America", “We Argentines are Italians that speak Spanish”. I will furthermore argue that, valid as they might be, scholarly definitions of lunfardo do not reflect the exact meanings articulated by speakers in their everyday use of the word. NSM semantic explications and cultural scripts are supported with discursive evidence coming inter alia from local TV programs, newspaper articles, and commentary in social media.

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Annika Hillbom, Esa Penttilä, and Linda Greve

To Follow, Take or Get? A Comparative Study of Metaphors for Education in Danish, Finnish and Swedish

Abstract: In a number of ways, the educational systems in Scandinavia are similar. They are e.g. publicly funded and equal access to education is essential. However, Finland has for a number of years performed much better in the PISA-tests and in

Denmark students receive a monthly allowance to stay in school. How are these differences and similarities reflected in conceptual differences? That is the question of this paper.

Previous metaphor research in the fields of learning and education includes for example functions of metaphor in teaching and teacher education (e.g. Goldstein 2005, Low 2008, Saban 2006, Bager-Elsborg and Greve 2017), and metaphors used to describe learning (e.g. Säljö¨2015, Wegner and Nücckles 2015). Ikonen (1999) focuses on the concept of education itself.

This paper focuses on differences and similarities in the way the basic educational concepts education and learning are conceptualized through figurative language in Danish, Finnish and Swedish. By comparing metaphors relating to education and learning in written news media, on websites of relevant ministries, in dictionaries across the three languages, we present a matrix of differences in conceptualization. For example, the Swedish phrase gå˚ en utbildning ('follow an education'), corresponds to tage en uddannelse ('take an education') in Danish, and to hankkia koulutus ('acquire an education') in Finnish, which demonstrates three potentially different conceptual perspectives on education in the three countries. Such differences may both reflect and influence the views on the educational system in the media debate and in public discourse, which makes it important to identify and analyze.

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Yi-Wen Huang

Cultural and Linguistic Perspectives on My Experience Teaching Navajo Students

Abstract: Even though Webster (2015) wrote that young Navajos have not learned the Navajo at a rate to maintain the continuity of the Navajo language (p. 15), I saw my students still possessed the Navajo culture in many ways when they used English. Webster (2015) also emphasized the negative experiences of the boarding school that impacted how Navajo resisted the English language and connected strongly to the Navajo language (Webster, 2015, p. 23). I have been teaching at a two-year institution near the Navajo reservation in the American Southwest for almost 9 years. The majority of my students consists of Navajo, an American Indian tribe with 332,129 enrolled members according to the 2010 U.S. census on Navajo (Navajo Tourism Department, 2018). As their instructor, I found characteristics of Navajo language and culture influenced my Navajo students' usage of English and interaction with other students including other Navajos. Navajo grammar has 4th person which English grammar does not possess. The important concepts of control/non-control (Webster, 2015) in Navajo language and Navajo culture/worldview, Saah Naaghaii Bikeh Hozho (House, 2002; Witherspoon, 1977), are taking into consideration. Navajo rhetoric/discourse (Philipsen; 1972) and oral tradition/storytelling (Kroeber, 2004) are also essential parts of Navajo

culture. Moreover, the relationships between Navajo culture and learning style (Boognl, 2006; Little Soldier, 1989; Rhodes, 1990, 1994) are analyzed in order to find the most suitable teaching pedagogy including classroom activities for the Navajo students. This paper aims to provide my personal journey and reflection from the cultural and linguistic perspectives of teaching the Navajo students.

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Rasha Hyder, Andreas Højlund, Mads Jensen, Karen Østergaard, and Yury Shtyrov

Passive neuromagnetic responses to speech as biomarkers of language processing in the brain

Abstract: Assessing the brain activity related to language comprehension is required in a range of situations (e.g. clinical or developmental assessment). Particularly in cases when the subjects' cooperation with instructions cannot be guaranteed (e.g., in neurological patients), a protocol is needed that could be independent from overt attention and behavioural tasks. To address this, we designed a novel paradigm which allows quantifying a range of neurolinguistic processes in the absence of directed attention towards sound stimuli and without relying on any overt behavioural responses by recording the brain's responses to different speech sounds with carefully manipulated linguistic properties. This procedure is carried out using magnetoencephalography (MEG) combined with individual MR images to guide the source reconstruction of the event-related brain responses. This paradigm was first tested in healthy young participants who were presented with a non-attend sequence of speech stimuli (including meaningful words of different semantic categories, meaningless pseudowords as well as grammatically correct and incorrect forms) while focusing on watching a silent movie. The results of this study in healthy young participants validated the usability of our proposed paradigm for an objective assessment of a range of language functions, including lexical access (visible as enhanced word response vs. pseudoword), referential semantics (evident through cortical distribution of responses to action vs. non-action word) and morphosyntax (tested by agreement violations). This paradigm was then applied in healthy elderly participants indicating a range of effects of aging on human cortical activations related to language processing. We will discuss implications of this approach to the study of neurolinguistics processing in healthy ageing and in neurological conditions.

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Andreas Højlund, Nynne Thorup Horn, Stine Derdau Sørensen, William B. McGregor, Mikkel Wallentin

No detectable effects of intensive language training on the mismatch negativity (MMN) to relevant phonemic contrasts: a longitudinal EEG study

Abstract: An early component of the auditory event-related potential (ERP), the mismatch negativity (MMN), has been shown to be sensitive to native phonemic sound contrasts. The potential adaptation of this neural sensitivity as an effect of foreign language learning have only been marginally studied. The existing research seems to suggest that the neural sensitivity (as proxied by the MMN response) adapts to foreign language sound contrasts with very target- specific training, but whether the effects are long-lasting or generalize to more holistic foreign language learning is yet to be investigated in a viable longitudinal study design. We recorded electroencephalography (EEG) from two groups of language officer cadets (learning either Arabic or Dari) while they listened to language sound contrasts from both languages. We recorded EEG and behavioral responses four times over the course of 19 months of intensive foreign language training (immediately before they started (T0), after three weeks (T1), after six months (T2), and after 19 months (T3)).

Somewhat surprisingly, we did not find any language-specific increases in the cadets' MMN responses to their target language sound contrasts. We did, however, find an early effect of language learning on the behavioral responses in the group of Dari learners, reflecting stronger categorical perception for the newly learned phonemic category within just three weeks of language training. Furthermore, we elicited statistically reliable MMNs to both language contrasts for both groups at most of the four times of measurement, suggesting that the contrasts were at least detectable to the cadets' brains. However, the only effects of time we observed, were that the group of Arabic learners' MMN responses to the Arabic stimuli diminished over time, and the Dari learners' P3a responses to the Arabic stimuli diminished over time. Correlations between the cadets' MMN responses and their behavioral responses to the language stimuli, also did not reveal any strong links between behavior and neurophysiology.

Hence, we did not observe any neurophysiological effects of foreign sound learning despite 19 months of intensive language training and despite significant changes in one group's behavioral responses to the same sounds. Even though these results are mainly null results, taken together they may suggest that the link between behavior and the MMN response in relation foreign language learning is not as strong as has previously been proposed.

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Erin S. Isbilen, Rebecca L.A. Frost, Padraic Monaghan, and Morten H. Christiansen Statistically-Based Chunking of Nonadjacent Dependencies

Abstracts: Nonadjacent dependencies are dependencies between linguistic units that occur over one or more variable intervening units (e.g., AXC, where units A and C reliably co-occur, but the identity of X varies). These dependencies are a common feature of many natural languages, and are acquired by both infants and adults using statistical learning. However, despite the wealth of studies examining the acquisition on nonadjacent dependencies, a number of outstanding debates about this form of learning remain. For example, it is unclear whether participants in nonadjacent dependency experiments have learned the relative positions of syllables in these sequences (Endress & Bonnatti, 2007), or if they remember specific items from the input (Perruchet, Tyler, Galland & Peeremen, 2004). Moreover, substantial debate exists as to whether the segmentation and generalization of structure are two distinct processes that rely on separate computations (Peña, Bonatti, Nespor & Mehler, 2002), or whether they occur in tandem, using the same statistical learning computations (Frost & Monaghan, 2016).

Here, we investigate these questions by testing the segmentation and generalization of nonadjacent dependencies in adults. We hypothesized that chunking – which has been shown to account for the statistical learning of adjacent dependencies (Isbilen, McCauley, Kidd & Christiansen, 2017) – may also play a role in the acquisition of nonadjacent dependencies (Isbilen, Frost, Monaghan & Christiansen, 2018). Following the method of Frost and Monaghan (2016), participants were presented with an artificial language composed of three nonadjacent dependencies. Following exposure, participants' ability to segment and generalize these structures was tested using two different tasks: a two-alternative forced- choice task (2AFC), and the statistically-induced chunking recall task (SICR; Isbilen et al., 2017). We predicted that while both tasks would show evidence of learning, SICR may provide clearer insights into the resulting output representations of learning.

Our results confirm that participants successfully segmented and generalized nonadjacent structures on both types of task. However, while 2AFC performance on the generalization trials was significantly lower than on the segmentation trials, the results of SICR revealed no difference between the two, suggesting that the difference between segmentation and generalization found in previous studies may in part stem from the task demands of 2AFC (i.e., making familiarity judgements), rather than differences in learning. Taken together, our results support the notion that the segmentation and generalization of

linguistic structure occurs in parallel, using similar computations, and that chunked representations of the nonadjacent dependencies are flexible enough to accommodate novel instances.

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Byurakn Ishkhanyan, Fabio Trecca, Anders Højen, Dorthe Bleses, Christer Johansson, Kristian Tylén, and Morten H. Christiansen

Has she sent or lit an email? Preliminary results of a Danish and Norwegian categorical perception study

Abstract: Danish children are delayed in acquiring their native language possibly because of its phonology (Bleses, Basbøll & Vach, 2011). Additionally, phonological reduction present in the Danish language results in word forms that are difficult to distinguish from each other (Basbøll, 2005). Here, we determine the potential impact of these phenomena on the phonological processing of adult Danish native speakers. Specifically, we ask whether Danish native speakers may either have under- or overspecified phonological representations compared to, for instance, Norwegian speakers.
First, in a nonword repetition experiment, we found that Danish speakers perform better at repeating "Danish" than "Norwegian" nonwords, whereas Norwegian speakers were equally good at repeating nonwords in both "languages" but worse than Danish speakers at "Danish". Second, we carried out a categorical perception experiment with a paradigm previously used for English (Connine, Blasko & Hall, 1991 and Szostak & Pitt, 2013). In their experiments, they showed that the participants rely on context when the target words begin with an ambiguous sound on the [d]-[t] or [s]-[ʃ] continuum. Moreover, this bias was more pronounced when the semantically disambiguating word was separated from the target word by a smaller number of syllables compared to when the distance between the target and disambiguating word was larger. In our study, if Danish speakers have less differentiated phonological representations, they will rely on context to a larger extent and thus this distance will have no effect on their responses. For Norwegian speakers we expect results similar to the ones of English speakers.
We constructed sentences that were either biased towards the target words sendt (1) or tændt (2). We manipulated the initial phoneme to a five-step continuum with a clear [s] at one end and a clear [t^{s}] at the other end and with three intermediate steps. The distance between the target and the disambiguating word was either one (NEAR condition) or 5-7 syllables (FAR condition).

(1) Hun har sendt en (imponerende klar) mail. (2) Hun har tændt en (imponerende klar) lampe.

The participants were instructed decide whether they heard sendt or tændt and to click on the corresponding word on the screen. Preliminary analysis showed that both Danish and Norwegian native speakers rely on context when presented with ambiguous phonemes. However, unlike the previous findings, there was no context by distance interaction effect either for Danish speakers or for Norwegians. Moreover, contrary to Danish speakers, context had an effect on Norwegian speakers even at the distinct end-steps. Further analysis on the full dataset and a follow-up experiment with slightly different instructions will shed light on the current preliminary findings.

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Esa Itkonen

DOES EVIDENCE FROM SPOKEN LANGUAGE INVALIDATE TRADITIONAL LINGUISTICS (= TL)?

Abstract: Many people working within the tradition of discourse and/or conversation analysis (= D/CA) are willing to answer this question affirmatively; cf. Miller & Weinert (1998), Bybee & Hopper (eds.) (2001), Stubbs (2014). Several (overlapping) arguments have been adduced by different authors in support of this view:

(1) TL has never been designed to describe spoken language at all (= the 'written language bias').

(2) The structure of spoken language is different from, i.e. "less rigid" than, the structure of TL-type data.

(3) The categories of TL and D/CA are, respectively, discrete and non-discrete (= gradual, 'fluid').

(4) TL deals, crucially, with argument structure. But the method for determining argument structure is 'vulnerable', based as it is on intuitions/introspections about 'imagined scenes'.

(5) TL-type data consists of exemplifications of (preponderantly transitive) argument structures; but "everyday conversation is intransitive"; therefore, TL deals with unauthentic data.

(6) The defects of TL go back to de Saussure's langue vs. parole distinction, according to which "language structure is independent of language use".

(7) TL is supported by no adequate philosophy of social life. In this talk the arguments (1)-(7) will be refuted, one by one.

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Daniel Jach

Red, falling, nearest star: Does exposure to Science Fiction literature predict knowledge and processing of genre-specific collocations?

Abstract: Though there is good evidence to suggest that processing of collocations is sensitive to usage (Ellis, 2002), corpus-based measures of association strength like mutual information commonly account for only a small proportion of the variance in psychometric measures and correlate only weakly with language users' knowledge of which words "go together." Despite that, recent evidence suggests that collocational knowledge is closely related to print exposure (Dąbrowska, 2014). Pursuing

this line of research, the current study targets the relationship between corpus measures, language users' print exposure, and their use of collocations. Compared to prior studies, higher accuracy is achieved by focusing on a specific genre.

More specifically, an experiment is conducted to determine the effect of print exposure to Science Fiction literature and of corpus-based measures of association strength on readers' knowledge and processing of genre-specific collocations. In an internet-based fragment completion task, native English speakers read fragments of genre-specific adjective-noun collocations such as ___ star and add the adjective which seems most appropriate and idiomatic to them, e.g., red, falling, or nearest. In addition to the completion, response time is recorded. For the design of experimental material, a Science Fiction corpus (SFC) is compiled from the project Gutenberg webpage. The SFC comprises 1548 texts with roughly 32 million words. All adjective-noun bigrams are extracted from the SFC and assigned joint frequency and mutual information values based on the SFC and the British National Corpus (BNC). Genre-specific collocations are defined as bigrams which have a mutual information value higher than three in the SFC but lower than three in the BNC. To determine their print exposure, the participants complete a modified Author Recognition Test (Acheson, Wells, & MacDonald, 2008; Moore & Gordon, 2015) for Science Fiction authors.

The completed fragments are assigned frequency and mutual information values based on the SFC. Following usage-based processing research mentioned above, response time should decrease with increasing corpus measures, indicating sensitivity of collocation processing to usage. As pointed out above, however, the relationship is probably weak. Instead, response time should be more strongly correlated with print exposure. Concerning collocational knowledge, following psycholinguistic research by Ellis, Simpson-Vlach, and Maynard (2008) and others, experienced readers with high print exposure probably rely more on mutual information than on joint frequency for completing the bigrams. In contrast, low- exposure readers more likely produce high-frequency bigrams, independent of mutual information.

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J. S. Olier Jauregui and M. Rauterberg

Dynamic representations – building knowledge through an active representational process based on deep generative models

Abstract: Where is meaning coming from? To address this question we propose Machine Learning methods for creating knowledge from the observation of sequential data. Our methods are evaluated regarding how adequate and interpretable the representations, mental concepts resp. learned are; particularly for video data concerning the actions of natural or artificial agents. To build a theoretical framework for the problem, the process of building knowledge is analysed regarding the definition and understanding of conceptual representations, the way in which such definition influences the understanding of reasoning and learning, and how that relates to the design and implementations of artificial agents and learning algorithms. Then, the ideas of Active Inference are used as the basis for proposing generative models implemented through Deep Neural Networks. It is explored how to design Deep Learning approaches to build representations that infer the causes of data content and its dynamics; that is done under the assumption that in the data utilized changes of content over time are highly related to the behaviour of the learning agent. This new approach allows to link the result to relevant ideas in cognitive science. Furthermore, given that the learning structures proposed are based on a very general action-content relation, the methods presented are potentially extensible to many application domains. Similarly, that allows to explore data from which not much

knowledge is available, by constructing it directly from observations. Such process is evaluated regarding the organization of information coherently into representations that aligns with the action-context of data, and where temporal information is segmented in relevant sections associated to the specific action-contexts. The methods presented provide a form to learn from data in a more natural way, with interpretable representations and learning processes, which addresses a relevant challenge for unsupervised learning.

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Mads Jensen, Rasha Hyder and Yury Shtyrov

Detecting specific neurolinguistic processes using MEG: MVPA analysis of intertrial phase coherence of brain responses to words reliably classifies multiple levels of language processing

Abstract: Neural processing of language is still among the most poorly understood functions of the human brain, whereas a need to objectively assess the neurocongitve status of the language function in a participant-friendly and noninvasive fashion arises in various situations. Here, we propose a solution for this based on a short task- and attention-free recording of MEG responses to a set of spoken linguistic contrasts. We used spoken stimuli that diverged lexically (words/pseudowords), semantically (action-related/abstract) or syntactically (grammatically correct/ungrammatical). Based on beamformer source reconstruction we investigated inter-trial phase coherence (ITPC) in five canonical bands (alpha, beta, and low, medium and high gamma) using multivariate pattern analysis (MVPA). Using this approach, we could successfully classify brain responses to meaningful words from meaningless pseudowords, correct from incorrect syntax, and semantic differences. The best classification results indicated distributed patterns of activity dominated by core temporofrontal language circuits and complemented by other areas. They varied between the different neurolinguistic properties across frequency bands, with

lexical processes classified predominantly by broad gamma, semantic distinctions – by alpha and beta, and syntax – by low gamma and beta feature patterns. This latter contrast was particularly informative since it used distinct sound patterns, ruling out the possibility that MVPA simply fits the data and suggesting that this approach is able to detect genuine neurolinguistic process. Crucially, all types of processing commenced in a near-parallel fashion from ~100 ms after the auditory information allowed for disambiguating the spoken input. This shows that individual neurolinguistic properties take place simultaneously and involve overlapping yet distinct neuronal networks that operate at different frequency bands.

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Thomas Wiben Jensen
Metaphoricity as experiential affordances in audio-visual campaign videos

Abstract: Within the social semiotic literature on multimodality there is a strong focus on the cultural and social resources for making meaning, that is the need to look at the co-occurrence and interplay of different means of making meaning often labelled as modes or modalities. However, the prominence given to socio-cultural factors also means that modes are kept apart from the type of meaning making motivated by our sensory system (Jewitt 2014). In relation to the study of multimodal metaphor this have unfortunate consequences since an essential characteristic of audio-visual metaphor lies in its interdependence with sensation and affective experience (Müller and Schmitt 2015). A central point here is to view the emergence of metaphor, or metaphoricity, in socio-cultural artifacts involving both text, sound, music and moving images as motivated by experiential affordances (Jensen and Pedersen 2016) cutting across different modalities and sensory experiences. From this ecological perspective metaphoricity is conceptualized as a scalar value or process of creating and enacting a doubleness in meaning and experience (Müller and Tag 2010, Jensen and Cuffari 2014). In this talk I will lay out this perspective and apply it to an analysis of a campaign video from DR (Danish National Television) which was broadcasted in the fall of 2017 as part of a larger campaign to get people to vote for the municipal elections (Jensen and Greve in press). The analysis will disentangle the web of metaphoricity embedded in the trajectory, style and message of the video. To understand how the video works it is mandatory not to look upon the sensory inputs in isolation, but to treat them as a functional whole.

Taken together they enact a condensed metaphoric meaning (El Refaie2003) and a potential for affective transformation that is crucial in order to carry the message of the video.

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Christer Johansson
The probabilistic Gricean

Abstract: Cooperation is achieved through truthfulness, informativeness, relevance, and clarity (cf. Grice 1975). Communication also relies on redundancy, which makes a message recoverable from errors in communication. This article

suggests that a probabilistic Gricean would use context to strengthen the message and reduce the impact of communication errors.

This makes it possible to recover speech and writing errors, even when the error represents information that is on its own more expected. For example, confusing 'wiki' with 'kiwi' in the context: "fruits such as wikis and bananas" can be recovered since 'wiki' is not associated with fruits or bananas, whereas 'kiwi' is. A similar effect is at play in multiword expressions, where the literal meaning may use associated context words, and the idiomatic meaning is signaled by a context that deviates from the literal meaning. In anaphora resolution, the antecedent is lifted into the context of the anaphor and different candidates can thus be evaluated for context support, which may change as more context is added.

There are several methods that estimate the association between content words (i.e., words that are also specific and selective of their lexical company). One such method is the word2vec function. Context enables us to detect over-representation compared to a baseline without the context. This can be related to the conjunction fallacy, exemplified by the Linda-problem (Tversky & Kahneman 1983). Linda is described as outspoken (context) and this word is highly associated with feminist, but not with bank teller. The context thus suggests that Linda is a feminist, but less likely a bank teller. People who are then given a choice between a) "Linda is a bank teller" and b) "Linda is a feminist and a bank teller" typically choose b), thus they may assume that the context is truthful, informative, relevant and clear, and thus it is there for a reason. The objective probability of feminist is increased and bank teller is decreased in the context, which suggests that b) is the correct choice; even though it is never the case that two different propositions are more likely than one of them. Thus the conjunction fallacy is a sign that we use and value context: we evaluate the contextual change in probability. Furthermore, this is highly functional in many normal communication situations as it allows us to correctly recover common communication errors.

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Gintarė Judžentytė-Šinkūnienė

Creation of physical space by deictic expressions in Lithuanian dialects

Abstract: The present talk aims to reveal the newest data on systems of demonstrative pronouns in Lithuanian dialects and to discuss it. Analysis of deictics in the exophoric usage requires examples of on-going interactive situations. Therefore, experimental method was employed and video recordings were made. The experiment was performed in three different cities, representing two of the main Lithuanian dialects (Aukštaitian (highlanders) and Samogitian (lowlanders)) and three subdialects (Utena subdialect, Vidukle's subdialect, Skuodiškiai subdialect). After applying the method of a qualitative interview, precisely a semi-structured interview (Richards 2009: 186), 30 people were questioned and approximately 3 hours of video material were recorded.

The collected material was evaluated taking into account previous approaches to space deixis (Enfield 2003). In order to know, how the space deictic structures are changing over the years, the current data was compared to the previous researches on physical space construction in some Lithuanian dialects (Rosinas 1982: 141).

Based on examples of demonstrative pronouns in exophoric uses, I am making the following claims. First, the researched Eastern dialects showed the deictic system consisting of two members (šis 'proximal' vs. tas 'distal') and the system is familiar form the previous researches (Rosinas 1982: 141). The Samogitian subdialect with a binomial system of demonstrative pronouns is still in use (tas, ta 'proximal' / anas, ana 'distal'; Rosinas 1982: 141), but in a slightly different way: it is becoming/or already became a trinomial one. Moreover, the system differs from others, i.e. proximity here is expressed by using a distal demonstrative tas. Thirdly, one representing the last subdialect constructs physical space by using a specific formula: šitai + tas, tas + šitai 'proximal' / antai + tas, tas + antai 'distal', where just one of lexemes is a demonstrative pronoun (tas 'distal', šitai = 'proximal' adverb of space; antai = 'distal' adverb of space). After all, there are no enough arguments to state that most of Samogitian dialects have a one-member system as it was stated before (Rosinas 1982: 141). After comparing the collected video material from the Skuodiškiai subdialect to languages with pure one- member deictic systems (Diessel 2013), I propose that the actual system in this subdialect does not correspond to other one-member systems.

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A. Kacprzak

The conceptualization of KÆRLIGHED in Danish

Abstract: LOVE is an abstract and very complex concept that many philosophers and, most recently, psychologists from various countries have tried to explore (Wojtyła 1960, Fehr et al. 1991, Gołaszewska 1992, Fromm 2012). Although the concept seems to attract the attention of scholars across the world, the language-specific and culture-specific research in this field is scarce, since nearly all the analyses treat LOVE as an universal concept and are based on the Anglo-Saxon point of view. The present analysis is an attempt to reconstruct the conceptualization of KÆRLIGHED by Danish speakers, accounting for the uniqueness of Danish culture and language.

In the first part of the presentation, I will analyze the linguistic worldview connected to the concept of KÆRLIGHED and reconstruct the conceptualization of KÆRLIGHED based on the evidence derived from the system of Danish language. The linguistic material used in the analysis will include lexical definitions, synonyms, derivatives, compounds and phrasemes related to the lexical representations of the concept.

The second part of the presentation will focus on methodological questions and the perspectives for further research. I will, among others, discuss if one can talk about one, coherent linguistic worldview (Bartmiński 2012, Tokarski 2014) or prototype (Taylor 1995) in the case of highly abstract and complex concepts and how much information about the conceptualization of given concepts by a speech community data derived from the system of language can provide. I will also touch on the subject of defining concepts and compare different defining strategies used in the modern linguistics (Wierzbicka 1980, Bartmiński 1988, Tokarski 2014). Lastly, I will present the perspectives for further research such as cognitive metaphors, discourse analysis and questionnaires.

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Jane Klavan, Alice Blumenthal-Dramé, Ann Veismann

Predicting native speaker choice: the role of frequency in morpho-syntactic alternations

Abstract: The issue of how to model native speakers' preferences for one or the other alternant in a given context has received a substantial amount of attention (Bresnan et al. 2007, Bresnan & Ford 2010, Divjak et al. 2016). Multivariate corpus-based and experimental research has revealed a number of variables that significantly affect subjects' preferences across a range of different languages. However, there is no clear agreement as to which out of a number of competing frequency metrics is best suited to predict native speaker behaviour. We aim to fill this gap by looking at a morpho-syntactic alternation between the adessive case and the postposition peal 'on' in Estonian. The frequency metrics under consideration fall into two broad groups: (1) collocation and collostructional metrics (Gries & Stefanowitsch 2004, Schmid & Küchenhoff 2013, Gries & Ellis 2015), (2) information-theoretic metrics like entropy and surprisal (Hale 2016). Based on prior research, we expect language users to show a dispreference for constructions which are more 'surprising' in an information-theoretic sense (Smith & Levy 2013).

In order to address the role of frequency in predicting native speaker choice, we present the results of a forced choice task carried out with 103 native speakers of Estonian. The participants were presented with 60 attested sentences in which the original construction was replaced with a blank. There were 30 experimental items and 30 filler items in the experiment. The experimental items were randomly sampled from five equal probability bins defined by a logistic regression model fitted to the

corpus sample. For each sentence an alternative paraphrase was constructed for the original construction and both alternatives were presented together with the original sentence context. Participants were asked to choose which of the two constructions suits into the blank better. The experiment was designed and distributed using the online platform qlaara (https://qlaara.com/).

The experimental data were analysed using mixed-effects logistic regression. All of the frequency metrics of interest were extracted from the Balanced Corpus of Estonian (BCE 2015; size 15 million words in total) and etTenTen (270 million words from 686,000 webpages in Estonian). The results suggest that the native speakers of Estonian are attuned to the global frequency of the adessive construction, which is 10 times more frequent than the peal construction in the locative function. Moreover, language users' preferences are influenced by the relative frequencies with which certain nouns appear with different locative cases and postpositions.

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Jane Klavan, Dagmar Divjak, Petar Milin

Tracking choice: An eye movement study of the dative alternation in English

Abstract: This paper presents research in progress that investigates the cognitive reality of two fundamental concepts in Cognitive Grammar and Construction Grammar: construal and constructional alternatives. Cognitive Linguistics defines construal as a speaker's ability to construe a situation in alternate ways. Alternating constructions "transform one conceptualization into another that is roughly equivalent in terms of content, but differs in how this content is construed" (Langacker 1987: 138).

The present paper focuses on the dative alternation, i.e. the alternation between the double- object construction (e.g. The boy gave the girl a flower) and the prepositional construction (e.g. The boy gave a flower to the girl). Previous corpus-based studies of the dative alternation have determined various factors that drive speakers' choice when selecting between alternatives to express similar conceptual content in construing an experience. The double-object construction, for instance, prefers recipients that are animate, definite, pronominal and shorter than the theme (Theijssen et al. 2013, Bresnan et al. 2007). Our study complements these corpus-based studies by providing evidence from on-line processing that goes beyond prediction (Bresnan & Ford 2010) and instead looks at conceptualization. Using the visual world paradigm (Tanenhaus et al. 1995), we explore the interplay between linguistic and visual processing and investigate whether the choice for one construction over another maps onto how the experience is construed.

We conducted an eye tracking study and recorded the eye movements of 60 native speakers of English. 9 dative verbs were included in the experimental stimuli: award, feed, give, pass, pay, sell, serve, show, write. For each verb, two versions of the sentence was constructed; one with the double-object pattern and one with the prepositional pattern. There were 16 dative sentences and 64 filler sentences. A visual image depicting a real-life situation was presented simultaneously with an audio stimulus containing one of the two constructions. We measured fixation durations and saccades to critical properties (i.e. the prime predictors) and analyzed the data using General Additive Mixed Models (Wood 2006).

By establishing whether competing linguistic constructions map onto slightly different mental conceptualizations as revealed by distinct eye movement patterns for each of the two dative constructions, we aim to shed light on the cognitive processes underlying language comprehension and (in)validate "construal" as a cognitively realistic notion.

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Christian Kliesch

Parent-child interactions scaffold action segmentation in infancy and early childhood

Abstract: Humans are cultural learners and engage in cultural learning already from infancy. An important question remains whether and why children learn better in pedagogical interactions with adults, compared to observational learning. In my talk I want to argue that child-directed interactions are particularly suitable for teaching purposes, because they support the segmentation and chunking of actions into appropriate sub-units. Furthermore, many of the cues and signals used by children in action segmentation have similar concepts in language acquisition, where meanings have to be mapped onto the appropriately-sized chunks of speech. I want to discuss how we can draw parallels from one domain to make predictions about the other.

In order to imitate actions successfully, children need to understand the purpose of an action. In order to understand the purpose of an action, they need to segment the action into meaningful segments (Baldwin, Baird, Saylor, & Clark, 2001; Sonne, Kingo, & Krøjgaard, 2016; Zacks, Kumar, Abrams, & Mehta, 2009). Many action events have low level perceptual cues that aid segmentation. Furthermore, prior higher order knowledge of the event can also help to identify and interpret segments (Zacks & Swallow, 2007). However, not all action units have clear boundaries or are relevant to a given task. Therefore, how actions are broken up into chunks and action units becomes crucial in child directed interactions.

Parents use many cues and signals that may help children to break up actions in order to understand and imitate them. For example, infant-directed actions are often presented in an exaggerated manner (Brand, Baldwin, & Ashburn, 2002; Koterba & Iver- son, 2009; Rutherford & Przednowek, 2012) and are highly repetitive (Brand et al., 2009). Furthermore, parents use direct

gaze particularly at event boundaries (Brand, Hollenbeck, & Kominsky, 2013; Brand, Shallcross, Sabatos, & Massie, 2007). Infant-directed speech and direct gaze may be particularly suitable cues for the segmentation of events. The contribution of pedagogical action demonstrations towards the segmentation of actions can help to explain some of the differences in pedagogical and observational learning of actions in infancy.

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Laurits Stapput Knudsen and Ditte Boeg Thomsen

Reciprocity in asymmetry: Cross-domain structuration in Acazulco Otomí

Abstract: The majority of the languages of the world have grammatical means for expressing reciprocity, i.e. for presenting situations as mutual, as in They hit each other. However, Majid et al.'s (2011) crosslinguistic study on the semantic domain of reciprocity demonstrates considerable variation in which situations are conceptualized as reciprocal across languages. An important parameter of variation concerns attention to symmetry, i.e. how similar roles languages require the participants to play with respect to each other. Whereas almost all languages would categorize a situation where two persons hit each other as reciprocal, only few languages would categorize an asymmetric situation where one person hits another as reciprocal (Majid et al. 2011).

This crosslinguistic variation in tolerating differences between the participants' roles in non- prototypical reciprocal events is reminiscent of patterns of crosslinguistic variation found in marking of spatial relations (Brown 1994, Kita 2008) and in kinship terminology (Murdock 1949). The findings that cross-domain structuration may be a central organization principle within a language (Levinson & Burenhult 2009, Talmy 2000) makes it is relevant to ask whether preference for encoding situations as reciprocal are related to preference for underspecifying role differences in other domains.

To examine this, we investigated reciprocals in an endangered language, Acazulco Otomí (Otomanguean, Mexico), where research in the spatial domain has evidenced a crosslinguistically infrequent tendency to present asymmetric spatial relations

as gestalts without differentiation of participant roles (Boeg Thomsen & Pharao Hansen 2015). Using the same video stimuli elicitation set (Evans et al. 2004) as Majid et al. (2011), we investigated the hypothesis that Acazulco Otomí would also be highly inclusive in encoding events as reciprocal, paying less attention to role asymmetry.

Our results support this hypothesis of a cross-domain tendency to highlight joint participation at the expense of role specification. Speakers of Acazulco Otomí were generous in extending the reciprocal construction to situations that languages rarely encode reciprocally. Specifically, they paid less attention to the crosslinguistically important parameter of symmetry, as seen in (1), which describes a situation where one person hugs another who stands still:

(1) Acazulco Otomí ra-di-n-txhu̱h-a

3.PRS-CL-RECP-hug-ENCL

"They hug each other"

Conceptualization of reciprocity in Acazulco Otomí thus appears to follow the same crosslinguistically infrequent principle of attending to joint participation and tolerating a high degree of role asymmetry as found in the spatial domain. We discuss the relationship between this cross-domain structure and features of social organization in traditional Otomí culture.

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Alena Konina

The explanatory power of clauses in online speech segmentation

Abstract: It would be tempting to assume that the natural units of online speech processing are clauses – elements of suitable length, semantic richness and organization. In order to test this hypothesis, we carried out an experiment where 48 participants were listening to short audio extracts of authentic data (cf. Willems 2015). They were asked to manually mark boundaries in the corresponding transcripts in a tablet application dividing the extract unto chunks. It was possible to put a boundary between every two words in the text. The results indicate that traditional clausal analysis (Biber et al. 1990) tuned for oral speech does, in fact, explain 83.6% of the participants' chunking behavior ($\chi 2=2518.2$, p=0,000), concerning both places where participants did put a boundary and those where they did not. Perceived unit boundaries (resulting from human behavior) vary in resilience and bear a lot of individual differences. Only 56.9% of the strongest boundaries (i.e. those with very high agreement) are strictly clausal (where one clause ends and another one starts). Those findings indicate other powerful factors affecting online oral speech processing compared to online written speech processing: acoustic ones. Pauses skew the

participants' perception, but on their own do not correlate well enough with human behavior (r^2=0,24136). According to our results, intonation unit analysis is able to explain 83.5% of the participants' behavior. Thus, we propose that combining the three major factors in speech segmentation described above in a model would be a step towards a dynamic spontaneous speech processing model.

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E. Kornilitsina

Impact of the cross-cultural variation of the conceptual metaphor "A government institution is a body" on the cognitive effort during the Estonian-Russian translation of metaphorical expressions

Abstract: Conceptual metaphor is arguably one of the most complex objects studied by linguistics. On the one hand, according to the conceptual metaphor theory by Lakoff & Johnson (2003), conceptual metaphors are omnipresent in language. On the other hand, as many studies (e.g. Kövecses 2006) have shown, conceptual metaphors tend to vary across different languages and cultures. It has been suggested (Mandelblit 1995) that the discrepancies between metaphors on the cognitive level are the main reason why the translation of metaphorical expressions presents particular difficulties for translators. Several studies (e.g. Sjørup 2013, Massey & Ehrensberger-Dow 2017) attempted to evaluate the impact of cross-cultural variation of conceptual metaphors on the cognitive effort, related to the translation of metaphorical expressions. However, the body of research in this field is relatively modest and is mainly restricted to studying the process of translation either to or from English.

The purpose of this research is to investigate the impact of cross-cultural variation on the cognitive effort during the Estonian-Russian translation of metaphorical expressions that represent the conceptual metaphor A GOVERNMENT INSTITUTION IS A BODY. Based on corpus data, the expressions were divided into two groups according to the classification developed by Mandelblit (1995): expressions with SMC (similar mapping condition), for which the cognitive domains of the conceptual metaphor in the source and target languages overlap, and expressions with DMC (different mapping condition), for which they do not. During the experimental study, a group consisting of 25 participants was asked to translate texts that contained metaphorical phrases from Estonian (L2) into Russian (L1). The translation process was recorded using keylogging software Translog-II 2.24 (Carl 2012). The translation time and the duration of pauses were measured and analyzed using the statistical Linear Mixed Model. Quantitative data was accompanied by the evaluation of the cognitive effort given by participants via the questionnaire.

Data obtained from both the log-files and the questionnaire showed, that the discrepancies between the conceptual metaphors in the source and target languages had a significant impact on the cognitive effort related to the translation of the metaphorical expressions, as there were statistically significant differences between both the translation times and the duration of pauses related to the translation of the expressions with SMC and DMC. The results of the quantitative measurement of the cognitive effort was partially confirmed by the qualitative data. Overall, the research showed that there was a significant difference in the cognitive effort depending on the cross-cultural variation of the conceptual metaphor.

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Alexandra Kratschmer

Double-voicing: combining the uncombinable in an ideology rooted facebook exchange

Abstract: 'Double-voicing' is a term going back to the Russian scholar Mikhail Bakhtin's term of 'double- voiced discourse' or the orientation of one's discourse toward both its referential object and someone else's discourse, as found in everyday language as well as in literary narrative (with Dostoevsky's oeuvre as a prototypical example). In more recent times, it has been applied to studying interpersonal, public and institutional communication from a perspective of social status negotiation in oral or written exchanges. Baxter (2014: 2) describes double-voicing as the more or less conscious adjustment of one's language to interlocutors, usually comprising power related agendas such as deflecting threats and silencing someone else. These strategies are often tied to the construction of social categories as gender, age, ethnicity, profession and status. While concrete linguistic features as the use of politeness, hedging strategies, humor, framing, meta-comment and impersonation of other voices can serve as indicators for double-voicing, this strategy is highly context-bound and its recognition thus very much dependent on ethnographic knowledge.

Baxter (2014: 4) has mapped five rhetorical functions for the application of double voicing: anticipatory, corrective, mitigating, authoritative, and dialogic, among which especially the mitigating and the authoritative function are crucial to our discussion.

Although the two last mentioned functions seem to diametrically oppose each other, as mitigating double-voicing strives to reduce distance and authority and to build solidarity, while authoritative double-voicing seeks to heighten impact and to

display personal power (Baxter 2014: 6), we will study a case of facebook exchange where the two last mentioned functions are at work at the same time.

In our concrete case, these two strategies are furthermore woven into an ethnographic setting, where the interlocutors subscribe to a "New Age" ideology with its demand of abandoning the "ego" and its goals and motives, hence - in principal - not allowing for an authoritative voice. Mitigating double-voicing recruits classical face work strategies (Brown/Levinson 1978), like the appreciation of the interlocutor's person and merits ("I would like to be in a position like yours"), and hereby taps into a canonical "New Age" interpersonal harmony seeking discourse (further supported by the use of emojis: "hearts" and "folded hands"). On the other hand, authoritative double-voicing, in this particular ethnographic setting, has to delegate the question of authority and entitlement away from the sender (and their mundane "ego") to sources approved of by New Age discourse. By claiming to have access to such sources ("the deepest part of me"; "my soul"; "from above"; all implying a connection to a non-mundane realm of consciousness) the exchange partners manage what Raymond/Heritage (2006) call 'epistemic authority' (or right to describe or evaluate states of affairs) and thereby social identity/status.

This results in a complex rhetorical pattern of what could be called triple-voicing, or the simultaneous exchange of information, mitigation of a conflict and authoritative display of power, which it is applied by both exchange partners.

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L. Kristensen and K. F. Søby

Grammar anomalies and grammatical awareness in native speakers and L2 learners

Abstract: Grammar anomalies occur in all kinds of written texts – whether the author is a second language learner or a native speaker. In second language research, errors are commonly defined in contrast to an L1 standard, e.g. as "a linguistic form or combination of forms which in the same context and under similar conditions of production, would, in all likelihood, not be produced by the speakers' native speaker counterparts" (Lennon 1991: 182). However, this comparison is problematic as native speakers also produce grammar anomalies (cf. Søby & Kristensen, forthcoming).

In a corpus study of grammar anomalies, we compared the grammar in essays written by L2 learners of Danish to that of essays by Danish high school students. The L2 essays were written by 28 L1 English speakers who study Danish at beginners' level. The L1 essays were written by 36 high school students for their final exam. We annotated all anomalies in the corpus and distinguished between grammar anomalies (pertaining to morphology, syntax, use of grammatical words and use of word category) and anomalies related to orthography or lexicon.

Overall, the frequency of morphological and syntactical anomalies is higher in L2 essays (80 anomalies/1000 words) than in L1 essays (18 anomalies/1000 words). We describe the primary challenges for the L2 group, which include V2 word order, adverb placement, inflections of verbs and adjectives and issues with gender and number. Some aspects of Danish grammar, however, seem more challenging to native speakers of Danish than to second language learners, e.g. the inflection of modal verbs and adjectival adverbs and use of reflexive pronouns. We discuss how these differences may be related to cognitive processes and to individual differences in acquisition of grammatical categories.

The results give insights to the formation of grammatical categories and are relevant to teachers of Danish grammar in language schools and high schools.

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Jenny Yichun Kuo and Justin Jun-Ting Kuo

Acquisition of semantic and syntactic countability in a second language

Abstract: The distinction between object and substances is realized as count and mass nouns in human language. However, this universal ontological distinction has been conceptualized differently in different languages. Children are aware of the distinction of object and substance. They also shift to the pattern in their native language at very early age (Imai & Gentner, 1997). Imai and Gentner (1997) found that both English and Japanese speakers extended novel names to complex objects based on shape On the other hand, Japanese speakers extended novel names to substance based on material, while English speakers did so randomly; English extended novel names to simple objects by shape, Japanese speakers did so randomly. Tseng (1985) validated the psychological reality of count mass pair synonyms for adult English speakers. She found a positive correlation between syntactic and semantic countability for English native speakers. For example, they treated noodles [C] more like objects whereas spaghetti [U] more like substance. What will learners do when learning a second language at different proficiency levels? In this study, we investigated the acquisition of syntactic and semantic countability in English by speakers of Chinese, in which all nouns are mass (Hansen, 1983; Chierchia, 1998).

Two experiments were conducted for 60 college students in Taiwan, 30 with upper intermediate English proficiency and 30 with lower intermediate English proficiency. The material included 20 count and mass synonym pairs such as noodles and spaghetti (from Tseng, 1985). They were asked to choose the correct form (i.e, with the plural marker or not) to complete sentences in Study 1. In Study 2, they were asked about whether the denotations of the nouns possess semantic features including concrete, abstract, stable and malleable. Concrete and stable indicate count and abstract and malleable indicate mass. In Study 1, the mean accuracy rate for the high intermediate level is 66.13 (SD= 7.41) and 56.3 (SD= 5.43) for the low intermediate level. There is no correlation between the syntactic (Study 1) and semantic countability (Study 2) ($r=0.175$, $p>0.05$) for the high intermediate level while there is a positive correlation ($r= 0.549$, $p<0.01$) in the low intermediate level.

Syntactic countability is intermediate correlated with semantic countability for low intermediate learners, but no correlation for high intermediate learners. Lower level learners rely more on semantics in learning syntax. That is, beginners rely more on ontological resources when learning a language.

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Olli Kuparinen, Unni-Päivä Leino, Jaakko Peltonen, Liisa Mustanoja, Jenni Santaharju

Prototypes and change in real time - hd in Helsinki Finnish

Abstract: Finnic languages have consonant gradation in which certain consonants have paradigmatic changes in their quantity or quality. In standard Finnish d is the weak grade alternative of t (for example in mahtua 'to fit' - mahdun 'I fit'). This, however, is a result of orthography: d rarely appears in Finnish rural dialects, where either r, ð or l is used (mahrun, in Western dialects) or no phoneme appears (mah-ø-un, in Eastern dialects). In Helsinki however the d (mahdun) has been the most used

variant for historical reasons, but in recent years the loss of d (mahun) has become increasingly frequent especially following an h.

We use the Longitudinal Corpus of Finnish Spoken in Helsinki (Helpuhe 2014) which covers the language with 20-year increments from 1970s to the present day to analyze how the change from hd to h (mahdun > mahun) happens in the community. We argue that the change does not spread uniformly in all cases where the morphophonological conditions apply. Instead, it takes over commonly used central words and spreads to the neighboring ones so that the criteria are not only morphophonological but include also semantics and frequency. The pattern is thus similar to Lakoff's (1987) and Croft's (2001) ideas of prototypes that further generate specific constructs.

It has been noted in earlier studies of Finnish (e.g. Rapola 1966, Nuolijärvi 1986, Paunonen 1995) that the Ø is almost exclusive in certain numerals (yhde- 'one', kahde- 'two', yhdeksän 'nine', kahdeksan 'eight') in Helsinki (and moreover in Finland). The phenomenon itself is then well-known, but we view the change from a more cognitive angle. Our study supplements the earlier findings as it follows the gradual change from a prototype towards the periphery. The change appears to happen next in several central verbs (tehdä 'to do', nähdä 'to see', lähde- 'to go'), adjectives (mahdollinen 'possible') and nouns (kohda- 'place') and moves towards cases where the d typically has not been lost. For instance, when these words occur as a part of a place name the change doesn't happen. We analyze whether the change follows this pattern in the community as a whole and in idiolects over time.

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Tori Larsen and Christer Johansson

Processing empty categories in Norwegian

Abstract: Many important aspects of language are not directly observable. Empty categories play a crucial role in linguistic theory; yet, their role in language processing is controversial. The phenomenon of Control relies on a null item, PRO, which acts as the subject in non-finite clauses. PRO's existence has been disputed, with some theories depending on it for theoretical consistency (Chomsky, 1982) and others excluding it entirely (Hornstein, 1999; Janke, 2003). Recently, experimental evidence has emerged supporting the hypothesis that PRO has detectable effects on language processing (Larsen, 2017; Nicol and Swinney, 1989; Walenski, 2002). Do empty categories also affect sentence parsing?

We investigate PRO reactivation effects in Norwegian using reaction time measures. Previously, we detected significant facilitation effects for Subject Control sentences after the infinitive marker in the non-finite clause. In the process, we discovered a better experimental contrast by comparing reactivated antecedents against non-reactivated ones.

In a novel experimental design, we aim to apply this same contrast to a G-maze design. We predict that the choice will be more difficult when a reactivated item is present. We use four test sentence constructions: (1) Object and (2) Subject Control sentences and (3 & 4)
a 'pronoun counterpart' of each Control sentence type. This provides a unique minimal comparison between a covert and an overt pronoun.

A sentence like (a) presents a choice between the subordinate clause verb (spise) and a matrix clause NP (neshornet or krokodillen). A sentence like (b) presents a choice between the pronoun after at (han), and a matrix clause NP (elefanten or neshornet). Activation of the correct antecedent in the sentences (e.g., neshornet and elefanten), which is ungrammatical, will interfere with the grammatical alternative (spise and han), resulting in longer reaction times.

a. Det store neshorneti lover krokodillen å PROi spise eplene sinei. The big rhinocerosi promises the crocodile to PROi eat hisi apples.

b. Den grå elefantenj lover neshornet at hanj drikker vann hver dag. The gray elephantj promises the rhinoceros that hej drinks water every day.

Comparing coreference processing between an NP, a pronoun, and an empty category (PRO) helps us to focus on the cognitive effects of coreference processing. Walenski (2002) suggests a strong correspondence between the parser and the grammar for both PRO and Raising construction trace processing. However, various experimental studies have found that PRO reactivates more than one possible antecedent (Larsen, 2017; Nicol and Swinney, 1989). What kind of syntactic and/or semantic restrictions are at play here? How does the syntax of control sentences interact with the parser?

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Michal Láznička

Grammatical profiles of Czech nouns: case and gender

Abstract: The grammatical profile method was introduced by Janda & Lyashevskaya (2011) as a subtype of behavioral profiles (e.g. Gries & Divjak 2009). A grammatical profile is defined as the relative frequency of all inflected forms of a lemma in a corpus. This method provides a means to study the relation between the distribution of grammatical properties of words and meaning on a relatively large scale. Janda (2017) shows in a pilot analysis that grammatical profiles of Czech nouns is correlated with animacy. I follow up on this finding and focus on the role of both grammatical and natural gender. In this paper, I present the results of two analyses of the relationship between cases and gender.

In the first analysis, I show the difference between masculine and feminine animate nouns. Czech nouns have four genders, masculine animate and inanimate, feminine, and neuter. Only masculine animate correlates with natural gender. I manually extracted all feminine animate nouns that appear at least 100 times in a corpus of modern written Czech (Křen & al. 2015). These were complemented by their masculine counterparts (e.g. herečka 'actress' - herec 'actor'). I extracted all singular forms of those lemmas and obtained grammatical profiles for 2521 lemmas. I performed hierarchical clustering analysis to identify lemmas with similar profiles. There are two clear findings. First, there is a difference between proper and generic nouns regardless of gender. Second, there is a difference between masculine and feminine generic nouns with masculines appearing more frequently in the cluster characterized with a high proportion of nominatives and relatively low proportion of accusatives.

In the second analysis, I studied the relationship between the grammatical profiles of adjective modifiers and the gender of their nominal heads. I analyzed a total of 747 modifiers that appear at least 100 times with masculine animate, inanimate, and feminine heads in the corpus. I identified four clusters in the data which show that modifiers pattern based both on head gender and meaning. Modifiers with masculine animate heads are again more agentive, while inanimate masculines show relatively high proportions of accusative, locative, and instrumental. Feminine headed modifiers fall between the two categories.

The results show that it is indeed possible to "go from form to meaning via statistics" (Kuznetsova 2015) and that the distribution of relatively abstract grammatical categories can point at meaningful differences in use and meaning.

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Carla-Sophie Lembke, Per-Olav Folgerø, Alf Edgar Andresen, and Christer Johansson

Prototypes and recognition of self

Abstract: We like what is familiar. A prototype contains identifying features that make it easier to read an image. We have carried out a series of experiments on the recognition of the image of Christ. We have previously shown that positive attributes were more associated with the image of Christ an face and with a direct gaze, compared to portraits of men and women in profile with direct or indirect gaze. A second experiment showed significant priming effects and showed that the images of Christ were more associated with a prime for the opposite sex, compared to images of other men and women. Measures of the facial width/height-ratio confirmed features of the Christ images that were in the feminine range.

The current experiment presents effects for prototypes and recognition of self. We morphed images, taken at least 6 weeks before the experiment, of 16 student volunteers, with a prototype created by morphing 4 representative images of Christ. Individualized images had elements from four images of Christ and one individual. In comparison, we had the four original portraits of Christ and prototypes of male, female, human, Christ, and the three combinations of Christ and male, female and human prototypes.

Only 12 participants (aged 18 to 65; mean 26.4 CI[18.2;34.6]) participated in the final experiment. Thus only 12 images matched the 12 participants for self: 6 male and female.

The testing procedure is a Round Robin Hot-or-Not contest, where two pictures were presented next to each other. The prototype was either to the left or right, and both versions were presented in random order. The task was to choose the picture they liked best. Reaction times were collected.

Results show that the female and the Christ were selected significantly more often in competition than the other prototypes. Reaction times show that the female prototype was the fastest prototype to decide. Of the individualized morphs, only one that represented a higher age deviated. There were no other significant differences. Subjects did not show evidence of self-recognition in preference or decision times. Only one subject claimed to have recognized the own image. This is consonant with DeBruin (2005) who found that self is more highly judged for being trustworthy, but less valued for attractiveness.

In the light of our previous results, we show that the image of Christ is associated with trustworthiness and attractiveness, and showing signs of androgyny.

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Carsten Levisen

An Ethnosyntax of Anti-Authoritarianism? The Grammar of Danish Deliberative Discourse

Abstracts: This paper explores the grammar-culture interface through a study on the language of "anti- authoritarianism". Inspired by Wierzbicka's seminal studies on ethnosyntax (1979), and the subsequent work of Enfield (2002) and Peeters (2015), the paper studies the way in which cultural values can be engendered by local syntax. Surveying first the literature on "anti-authoritarianism" in the study of intercultural pragmatics and drawing on previous work on Danish ethnosyntax (Levisen 2018) the paper turns to a case study on a particular Danish construction hvis det er, literally 'if it is', which appears to have taken on a specific meaning in deliberative discourse. Consider the examples in (1-2).

1. (1) Hvis det er, kan vi også mødes i morgen. Hvis det er, we can also meet tomorrow
2. (2) Jeg kan også stå for det, hvis det er I can be in charge of it, hvis det er

Based on such examples, it would seem that this construction can express something like "a desire to not come across as dominant in joint decision-making". This is explicitly done by signaling openness to alternative plans, but implicitly, evidence suggests that the construction is also in the service of making sure that one does not come across dominant. This theme links with general themes in Danish cultural semantics (Levisen 2012), and with the axiological theme of "anti-authoritarianism". Testing these hypotheses, the study combines two methods: corpus-assisted analysis, and semantic consultation sessions. The DaTenTen17 (Sketch Engine) is utilized for the corpus-assisted study, and the consultations are based on discussions with

speakers of Danish (3 groups of 4-6 speakers). The Natural Semantic Metalanguage will be used a tool for explicating the meaning of hvis det er as it is construed across texts and speakers.

The discourse of values in the Global North often relies on words such as "egalitarianism", "individualism", and "anti-authoritarianism". In the final part of the paper, I will reflect on the problems in using such over-arching terminologies, and based on the NSM-based work on Danish and general ethnosyntax, I will propose a high-resolution metalanguage for the study of the grammar-culture interface, which can better account for the specifics of axiological meaning in grammar, and which at the same time can serve as a more stable cross-linguistic tools for doing comparative cultural semantics.

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Yen-Liang Lin

Task complexity and speech-gesture production: A cross-linguistic analysis of L1 and L2 narratives

Abstract: This study investigates the extent to which cognitive demands influence the use of representational co-speech gesture in L1 and L2, and further examines the role language competency, task complexity, and cross-linguistic transfer play in gesture production. In order to obtain a more robust understanding of linguistic-gesture representation from cognitive perspectives, this study tests two hypotheses about the role of gesture in speech production: the Lexical Access Hypothesis, which holds that gesturing aids in lexical access, and the Information Packaging Hypothesis, which holds that gesturing aids in conceptualization. Sixty participants with Mandarin Chinese as L1 and English as L2 were recruited in this study, with 30 advanced (C1) and 30 low-intermediate (A2-B1) English proficiency levels. Each participant was shown a cartoon first and required to retell the story once in Mandarin Chinese and once in English. Based on the Triadic Componential Framework (Robinson, 2005, 2007), the order was counterbalanced so as to establish a control group and an experimental group with prior knowledge and planning time as independent variables.

The data analysis first explores co-speech gestures, investigating the extent to which representational gesture (iconic, deictic and metaphoric gestures) differ between L1 and L2 among speakers at different L2 proficiency levels. It was found that English proficiency has a significant effect on gesture production, while no significance was found between L1 and L2 gesture

production. In the task that requires higher cognitive demands, both advanced and low-intermediate groups use more gestures in L2 narratives. In particular, significantly more iconic gestures and representational gestures were produced. To explore cross-linguistic influence, three aspects were investigated: manner-path gestures, path gestures, and manner-highlighting gestures. It can be observed that there is L1/L2 convergence and a bi- directional cross-linguistic influence in L2 speakers' narrative descriptions of motion. The examination of the co-occurrence of speech and gesture has provided a key insight into the second language cognition and the interplay between the two models of communication.

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Tionenji Lishomwa

'Greem benches' – can speech errors eliciting the Ganong effect be used as evidence for auditory simulations in the brain during speech production?

Abstract: Studies on deliberate speech errors at the phonetic feature level by Gaskell et al. (1996; 1998; 2002) helped to demonstrate that the extent of phonetic mismatch between a target word in the mental lexicon and acoustic input determine the strength of lexical activation[i,ii]. A listener will accept an unclearly-articulated incorrect phoneme as a different phoneme if it matches the lexical context[iii]. If this phenomenon – known as the 'Ganong effect' – is also reflected in real speech errors, then this may suggest some level of simulation of an acoustic signal in the brain before speech production, as well as during the processing of speech[iv].

The aim of this piece of work is to firstly determine whether or not speech errors such as the 'gree**m** benches' error in the study by Gaskell et al. (1996; 1998; 2002) occur naturally, through the use of speech error databases (It may also be advisable to attempt to replicate the aforementioned study by Gaskell et al., on a side note). Specifically, incidents wherein the incorrect phoneme has a similar offset to the target phoneme – thus minimally mismatching with the intended phonological context – will be sought.

If speech errors that elicit the Ganong effect are found, then further work must immediately be planned. Specifically, fMRI and NIRS could be used to further test the idea of auditory simulations, by possibly showing activity at the auditory cortices during speech production that is comparable to the activity at the auditory cortices as when a listener is receiving an acoustic signal. This may imply more similarity to the word processing process. It must be emphasised, however, that this is only a possibility, and may not be what is observed through brain imaging.

If no such speech errors are found, however, it may be indicative of some manner of phonetic 'quality control' process unique to speech production at the level of finer phonetic details – which have been identified as highly important in comprehension[v] - as opposed to speech processing, wherein allowances are made for somehow distorted speech, in that the lexical context influences the ultimate message processed from the acoustic signal.

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Amy Ma

The subject omission and pronoun avoidance in children with ASD: A corpus analysis

Abstract: Pronouns have long been known to cause difficulty for children with autism spectrum disorder (ASD), that they often demonstrate pronoun avoidance that they either choose not to use pronouns or use proper names in place of pronouns (e.g. Jordan, 1989; Sterponi, de Kirby, & Shankey, 2015). Many studies suggested that pronoun avoidance could reflect a fuzzy sense of self in children with ASD (Lee, Hobson, & Chiat, 1994, Mizuno et al., 2011). Other studies also suggested that difficulties with pronouns could be a result of joint attention deficit, lack of parental input and impaired pragmatic knowledge (e.g. Naigles et al, 2016; Shield and Meier, 2014).

However, few studies have examined the syntactical properties of pronouns in a sentence. Nominative case pronouns appear at subject positions mostly. It is well known that English speaking children may omit referential subjects in their utterances (Bloom 1990, Valian 1991). It is possible that pronoun avoidance in children with ASD stems from (possibly excessive) subject omission. In other words, if pronouns mostly appear in subject position and children with ASD omit subjects more often in their utterances, they would have less pronoun use than typical developing children.

In this study, a corpus analysis was conducted to investigate whether children with ASD use less pronouns due to more subject omissions. Using CHILDES database (MacWhinney, 2014), 14 children with longitudinal samples (7 children with ASD and 7 typical developing children matched for mlu) were used in this study (see Table 1 for corpus summary). All children's and their mother's utterances were searched for the followings: (1) proportions of sentences with subjects (2) proportions of subjects that are pronouns (3) total number of pronouns and total number of each pronoun. Python-based Natural Language Toolkit CHILDES corpus reader (by Tomonori Nagano and Alexis Dimitriadis) were used to extract data in an automatic manner.

The average proportion of sentences with subjects is 16% for all children with ASD and 19% for typical developing children, whereas 55% of sentences produced by adults have a subject (see Table 1). There's a strong positive correlation between mlu and reduction of subject omission (r = 0.87 for TD children and r = 0.93 for ASD children). This result confirmed that subject omission is common for TD children and ASD children. When mlu is smaller than 2, children with ASD exhibited more subject omission than TD children. When mlu is larger than 2, children with ASD have similar subject omission behavior as their TD peers. In terms of percentage of pronoun as subject, children with ASD used more pronouns as subjects (69%) than their typical developing peers (45%). These results are not conclusive enough to support the hypothesis that pronoun avoidance stems from excessive subject omission. More analysis needs to be conducted to explain individual differences and mlu influences.

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Helga Mannsåker

When does a metaphor cease to be a metaphor? The case of schizophrenia

Abstract: Metaphor is regarded by many as a central mechanism in scientific thought (Boyd, 1979; Leary, 1990; Knudsen, 2003), and many expert terms originated as metaphors. The term schizophrenia ('split mind'), coined in 1908 as a replacement term for dementia praecox ('prematurely out of one's mind') serves as an illustration thereof. Is it possible for such an expert term to stay alive as a metaphor, or is the status as expert term incompatible with metaphorical vitality? Although several metaphor researchers have discussed the life and death of metaphors (Lakoff, 1987; Deignan, 2005; Müller, 2008; Steen, 2007; Allan, 2013; Goatly, 2011), it is still not entirely clear exactly when and how a metaphor ceases to function as a metaphor. In order to fully examine the question of metaphoric vitality in expert terms, it is crucial not to conflate the different levels concerned in metaphor: linguistic/conceptual and individual/collective.

I have investigated the question of metaphoric vitality in expert terms by using schizophrenia as a case. My primary research material consists of nine Scandinavian text books on psychiatry from three time periods: c. 1900, when the term for the mental disorder was dementia praecox, c. 1950, when schizophrenia had fully replaced dementia praecox in psychiatric nomenclature, and the period after 2000, i.e. the textbooks that are currently used in the education of physicians. I have examined the metaphorical vitality of the term by combining different researchers' criteria for metaphorical vitality in collective thought and language such as productivity, explicit mentioning of target domain, transparency etc.

The term schizophrenia met all aforementioned criteria. This indicates that schizophrenia may still be alive as a metaphor on the collective level in the psychiatric language community, both linguistically and conceptually.

Although my material is too limited and too small to conclude with certainty that schizophrenia is alive as a metaphor in the psychiatric language community, let alone in the mind of the individual psychiatrist, my findings nevertheless make it difficult to conclude with certainty that the term is a dead metaphor. The findings are relevant not only linguistically, in regard to the discussion of metaphoric life and death, but also for psychiatry, where there is an ongoing discussion of whether or not to replace the term schizophrenia with a new term (Lasalvia, Penta, Sartorius, & Henderson, 2015).

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Anna Mauranen

Matching perspectives: co-constructing knowledge in academic discourse.

Abstract: Collaborative activity is a fundamental human trait, readily manifest in the way intreractants coordinate their physical activity (e.g. Bråten 2007). Intellectual collaboration is no less important, but far subtler in its manifestations, unless people deliberately set out to solve a given problem together. However, intersubjective co-construction of knowledge is far more pervasive than that: all dialogic interaction involves a degree of 'perspective matching' between interactants. That is, speakers coordinate not only the physical aspects of their speech (speech rates, voices, etc.), but also lexis and grammar (see, e.g. Mauranen 2012), in ways that are familiar from sociolinguistics ('dialect levelling'; see e.g. Trudgill 1986, 2011) or social psychology (Gallois et al. 2005). If we connect these findings with the fundamental observation that other humans are the most important environment for the brain (Hari 2007), it seems clear that the individual cognition is crucially shaped in interaction with its social environment, i.e., with other people (cf. Hari, Sams & Nummenmaa 2016). Intellectual collaboration is nevertheless harder to observe and pin down in its subtler manifestations than physical collaboration or joint task management, or even collaborative problem-solving. One way of tracking down collaborative intellectual activity linguistically is by looking at discourse reflexivity, or metadiscourse, 'discourse about discourse' (Mauranen 2010, forthc.) in dialogic interaction. This paper looks into instances of collaboratively constructing new knowledge in academic discussions with multilingual participants. It is suggested that co- constructing knowledge is common practice and thus comparatively unremarkable, and that it consists in matching speaker perspectives.

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A. Mauranen
Chunking for larger and smaller units of meaning. What do listeners do?

Abstracts: As listeners chunk up a stream of speech, they come up with segments that are well within the range of predictions from linguistic (Sinclair & Mauranen 2006; Mauranen 2016) and memory-based (Cowan 2001; Miller 1956) models: most chunks are short, 2-4 words, and only rarely come up to 9 words (Vetchinnikova & Mauranen 2017). A closer look at chunk boundaries that listeners experimentally mark reveals that some boundaries attract more inter-listener agreement than others, i.e. are 'stronger'. Assuming that chunking helps make sense of language, this presentation explores linguistic correlates of chunks that participants have intuitively identified in authentic speech using a tablet-based (Vetchinnikova, Mauranen & Mikusová 2017) method.

Different levels of processing are suggested by

(1) Varying boundary strength: shorter chunks tend to be less strong
(2) Linear Unit Grammar: 'complete' elements tend to be longer than 'incomplete' (3) Prosody: prosodic units are the shortest chunks

It is argued that as listeners attend primarily to meaning, shorter and incomplete elements contribute to evolving larger units of meaning, thus enabling processing to proceed in short segments while also making sense of larger wholes.

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M. Messerschmidt

Increasing the valency of motion verbs

Abstract: Typologies of voice or valency-change usually consider two main types of valency-increasing operations: causatives and applicatives (e.g. Haspelmath & Müller-Bardey 2004, Kulikov 2011). But a number of constructions in various languages seem to fall between these two categories, e.g. the portative construction, exemplified in (1b), which typically takes intransitive motion verbs as a base. Conceptually the portative construction contains an element of (co-motional) causation, making it similar to a causative construction. But unlike the causative construction, exemplified in 1c, the it is not the causer argument that is introduced to the argument structure, but rather the causee, since the prototypically inanimate causee could not be the agentive subject of the base intransitive construction containing a motion verb. Nor is the portative an example of a prototypical applicative construction.

(1) Caddo (Melnar 1998: 170)

1. ci-ʔa=d(ih)-ʔaʔ

   1A-go-FUT 'I will go.'

2. ci-ni-ʔa=d(ih)-ʔaʔ 1A-PORT-go-FUT

   'I will take it.'

Purepecha (Capistrán-Garza 2015: 152) c. ni-tára-a-ka=ni tumpí-ni

go-CAUS-FUT-1=1SG.S boy-O 'I will make the boy go.'

In this talk, I will present the results of a cross-linguistic study of 50 genealogically diverse languages which looks at the various ways the valency of motion verbs can be increased. Valency-increasing operations are almost always lexically restricted to certain verbs or verb classes and interact with these in different ways. The talk therefore focuses on a single class of verbs which can provide good examples of a greater variety of operation types than we are perhaps used to considering. The valency-increasing operations in the sample languages have been analysed and classified in order to discover the range of operation types that occur with motion verbs and determine whether the common categories of causative and applicative are sufficient to describe this range operation types.

Based on the results of the study, I will argue that we should expand our standard inventory of valency-increasing operation types beyond causatives and applicatives and consider interactions with verb classes, differences in argument structure and complex event structure as well as conceptual differences between the operation types in out classifications.

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Elena U. Morgan, Mila Vulchanova, Audrey van der Meer, Giosuè Baggio
Foundational Operations Preceding L2 Acquisition

Abstract: The past few decades have seen a significant increase in studies focusing on language acquisition and processing. In this oral presentation, we will to discuss some of the neurological operations that constitute the basis for language acquisition and therefore, precede language and are independent from it.

Studies of infants and children of various ages suggest that basic forms of semantic processing are deployed before the cognitive systems that support syntax are fully developed. For example, there is evidence that syntactic structure building and analysis fully develop only after the age of 12 years (Hahne et al., 2004). In a study investigating infant response to syntactically anomalous sentences, Silva-Pereira and colleagues found that 36- and 48-month-old children display a positive waveform associable with the P600, while none of them showed a LAN effect (Silva-Pereira, 2005a, 2005b). Oberecker and colleagues (2005) investigated how phrase-structure violations are processed in the brain of 32.5- month-olds. The ERP recordings showed a LAN effect around 500ms, as well as a late P600. These results highlight the presence of late and controlled integration processes (identified by the P600), while highlighting the lack of an ELAN component, which indicates early, automatic processes of structure building, suggesting that infants at this age are able to process and integrate syntactic information, while their online processes of syntactic structure building are not yet developed. The results also point to the fact that biphasic ERP components are interpreted as infants recruiting a neural system for processing phrase- structure violations that is similar to that of adults, but the latency of those ERP components seems to indicate that this neural system is still under development (Oberecker et al. 2005). More recent studies (Brusini et al, 2016; 2017) have shown that two-year-olds are sensitive to the presence of ungrammatical elements in sentences, displaying ERP components identifiable as LAN and P600. Similarly, a P600 effect was found in 18-month-olds in response to ungrammatical sentences with a misplaced verb or noun. The P600 component was only slightly delayed compared to the 24-month-olds, as it is to be expected from younger infants.

It seems that infants are able to process syntactic information like adults, albeit their neural response is slower. Furthermore, it appears that the mechanisms governing early phrase- structure violation detection, as well as detection of morphosyntactic errors, are still developing at this early age, and might depend on prior established networks (e.g. semantics).

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Andriy Myachykov, Nikolay Novitskiy, Anna Petrova, Yury Shtyrov Cross-linguistic interplay and cognitive control in late bilinguals

Abstract: The mechanisms underlying second language learning remain at the center of research in psychology, linguistics, and neuroscience. On one hand, research continues to illuminate the interplay between the linguistic codes co-existing in a bilingual mind. On the other hand, research has indicated that speaking more than one language leads to potential advantages related to cognitive control, memory, and healthy ageing. However, while a vast majority of bilingual speakers acquire their L2 knowledge later in life, existing research often focuses on studying early/balanced bilinguals.

Our recent behavioural and neurophysiological data offer new evidence about the cross- linguistic interplay and cognitive control in late/unbalanced bilinguals. First, I will present the results of an EEG study, in which we used a masked priming paradigm with L1 (Russian) priming words and L2 (English) targets successfully demonstrating both phonological and semantic interplay between L1 and L2 lexicons manifested as a modulation of the N400 amplitude as a function of L2 proficiency. Second, I will present the data from a behavioural study using Attention Network Task (ANT), which revealed an overall better conflict resolution with the increase in L2 competence further confirming a regular association between late bilingualism and cognitive control. Third, I will discuss results from an MRI study documenting a cortical volume increase in the left hemisphere's language-related areas in L2-learners: By using Voxel-based morphometry (VBM), we registered brain matter increase in two cortical clusters in the left hemisphere (the inferior frontal (BA11) and fusiform (BA20) gyri) suggesting that second language learning may be associated with increased cortical plasticity in the areas associated with cognitive control (orbitofrontal) and visual word form processing (left fusiform gyrus).

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Thomas Müller, James Winters, Olivier Morin, Ira Noveck
Color terms: Natural language categories and artificial language category formation

Abstract: By providing labels, language facilitates category formation (Lupyan, Rakison, & McClelland, 2007; Carey, 2009; Quine, 2013). Categorical structure, in turn, allows languages to reduce continuous meaning spaces to a discrete set of words (Carr, Smith, Cornish, & Kirby, 2017). Making use of these categories in their natural language, interlocutors are able to communicate successfully. But how do the categories arise and evolve?

We investigate the impact of natural language categories on category formation in the artificial languages created in the Color Game application, programmed specifically to overcome limitations in standard online or laboratory experiments (Morin et al., 2018). Additionally, we test the effect of (natural) language categories on communication, and especially on communicative success. The application tasks volunteer players to communicate about colors using only novel black-and-white symbols, thus creating artificial languages over repeated interaction. Working with colors varying on a continuum in hue only, we circumvent the issue of built-in categories outlined by past studies (Carr et al., 2017; Perfors & Navarro, 2014). Color terms have been the most important test case for the relation between language and thought in the past; this means we can rely on a survey method similar to the one of the World Color Survey (Cook, Kay, & Regier, 2005), mirroring classical studies on color terms.

For our analyses, we need baseline data to find the categories speakers of certain languages employ for our set of colors. The online survey we set up gathers data from speakers of English, German, French, and Spanish. By applying exploratory factor analysis, we reduce the 32 colors to the same number of categories as the number of basic color terms in the respective languages. We then use confirmatory factor analysis on the interactions observed in the application; the hypothesis is that category formation in the game follows natural language categories. Further hypotheses tested in the study are concerned with categorical perception effects for the colors in the game and the specificity and performance related to encoding colors with the symbols in the game, all based on the natural language categories observed in the survey. As data acquisition for the project is still under way and will run until March as per our preregistered study plan, we are not able to report the full results yet but would do so in the oral presentation.

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Jukka Mäkisalo, Esa Penttilä, and Katarzyna Wiśniewska

The retention of cognitive structures in translation

Abstract: In our poster, we sum up the results of the empirical work carried out, so far, on finding evidence on dissociating linguistic and cognitive description in translation. In line with cognitive linguistic thinking and with reference to evidence on

Figure-Ground alignment and Force Dynamics (Mäkisalo & Lehtinen 2014; Mäkisalo & Lehtinen 2017; Mäkisalo & Lehtinen 2018), we argue that what is transferred (retained) in translation is the cognitive level (cognitive model of the state of affairs). This claim is justified by the findings in translations between English and Finnish, on the basis of which Mäkisalo and Lehtinen (2014) suggested the following general hypothesis called The Cognitive Retention Hypothesis: When describing translation from a source text to a target text, it is possible to distinguish linguistic and cognitive levels, and it is the cognitive level (cognitive model of the state of affairs) that is primarily retained in translation.

In cognitive linguistics, Figure–Ground alignment and Force Dynamics are among the main construals, that is linguistic operations based on general cognitive processes. Talmy (2000) lays the foundations of major conceptual structuring in language at the sentence level to be (1) configurational structuring (space and motion), (2) attention (figure and ground, time and event-related structures) and (3) force and causation (force dynamics and causation). We argue that the Figure–Ground distinction and the Force Dynamics provide one tool for describing the aspects of this cognitive level.

Our project Cognitive Description in Translation aims at constructing a systematic and empirically based description of translation at the sentence level, mainly following the theoretical framework developed by Leonard Talmy and William Croft. In this poster, we sum up our findings in Figure-Ground alignment and Force Dynamics with the addition of spatial cognitive structures of Space configuration. Construing spatial structures is one of the very basic configurations in human perception, and in translation it is retained more often than other structures at the cognitive level. In addition to our previous studies, we widen the selection of language pairs to Polish–Finnish and Swedish–Finnish.

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Marie Louise Holm Møller, Sabine Grene Thomsen, Karen Østergaard, Mikkel Wallentin, Andreas Højlund

Danish-speaking Parkinson's disease patients do not display selective action verb impairment when reading naturalistic stories

Abstract: The present study sought to investigate whether Parkinson's disease (PD) patients are impaired in their processing of action-related verbs when reading naturalistic stories. Previous research suggest that PD patients exhibit difficulties in naming, producing, remembering and identifying action verbs. A recent study (García et al., 2018) demonstrated that this specific deficit for PD patients was even upheld when reading naturalistic stories instead of isolated words or sentences. The present study is a replication of García et al.'s study (2018) in a Danish context, while at the same time an extension of it by including a crucial new contrast. To this end, we constructed 2 x 2 naturalistic stories in Danish, with each pair of stories closely matched on several linguistic factors (e.g. word frequency and readability). The first pair of texts closely mirroring García et al.'s design included one text with a high degree of action- content and one with a high degree of non-action content, while the second pair of texts integrated action and non-action content in both texts. With the extension of the second pair of texts, we sought to investigate whether the specific deficit for action content found in García et al.'s study could be due to a substantial build-up of

action content over the course of one text compared to the other. 28 PD patients and 28 age- and gender-matched controls read the four stories and answered questions about situational (mainly time and place), action-related and non-action-related content. This allowed us to investigate the hypothesis that PD patients would perform worse on action content than on situational and non-action content compared to controls. Results showed no significant differences in performance between PD patients and controls, in fact, for several contrasts equivalence tests showed no practical difference between the two groups' performances. However, we did see a significant main effect of question type as both groups generally performed worse on non- action-related questions compared to action-related and situational questions, suggesting that non-action content may be generally harder to remember (also when embedded in naturalistic stories). Our finding that Danish-speaking PD patients do not seem to be specifically impaired in their action language processing underlines the importance of testing such claims in cross-linguistic and cross-cultural designs. Further research is needed to properly delineate whether typological differences between Spanish and Danish affect PD patients language processing differently or whether the originally reported effects are less robust than first anticipated. In broader terms, research within the field of action language processing in PD patients is still in its early stages and it is thus still unclear whether action verb impairment is a sui generis affectation in PD.

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T. Möttönen and T. Onikki-Rantajääskö

Construal of ideas – How to approach planning discourse from Cognitive Linguistic perspective

Abstract: The paper develops theoretical grounding and methodology for studying planning discourse from Cognitive Linguistic perspective. Planning discourse, i.e. linguistic and multi-modal interaction that is frequent in industrial design, is a central medium for design process as mediated, intersubjective thinking-aloud (Saariluoma et al. 2016). Hence, planning discourse provides a promising empirical context for studying linguistic processes that drive development of new abstract concepts and, by implication, novel linguistic meanings.

The methodology developed here is based on the notion of Construal (Langacker 2008, Verhagen 2007), i.e. the linguistic ability to portray the same state-of-affairs in various ways. More specifically, methodology is developed to analyze Patterns of Construal (PoC) in planning discourse. PoCs are context-sensitive semantic patterns that the speaker relies on in order to develop arguments, create cohesion and introduce novel ideas to the conversation. In planning discourse, intersubjectively produced PoCs are means for producing complex concepts. Construal may therefore be analyzed as the direct linguistic correlate for joint thinking in high-expertise environments.

The present approach stems from a socio-cognitivist notion of Construal (Mo̍ttö̍nen 2016) and case studies that suggest the applicability of construal on discourse (e.g. Jaakola et al. 2014). In the context of planning discourse, Construal makes a promising candidate for analyzing the relationship between the interlocutors' linguistic resources and thinking as a mediated process.

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S. L. Nacey

Metaphors in L2 Norwegian highstakes exams

Abstracts: Lakoff and Johnson's Conceptual Metaphor Theory advances the view that metaphor is a fundamental cognitive process defining our understanding of reality: "the essence of metaphor is understanding and experiencing one kind of thing [e.g. love] in terms of another [e.g. a journey]" (Lakoff & Johnson, 1980, p. 5). Such metaphors in thought (conceptual metaphors) are reflected as metaphors in language, i.e. by the words and expressions we produce (linguistic metaphors). Empirical research has since confirmed that linguistic metaphors are ubiquitous in both L1 and L2 language (see e.g. Nacey, 2013; Steen et al., 2010). Metaphor therefore necessarily plays a central role in language learning; indeed, Littlemore and Low (2006) argue that metaphor plays an important role in all areas of L2 communicative competence.

Previous research about metaphor and language learners has focused primarily on metaphor comprehension, interpretation and/or appreciation, with L2 studies frequently concentrating on metaphor in connection with vocabulary acquisition and retention. Much less work has been carried out on production of metaphor in the L2, with most of those studies that have been conducted investigating L2 English, rather than other L2 languages. This paper addresses that gap by investigating metaphor language in the Norwegian Second Language Corpus (ASK), mapping out and analyzing the metaphorical language produced by Norwegian L2 language learners in essays where they were required to interpret a Norwegian poem and actively incorporate its message into their own text.

The empirical data consists of 22 ASK texts written by L2 Norwegian learners as part of the Test i norsk – høyere nivå ['Test in Norwegian – higher level'], a high-stakes language test primarily intended for immigrants to Norway who need to document their language skills for employment or for admission to Norwegian universities and colleges. These texts – comprising roughly 10,000 words – were produced by informants with one of eight different L1s and from one of twelve different countries, in response to the identical task. They were instructed to write a text incorporating their own opinions and experiences of friendship with the message(s) in the Kolbein Falkeid poem Det er langt mellom venner ['It is far between friends'], a poem whose core is metaphorical simile.

This study identifies all linguistic metaphors in the L2 texts using the Scandinavian version of the Metaphor Identification Procedure Vrije Amsterdam, which requires analysis of each word for metaphorical status (Nacey, Greve, & Falck, submitted). Subsequent analysis focuses upon metaphor density, as well as the role of both deliberate metaphors and metaphor clusters. The main goal of the chapter is to explore the ways in which these L2 learners use their language resources to expand upon Falkeid's metaphors and/or produce alternative metaphors in their responses. This chapter thus contributes to the knowledge base about the role of metaphor in L2 written production created in a high consequence, test-taking situation.

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Susan Nacey and Linda Greve

'Royal' metaphors in Danish and Norwegian New Year's Eve speeches

Abstract: This paper presents a comparative analysis of metaphor in the New Year's speeches (NYEs) of the Danish queen and the Norwegian king. NYEs constitute an annual tradition in both countries, broadcast early in the evening of December 31 of each year, where these monarchs summarize the highlights of the past year and look ahead to hope and aspirations for the year to come (Hovland, 2000). In many respects, Denmark and Norway share a common historical, cultural, and linguistic background; indeed, the two languages are mutually comprehensible (Torp, 1998). In light of such similarities, one might assume the null hypothesis to be true, that there be no important differences with respect to metaphor use in the two set of speeches.

Our primary data consists of two sets of five speeches per monarch dating from 2013 to 2017: roughly 4500 words per set. We address two main research questions:

How is metaphor used in these NYE speeches?

Is metaphor used in similar ways in the Danish and Norwegian NYE speeches?

To do so, we first identify all linguistic metaphors in the speeches through applying the newly- developed Scandinavian version of the Metaphor Identification Procedure Vrije Universiteit (Nacey, Greve, & Falck, submitted), allowing for the calculation of the overall metaphor density in each speech. We then identify all metaphorical clusters in each speech (that is, groupings with a frequency of >20% metaphor over a 20-word span), and investigate the rhetorical function of each cluster (see Littlemore, Krennmayr, Turner, & Turner, 2014). We complement this analysis by identification of all potentially deliberate metaphors in the speeches, using the Deliberate Metaphor Identification Procedure (Reijnierse, Burgers, Krennmayr, & Steen, 2017).

Our analysis, with its focus upon metaphor density, metaphor clusters and deliberate metaphors, allows for determination of the function metaphor plays in the highly- conventionalized genre/ topics of NYEs. Our findings indicate that the monarchs' rhetorical use of metaphor differs greatly, even though the speeches deal with many of the same events and issues, and function in both countries as unifying national rituals.

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D. Noël

Towards a radically usage-based approach to constructional attrition

Abstract: Given that it has to date been dominated by a strand of research one could call "constructionist grammaticalization theory" (Noël 2013), it is no surprise that in the steadily emerging field of "diachronic construction grammar" (cf. Barðdal et al. 2015) most attention has focused on "constructionalization" (Rostila 2004; Noël 2007; Traugott & Trousdale 2013), i.e. on how new constructions come about in the "constructicon" (Jurafsky 1992), the pool of lexico-morphosyntactic resources which lay people and linguists alike call "a language" and whose contents those considered to speak it share to varying degrees. The opposite phenomenon, the disappearance of constructions from that pool, which Colleman and Noël (2012) call "constructional attrition", has received much less interest. Traugott and Trousdale (2013), who call it "obsolescence", do make mention of it as one kind of "post- constructional¬ization constructional change" but, in stark contrast to the "usage-based" explanation they attempt to give of constructionalization, they stop at describing it as a "falling out of use" of constructions and say nothing about cognition. Ideally, a usage-based account should have as much to say about speakers' knowledge as about use, however, given that, as Langacker (1987: 494) defines it, the usage-based model implies a conception of language in

which "[s]ubstantial importance is given to the actual use of the linguistic system and a speaker's knowledge of this use" (my emphasis).

Because the term "usage-based" has for many become so diluted to be synonymous with a "corpus-based" methodology, Noël (2016) adopted the expanded name "radically usage- based" to refer to an approach to diachronic construction grammar that takes seriously the "cognitive commitment" to psychological reality of cognitive linguistics (Evans 2016) — cf. Hilpert's (2018) "open" question of whether this is a requirement in diachronic construction grammar. Such an approach replaces a language perspective with a speaker perspective and takes as a given that "no two members of a speech community have identical linguistic knowledge" (Schmid 2015: 4). There is already radically usage-based research which, as a methodological consequence, makes use of idiolectal historical corpora in the investigation of construction¬alization (see, e.g., Schmid & Mantlik 2015, De Smet 2016, Petré 2016). Taking off from a more orthodox corpus-based description of a case of constructional attrition in the history of English, the present paper addresses the questions of why research on constructional attrition should turn to such corpora as well and what answers this should bring.

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S. Nurmio

Semantic and cognitive aspects of singulatives

Abstract: This paper reports on a project on the typology of singulatives. A so-far understudied category, the singulative is defined as a category that denotes a (single) unit and is formed by adding a morphological marker to a non-unit-denoting base, e.g. a plural, mass noun or a form not marked for number at all (general number). In some languages, singulative formation is closer to inflection, e.g. Welsh moch 'pigs' (plural), moch-yn 'a pig' (singulative); these two forms are in a singular/plural opposition, with the singular overtly marked. But in many instances the formation of singulatives is closer to derivation, e.g. Russian gorox 'pea(s) (mass noun)', goroš-ina 'a pea' (singulative). Furthermore, Jurafsky's (1996) finding that the same markers are often used for the diminutive and the singulative suggests that there is a link between evaluative and unitizing semantics and morphology.

There has so far been no comprehensive typological study of the singulative. It is therefore relatively absent from theoretical discourse despite—as noted by Acquaviva (2016)—the relevance of a typology of unitizing for understanding how languages express the division of reference. The singulative is one of the categories that allow languages to code how objects are perceived by the speaker, that is, distinctions such as one vs. many, uncountable mass vs. countable objects, and homogeneous groups vs. distinct individuals. A central question regarding the singulative category cross-linguistically is whether it arises primarily due to the semantic and perceptual qualities of the noun referents. Grimm (2018), drawing from typology as well as cognitive work like Middleton et al. (2004), argues for a hierarchy ('scale of individuation') going from things that are perceived as free-standing individuals in the world to aggregate substances and liquids. He suggests that morphological marking may be sensitive to this hierarchy. An alternative view proposed by Haspelmath & Karjus (2017) is that frequency alone is the driving force.

My project involves creating an as-comprehensive-as-possible database of languages with singulatives and the properties of the singulative in each language. For instance, in what types of number systems do we find singulatives? Are there clear areal distributions? Are singulatives more common as derived forms or as inflectional number markers? How commonly are diminutive markers used to form singulatives? Do we find consistent patterns in semantic categories? I present a report on these findings with a focus on the semantic and cognitive aspects of the phenomenon.

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Lacey Okonski and Luciane Corrêa Ferreira

CROSS-LINGUISTIC COMPARISON OF MOTHER EARTH METAPHORS IN BRAZIL AND THE US

Abstract: The way a person conceptualizes the planet can impact the way they makes decisions in their life. Indigenous communities in Brazil, in the US and around the world have adopted metaphors such as 'Mother Earth' and 'Mother Nature'. Evidence suggests that these metaphors have been part of traditions related to respect for land. The modern conception of land appropriation and of thinking of the environment only as backdrop/commodity for human beings may systematically contribute to the present environmental crisis. The objective of this study is to compare data collected in urban regions and in indigenous rural communities in Brazil and the US in order to understand intercultural similarities and differences in the conceptualization of the Mother Earth metaphor and how men and women incorporate them, generating perspectives that

shape the way they think about the planet. We are conducting this interlingual and intercultural comparison to reveal how cultural associations shape cognitive processes. Some questions we want to answer are: Do members of both genders report bodily experiences as often or do they present another strategy to explain the concept of Mother Earth? Do members of urban and rural communities, in the case of indigenous people, do this with the same frequency? Are there any culturally specific preferences in the way that Brazilians or Americans conceptualize the planet? This study uses a mixed (qualitative-quantitative) methodology. Data collection is ongoing. Our analysis will utilize a data-centric approach, according to the metaphorical themes. In a pilot study we asked 10 Brazilian and 28 US speakers from urban areas to answer a number of open questions about their conception of 'Mother Earth', as well as two Likert scale questionnaires, used to measure the degree to which speakers find in 'Mother Earth' to be fierce and cruel or benevolent and considerate. We also plan to collect video data with an indigenous MG community and analyze the gestures in our multimodal data. The data will be discussed in light of the Theory of Conceptual Metaphor and Linguistic relativity, specifically exploring Conceptual Relativity or the idea that the metaphors that a group adopts changes the way that speaker's simulate while thinking about a topic and structures the way that they reason about the topic domain. This data holds, not only social and cultural value, but also reveals important aspects of human cognition. Finally, the results show how this metaphorical structure can affect behavior in decision making.

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Miguel A. Aijón Oliva

What needs to be done: Spanish haber-que constructions across oral and written media discourse

Abstract: The Spanish verb haber ('have') is used in presentative constructions roughly equivalent to those with English there be, but where — in the standard norm and many varieties — the verb does not agree with a subject (Gómez Molina 2013). When this so-called impersonal haber is followed by the particle que and an infinitive, a deontic modal construction results, e.g. Hay que ordenar la habitación ('One has to tidy up the room' / 'The room has to be tidied up'). This construction merges two discursive-cognitive meanings, namely deonticity — there is an indication that something needs to be done or experienced — and objectivity — the absence of a syntactic subject avoids the focusing of attention on any participant, turning

the utterance into an apparently universal imperative rather than a personal command. It can thus be understood as a case of syntactic choice whereby certain contextual meanings are constructed (Aijón Oliva & Serrano 2013).

This study will present a qualitative and quantitative analysis of the use of haber-que constructions in the Corpus de Lenguaje de los Medios de Comunicación de Salamanca (MEDIASA), comprising both written-press and radio texts from a Peninsular town (Aijón Oliva 2006). Starting from the qualitative observation of the examples, four basic pragmatic meanings of the construction will be distinguished, namely 'necessity', 'obligation', 'evidentiality' and 'intensification', each of them being more pragmaticalized than the preceding one, thus farther from the literal indication that 'something needs to be done'. The different meanings are all contextual interpretations of the inherent cognitive meaning of the construction — i.e. 'deonticity + objectivity' — that are favored by specific co-occurring discursive features including verb semantics, verbal tense and sentence polarity.

We will subsequently analyze the quantitative patterning of these four meanings across the written-press and radio sections of the corpus. It will be shown that 'obligation' is strongly associated with radio discourse, while 'necessity' and 'evidentiality' are comparatively dominant in the press, all of which can be explained by considering the interactional conditions set up by the different textual genres included in each section. As regards 'intensification', the total token number is rather low, probably due to the consideration of intensifying expressions such as hay que ver (lit. 'there has to see') or lo que hay que aguantar (lit. 'what there has to bear') as colloquial features (Gómez Torrego 1999), thus scarcely adequate for public discourse. All in all, the quantitative patterning of haber-que constructions across media discourse illustrates the unequal contextual distribution of syntactic constructions and the discursive and cognitive meanings associated with them.

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Anneli Pajunen, Seppo Vainio, Raymond Bertram and Jukka Hyönä¨Transitivity information in reading: the role of derivation

Abstract: It can be argued that transitive verbs are central in constructing clauses. For instance, the (semantic) structure of typical action events is agent/cause–change of state–patient, which also constitutes the basis for transitive constructions. Moreover, semantically motivated transitive constructions serve as the model for clausal constructions both in formal and in functional theories of syntax. The centrality of this construction is also seen in that it is 'coerced' (= 'recruited') to encode other kinds of events as well. For example, emotional events and even states (experiencer–event/state–reason/stimulus) are frequently encoded as transitive constructions. Finally, it has been argued that the transitive construction is crucial in language development (Tomasello, 2003). Psycholinguistic studies have produced mixed results as to whether transitive or intransitive verbs are easier to process. Some studies suggest that transitive constructions are easier to process (e.g., van Dam & Desai 2016), but also opposite results have been reported (e.g., den Ouden, Fix, Parrish, & Thompson, 2009; Kauschke & Stenneken; 2008). Yet another set of studies have failed to find any differences in processing time between transitive and intransitive constructions (e.g., Rayner & Duffy, 1986). In the present study, we set out to study whether morphological marking of verb (in)transitivity influences the online processing of transitive vs. intransitive constructions. In order to do so, we pitted Finnish morphologically marked transitive and intransitive verbs (i.e. causatives, such as uudi-st-a-a 'to make new', and anticausatives, such as uudi-st-u-a 'to become new') against verbs without any corresponding morphological marking. We were also interested in how quickly (in)transitivity information encoded by the verb is utilized during online sentence processing. To that end, we registered readers' eye movements when they read single sentences silently for comprehension. The list of the target words consisted of 44 verbs for which (in)transitivity was marked morphologically (= derivationally) and 40 either transitive or intransitive verbs (= 'lexical' verbs) without any explicit marking. The transitive and intransitive verbs were, respectively, agentive and non-agentive in nature. Twenty-eight speakers of Finnish (university students) participated in the experiment. – The talk will discuss the results of this experiment.

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Esa Penttilä and Marja Nenonen

Metaphors used in the media in relation to migration issues

Abstract: The political polarization that has taken place around the world in recent years is reflected in the politically sensitive discussions in both public and social media, and one of the hotly debated issues in this respect is migration. The language related to migration is often heavily metaphorical, and it appears to be used, at least to some extent, consciously in order to influence the imagery related to the topic of discussion and to promote the agenda of a certain advocacy group (see e.g. Steen 2014). One further aspect of this phenomenon is that many of these metaphors are used internationally and translated from one language to another thus spreading more or less similar imagery from one culture to another. One example of such a

metaphorical expression is anchor baby, a term used to refer to undocumented immigrant children in the United States. The term has been translated word- for-word into Swedish (ankarbarn) and Finnish (ankkurilapsi) but with a slightly different meaning referring to an underage who is sent abroad as an asylum seeker to make it easier for the rest of the family to follow later. Despite these meaning differences, the expression is clearly used pejoratively in all three languages (see e.g. Hirvonen 2013, Lederer 2013).

In this paper, we aim to discuss the metaphorical language used in migration discussion in the media in English, Finnish and Swedish. We will look into the similarities and differences in the imageries behind these metaphors in the three languages. Our discussion will combine the approaches of conceptual metaphor theory and critical discourse analysis, which has been found fruitful for this type of analysis in recent years (see e.g. Baker et al 2008).

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Juan Olvido Perea-García
The adaptive significance of de-pigmented sclerae reexamined

Abstract: White, exposed sclerae are typically human (Kobayashi & Koshima, 1997). This is so much so that one can easily render the depiction of an animal more human-like by adding eye whites, as anyone accustomed to watching cartoons will have realized. Until recently, it was generally accepted that humans were the only primates to display a de-pigmented sclera (Kobayashi & Koshima, 2001). In turn, the trait was associated to gaze-following, which is thought to be one of the buildings block of language acquisition (Morales et al., 1998; Brooks & Meltzoff, 2005), and continues to be important in linguistically developed humans (Hanna & Brennan, 2007; Perea-García et al., 2017).

But the past few years have brought new evidence that contests such claim. Today we know that great apes show in fact a diverse range of patterns of scleral coloration, from the dark sclerae of chimpanzees, to the human-like whites of some Sumatran orangutans (Perea-García, 2016; Perea-García & Monteiro unpublished data), Western lowland gorillas (Mayhew & Gómez, 2015), or bonobos (Perea-García et al., in preparation). This new evidence forces us to reconsider the adaptive value of depigmented sclerae in our own genus. The story becomes much more complex than "eye whites are a trait that evolved in humans to facilitate gaze-following between conspecifics", which has been the dominating view in the field for the last two decades.

In this talk, I review the above evidence, as well as data that is yet to be published. In view of the complex picture that emerges, I propose that supposedly cryptic phenotypes - such as the characteristically dark chimpanzee sclerae - might actually be functionally analogous to our white sclerae, allowing other apes to easily track the attentional state of their conspecifics. The implications for the evolution of language are that the rudiments of triadic interaction as a by-product of attention might have been present in the last common ancestor of extant great apes, rather than being a recent innovation that exclusively arose in the Homo genus (Tomasello et al., 2007).

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Johanne S. Philipsen and Sarah Bro Trasmundi

Gestural reuse as a resource for embodied conceptual transformation

Abstract: In this talk, we investigate the intimate link between hands and minds – or rather: How the hands, as part of the human semiotic ecology of face-to-face interaction, are a means for extending and exploring thoughts in collaboration with others. Specifically, this study investigates a series of locally occurring instances of gestural re-use in interaction. The recurrence

of gestural sequences and formats in interaction has been researched as serving primarily pragmatic functions of building cohesion (McNeill & Levy, 1993) and managing different aspects of turn-taking (e.g. Koschmann & LeBaron, 2002; Streeck, 2009). Taking a micro-analytic approach and building, in particular, on the work of C. Goodwin (2013, 2018), we show how re-using other participants' gestures in the context of psychotherapy serve several additional functions: 1) accumulation of and co-operations on shared multimodal semiotic resources resulting in 2) co-produced, embodied conceptual transformations and 3) a high degree of co-participation and patient engagement. Furthermore, we show how these joint activities form an example of contextually situated, embodied, extended cognition for the patient and therapist dyad: Through their co-operations on the available linguistic, gestural and behavioral materials, the patient comes to see her behavior in a novel way. In these ways, the present study contributes to the growing body of research on gesture as a co- participated, co-operative and embodied phenomenon.

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Mariann Proos

Putting knowledge to the test: a conceptual feature rating task with tundma 'to feel' in Estonian

Abstract: This study focuses on the meaning extension from perception to cognition, exemplified with the Estonian tactile perception verb tundma 'to feel'. Results of a conceptual feature rating task (Troche et al., 2014, 2017) will be presented. Although much has been written on the relationship between perception and cognition (Ibarretxe-Antunano, 2008; Evans & Wilkins, 2000; Storch & Aikhenvald, 2013a; Viberg, 2015), the previous work has been mostly descriptive. The present study aims to show whether the kind of knowledge that is expressed by a perception verb, in this case the Estonian verb tundma 'to feel', can be shown to exhibit characteristics conceptually motivated by the physical act of perception itself.

In Estonian, the verb tundma 'to feel' expresses a deep, thorough knowledge of something or someone. The task aimed to find out whether the tundma-knowledge is perceived as being more "bodily" in comparison to other types of knowledge, expressed with abstract knowledge verbs like teadma 'to know' or aru saama 'to understand'. It was expected that the tundma-knowledge is perceived to be more concrete, as it is lexically tied to the physical experience of feeling.

To this end, 70 participants completed a modified version of a conceptual feature rating task (Troche et al., 2014, 2017). Six cognition-related senses of tundma were included in the task, each represented with six sentences. Each sentence was paired with an equal sentence, where tundma was replaced with an abstract knowledge verb. Thus, participants rated altogether 72 sentences on six cognitive dimensions shown to represent the distinctions between abstract and concrete concepts (ibid.). The presentation order of the sentences was randomized. A 7-point Likert scale was used.

A significant difference was expected between the sentences with tundma and the sentences with an abstract knowledge verb. For example, it was hypothesized that the tundma-sentences would be rated higher on the dimension of emotion than the abstract- verb sentences. To test the hypothesis, a linear mixed effects model was fitted for every dimension, testing the relationship between rating on the Likert scale and choice of verb. However, the results show no significant difference

between the two types of sentences. We believe this is because the scale of concreteness-abstractness is not specific enough to represent the differences in the conceptualisation of these two types of knowledge. Other, more specific characteristics of the perceptual act (e.g. subjectivity, physical contact) might be the motivation behind the conceptualisation pattern.

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Nataša Ristivojević-Rajković Conceptualization of smell in Norwegian

Abstract: The purpose of the present study is to explore conceptualization of smell in Norwegian. The first research question relates to the linguistic coding of smell in Norwegian and to the organization of the conceptual category of smell in light of prototype theory. In this context, one of the goals of the study is to identify lexical items denoting smell in Norwegian, and their mutual relations. The second question focuses on metaphorical mappings in the field of olfaction. In our analysis we apply theoretical proposals of cognitive linguistics.

Compared to our previous paper on olfactory metaphors in Norwegian and Serbian, we propose here a different approach to investigating conceptualization of sense modality of smell based on the methodology of corpus linguistics.

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Stéphane Robert

From reflexive to intensifying uses of the HEAD in Wolof: semantic continuity of a metonymy

Abstract: The grammaticalization of body part terms as reflexives is well known and widely discussed (e.g. Heine 2000, Schadt 2000, Evseeva & Salaberri 2018). However, the relation between the different grammaticalized uses of these terms is seldom accounted for, in particular that between reflexive pronouns and emphatic 'self' markers (Kemmer 1993), which were described as 'intensifiers' by Koenig and Siemund (2000). The purpose of this paper is to analyze the semantic continuity (and discontinuity) of the different uses of the word for HEAD (bopp) in Wolof, an Atlantic language mainly spoken in Senegal.

A brief overview will first present the various grammatical uses of the word bopp, along with their contexts of use. Those range from direct (1) and indirect (2) reflexive pronoun to adnominal intensifier (4) through a genitival reflexive (3).

(1) Xam-al sa bopp [D 2003]
know.IMP POSS.2SG head
'Know yourself'

(2) Jënd-al na bopp-am woto [D]
buy-APPL PRF.3SG head-POSS.3SG car
'He bought (for) himself a car'

(3) Sàmba yàq na gaal-u bopp-am
N.PR ruin PRF.3SG dugout-GEN.SG head-POSS.3SG
'Sàmba has damaged his own dugout' (lit. the dugout of his head)

(4) Directeur bi ci bopp-am jiñ na Sàmba [D]
director DEF in head-POSS.3SG accuse PRF.3SG N.PR
'The director in person (himself) has accused Sàmba'

These various uses are then analyzed according to the scope of the reflexive anaphora. With direct and indirect reflexives, the reflexive anaphora scopes over two different semantic roles (agent vs. patient or beneficiary). Being restrictively used for typically other-directed processes, these reflexive constructions also imply that alternative (more expected) agents are discarded, producing an emphasis on self-affectedness or self-benefit. This centering effect on the actual participant, due here to backgrounded elements in the semantics of the verb, is even clearer (because explicitely marked), when the reflexive anaphora refers to the same participant in the same semantic role. This is the case, for the oblique reflexive, the genitive reflexive, and the adnominal intensifier. In all these constructions, the reflexive anaphora functions a re- identification of the referent in the same role, producing an intensive effect by centering on the identity of the referent and discarding the alternative participants.

Alltogether, the semantic restrictions as well as the semantics of the various reflexive constructions in Wolof, emphasizing the agentivity, responsibility or identity of the referent, point to a metonymic use of the HEAD for the PERSON or INDIVIDUAL, which is in accordance with its various lexical uses.

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Roberta Rocca, Marlene Staib, Kristian Tylén, Kenny R. Coventry, Torben E. Lund, Mikkel Wallentin

The neural correlates of spatial deictics: a fast fMRI study using naturalistic auditory stimuli

Abstract: Spatial demonstratives, i.e. words like this and that, are lexical items used to indicate contextual distance. In spite of their minimal semantic specificity, they can trigger attentional shifts and establish a joint focus of attention on referents in the physical environment, thus functioning as interfaces between linguistic representations, attention and perceptual processes.

No research has been conducted on how this peculiar intertwining between linguistic, attentional and perceptual processes is implemented in the brain.

This may be due to the fact that studying demonstratives raises methodological challenges. As their meaning hinges on the context of utterance, attempts at investigating their neural underpinnings call for the need to simulate rich linguistic and physical environment within the constraints intrinsic to neuroimaging.

With these challenges in mind, we conducted a naturalistic fMRI experiment (N = 28) where participants listened to specially crafted dialogues with a controlled number of spatial demonstratives (as well as a number of other function words). The dialogue involved two synthesized voices, each recorded onto a separate channel of a stereo track. This allowed to embed the target words in both a rich linguistic context, and a 3D-like spatial setting. A fast acquisition sequence (TR = 388ms, multi-band EPI acquisition) was used to capture signal changes at word-level resolution, relying on evidence for the presence of high-frequency components in the BOLD signal (Lewis et al., 2016).

We isolated regions involved in processing spatial demonstratives via random effects univariate analyses, modelling neural response via FIR models and using RETROICOR cardiac and respiratory models for denoising.

We found bilateral posterior superior parietal activation in response to spatial demonstratives in areas associated to attentional orienting and functional representation of space, with activation being significantly stronger for distal than for proximal demonstratives. These results are compatible with behavioral evidence showing that spatial demonstratives are likely to encode the attentional status of the referent, as well as its functional perceptual- motor features (e.g. graspability).

Additionally, we submitted the parameter estimates from the univariate model to multivariate pattern analysis, so to identify patterns specific to the representation of spatial demonstratives compared to other types of referencing expressions.

Our results contribute to establishing a grounding of neural representations for spatial demonstratives onto non-linguistic perceptual and attentional resources. They also contribute to validating fast fMRI paradigms using naturalistic auditory stimuli as a reliable experimental procedure to investigate language phenomena at short time scales, within rich contexts and at a computationally sustainable cost.

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Roberta Rocca, Kristian Tylén, Mikkel Wallentin

Crocodiles, peace and harmonicas: (how) does word semantics modulate demonstrative use?

Abstract: Demonstrative reference is fundamental to human communication. Despite cross-linguistic variability in number and type of contrasts encoded, all demonstrative systems encode a binary contrast between a so-called proximal and a distal form. But which factors influence our choice of specific demonstrative forms in discourse? Previous literature has shown that the contrast between so-called "proximal" and "distal" demonstratives maps onto spatial properties of referents, such as their distance from the speaker or their position relative to a conversational dyad. Over a series of experiments, we systematically investigated whether object semantics also influences speakers' choices of either demonstrative form.

In the first two experiments, we presented English, Danish and Italian speakers with words denoting animate and inanimate objects differing in size and harmfulness, and asked them to match them with a proximal or a distal demonstrative. The aim of the experiments was to specifically target the effect of functional properties of referents in speakers' preferences for proximal vs. distal demonstrative forms. Objects that offer more affordances for manipulation (smaller and harmless) elicited significantly more proximal demonstratives. Such effects were stronger for inanimate referents, in line with the predictions of sensory-functional views on object semantics.

In a third study, we asked 2200 English speakers to match 535 different words from a semantic database (Binder et al., 2016) with either proximal or distal demonstrative forms.

Each word in the database is rated along 64 semantic features, ranging from low-level perceptual properties (e.g. visual and auditory features) to higher level cognitive properties (e.g. social and spatial dimensions). While the first studies tested a controlled set of words varying along three target dimensions, this experiment aimed at providing a comprehensive profile of the mapping between psychologically and neurobiologically grounded semantic features and demonstrative use. Using a combination of dimensionality reduction methods, supervised feature selection techniques and statistical modelling, we aimed at identifying the optimal combination of semantic components explaining observed patterns of demonstrative use.

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J. Romero-Trillo and N. E. Avila-Ledesma

Return to sender? Theconceptualization of emotions in written correspondence from the NSM perspective

Abstract: In her introduction to Family, lovers and their letters, Cancian (2010: 10) remarks that [emigrants' correspondence] "mirror the individual writers' interior psychological and emotional spaces and their views of the outside world". Although scholars have been especially skilled in analysing the historical and linguistic dynamics operating in the migrant letter, only recently has the linguistic study of emotion talk come into focus. This paper investigates the subjective experience of migration as described and construed in the epistolary discourse of the Irish emigrants that travelled to the United States and Australia/New Zealand during the nineteenth and the first decades of the twentieth centuries and their loved ones back in Ireland. More specifically, the study proposes a detailed contextualised analysis of positive emotional concepts (Gladkova &

Romero-Trillo 2014; Romero-Trillo & Avila-Ledesma 2016) such as happy and glad using the methods of corpus pragmatics (Romero-Trillo 2008, 2017) and Natural Semantic Metalanguage (Wierzbicka 1999; Goddard and Ye 2016). The historical letters on which this study is based come from CORIECOR, the Corpus of Irish English Correspondence (McCafferty and Amador-Moreno in preparation) which consists on private letters dating between 1700 and 1930 and sent from and to Irish emigrants to Argentina, Australia/New Zealand, Canada, Great Britain and the United States. The ultimate objective of this paper is to provide an in-depth examination of happiness-like terms, based on real personal correspondence sent from two different migration settings, in order to ascertain the extent to which specific migration experiences influenced the ideologies and emotions expressed in the epistolary discourse of Irish emigrants. Based on historical corpus evidence, the paper adds to the growing literature on happiness, subjective well-being and emigration.

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Pertti Saariluoma
Foundational problems in investigating interaction of language and design thinking

Abstracts: Language and thinking have often been seen as the major human characteristics. This is why it is important to study their interaction in human cognition and information processing. Technology design is one of the most important social thought processes today. This is why this context provides us with a good context to study interrelations of these two aspects of human mind. In this paper, some major theoretical problems such as how language supports thinking, explication of ideas and specific language games, will be outlines from cognitive scientific point of view.

Obviously, a number of important problems arise from thinking connections of language and thought in design processes. How design oriented vocabularies have developed, how new words effect on thinking, do experts have same meanings than novices and how the the meanings differ from each other, what is the relation of concepts and words, how does use of native language vs, foreign language effect on design thinking. All these questions enable us to rethink the relation of language and thinking.

Design processes are based on learned skills, therefore investigation into design thinking provide us with information on development language and thinking as the consequence of life-long learning. This kind of research provide us also knowledge about domains specific linguistic and cognitive expertise in investigating thinking.

In sum, in this paper the basic concepts of research to design thinking and design languages shall be discussed.

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N. Silaški and T. Đurović

The potrayal of Europe's migrant crisis in Serbian media discourse – the case of the WALL metaphor

Abstract: In order to prevent further illegal entries of migrants into its territory, in September 2015 Hungary constructed a 175km-long barrier in the form of a razor-wire fence on its border with Serbia, leaving hundreds of refugees stuck in camps in "no man's land" between Hungary and Serbia and making the latter a new migrant hotspot. The Hungarian construction of the fence inevitably had a major impact on Serbia's migrant policy as well as on the perception of Europe's migrant crisis by Serbian citizens, closely modelled around the concept of the WALL that was literally constructed by the Hungarian authorities.

From a cognitive linguistic point of view, the topic of migrant crisis seems to be a fertile ground for research "due to its rich potential for polemical and emotional language as well as its socio-political and historical significance" (Musolff, 2011: 7). Therefore, within the theoretical framework of Critical Metaphor Analysis (Charteris-Black, 2004, 2006, 2011, 2014; Goatly, 2007; Musolff, 2004, 2011, etc.), in the paper we deal with the WALL metaphor in an attempt to identify the most frequent metaphor scenarios modelled around this concept and pertaining to a critical period of the European migrant crisis. As metaphor scenarios "constitute an essential feature of metaphor use in public discourse registers" (Musolff, 2006: 28) and "help to shape the course of public debates and conceptualizations of political target topics by framing the attitudinal and evaluative preferences in the respective discourse communities" (Musolff, 2006: 28), our aim is to establish the extent to which the literal construction of the Hungarian border wall influenced the metaphorical potrayal of the migrant crisis in Serbian media discourse.

The data collection for the analysis has been extracted from several political dailies and weeklies (Politika, Večernje novosti, Blic, Novi magazin, Kurir, NIN, Vreme) as well as from relevant news portals (B92, N1, RTS, Beta, Vesti onlajn) published in Serbian during the second half of 2015. In order to clearly establish the presence of metaphoricity in our data we applied the procedure for metaphor identification proposed by the Pragglejaz Group (2007).

Two major metaphor scenarios (Musolff, 2006), triggered by the WALL metaphor, arise from our data collection: firstly, "the Fortress Europe" scenario, in which the EU seems to have cemented its borders by means of the constructed wall on the

Hungarian border, and secondly, "the Berlin Wall" scenario, which clearly establishes strict borders between the EU and non-EU space. The scenarios respectively conceptualise the united EU space surrounded by the fence which cannot be broken into, as well as the strict separation of the EU from the rest of Europe, reminiscent of the wall that now does not divide the once divided city but the whole of the European continent into the countries belonging to the EU and those out of it. The latter scenario also triggers a host of ideological, religious and social dichotomies and polarisations such as Us vs. Them, Civilisation vs. Barbarism, West vs. East, Christians vs. Others, etc.

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Kristian Skedsmo

Trouble Sources in Norwegian Sign Language Conversation

Abstract: Since the seminal work on other-initiated repair by Schegloff, Jefferson and Sacks (1977), a variety of aspects of these phenomena have been described in a wide range of contexts and different languages (see e.g. Hayashi, Raymond & Sidnell, 2011, Enfield et al., 2013 and Dingemanse, 2015). Other-initiated repairs (OIR) are among the social-interactional practices that most clearly constitute evidence of negotiation of mutual understanding, and as such, pertain to both language usage in social interaction and in the mind.

The practices employed in OIR represent a set of vital skills within communicative competence in any language. Still, such skills are rarely given their due in curricula for learning languages (Kasper, 1985; Young, 2011), except formulaic expressions considered to be polite, but rarely used in informal conversation (Dingemanse et al., 2015). With the exception of a minor Norwegian pilot study (Skedsmo, 2018), the only signed language that has so far been thoroughly examined for its OIR is Argentine Sign Language (Dingemanse et al., 2015; Manrique & Enfield, 2015; Manrique, 2016; Manrique et al., 2017).

The various trouble-sources that lead to initiation of repair have been examined as part of a project on OIR in Norwegian Sign Language (NTS) studying the practices of identifying and resolving problems of perception and understanding in dyadic and multi-party conversations. The research project is conducted with corpus data consisting of multi-camera video recordings of naturally occurring dyadic and multi-party conversations among adult, deaf, NTS using colleagues, in the physical environment of their workplaces. The video-annotation program ELAN (Sloetjes & Wittenburg, 2008) and analytic tools from conversation analysis (Sacks, Jefferson, & Schegloff, 1995) are used.

This presentation sheds light on the kinds of linguistic and communicative actions, circumstances and environments that occur prior to reported problems of perception and understanding among proficient signers of NTS; a largely understudied language. Early findings indicate that linguistic categories such as names of persons or places and temporal markings are potential trouble sources. The interpretation of these preliminary results explores the possibility that some problems with perceiving and understanding are also related to the visual modality of signed languages.

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Yury Shtyrov

Rapid build-up of neocortical representations for morphemes and words: multi-modal neuroimaging studies

Abstract: Humans learn new language elements rapidly, an essential skill which ensures high efficiency of our communication system. However, the neural bases of this important function are poorly understood. How exactly are words, morphemes and their combinations acquired by our brain, and can we track this process neurophysiologically? To this end, we suggested using electro- and magnetoencephalography (EEG, MEG) to register ERP/ERF indices of (1) long-term memory trace activation, visible in the form of enhanced brain responses to familiar morphemes, and (2) connections between morphemic representations, manifest as priming effects leading to ERP reduction. We review a body of our recent studies that used this approach to address the brain mechanisms of online learning of new language representations for monomorphemic meaningless wordforms, new meaningful words as well as novel affixes in the native or second languages. Furthermore, to tackle the causal role of the neurophysiological processes at hand, we used brain stimulation methods – transcranial direct current stimulation (tDCS) and transcranial magnetic stimulation (TMS) – to interfere with the cortical function in the learning process. Finally, we used structural MRI methods (diffusion kurtosis imaging, DKI) to understand the microstructural changes underpinning language learning in the brain.

We find that the temporal and inferior-frontal areas of the neocortex exhibit complex changes in activation patterns in the process of acquiring novel linguistic representations. These become exhibited as both an increase in activation for novel representations, and a decrease of response amplitudes for morphologically primed elements. These effects are (1) to a

substantial degree independent of attention, reflecting a largely automatic nature of initial word acquisition stages, (2) most efficient for native language, (3) present both immediately and after an overnight consolidation, (4) are used in acquisition of simple and complex words as well other morphemes (e.g. affixes), and (5) operate in both visual and auditory modalities.

By using neurostimulation techniques to interfere with modality-specific systems in the process of learning, we could show their role in the acquisition of semantics: e.g., stimulation of motor cortex using TMS affects learning of action-relation words. Modulating activity in the core language cortices using tDCS has a non-specific effect of facilitating the learning process, and may also specifically changes the balance between the acquisition of concrete and abstract language. Finally, our experiments with modern microimaging methodologies (DKI) suggest that rapid plastic changes in the microstructure of a range of cortical areas take place within even a short (40 minutes) language learning session.

These experiments show that our brain is capable of a rapid formation of new cortical circuits online, as it gets exposed to novel linguistic patterns in the input. They demonstrate that the use of a comprehensive combination of neuroimaging tools to address function, structure, dynamics and causal relationships may provide the best window on the dynamic processes of neural memory-trace build-up and activation.

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A. Slonimska and O. Capirci

Encoding transitive actions in Italian Sign Language: Agent's or patient's perspective?

Abstract: A special class of verbs attested in all signed languages, indicating verbs, does not only encodes the meaning of the verb but at the same time also deictically refers to the agent and the patient of the action. Accordingly, such verbs encode exactly transitive actions (e.g., pay, kick, kiss). Recent research shows that indicating verbs favour motivated use of space (Cormier et al., 2015). This implies that signers can map an agent onto their body by adopting agent's perspective starting the sign from the signers location and deictically refer to the patient by the final location of the sign. Although agent's perspective is considered to be typical strategy for indicating verbs (Jenzen et al., 2001), signers can also take the patients perspective by

mapping the patient onto their body and start production of indicating sign from the location to deictically refer to the agent and end production of the sign on the body of the signer. This strategy can be called passivizing perspective shift (Jenzen et al., 2001). The context in which one strategy is chosen over another has not been investigated so far.

Previous studies in vocal languages literature have found that sentence structure for encoding transitive actions is biased by the attentional focus of an agent or a patient resulting in choice of active/passive forms for encoding (Tomlin, 1997). In this experiment we aimed at investigating the interplay between attention of the signer on the general prominence of the referent (i.e., main character) and presence of an action that supposedly could shift the attentional focus of the signer from the main character to the character doing an action. Accordingly, we aimed to explore whether the shift in attentional focus would result in specific encoding strategy used- agent's perspective versus patient's perspective.

The material for the experiment consisted of 12 GIFs, 6 GIFs for each condition where we manipulated attentional focus. Twenty-three deaf adult signers described the GIFs (presented in semi- randomized order) to another deaf adult. For the present study, we annotated whether the target action was encoded from agents, patients or both perspectives.

We found that in both conditions signers were significantly more likely to encode the GIFs by mapping the main character onto their body (i.e., passivizing perspective shift). Thus, our results indicate that in LIS signers tend to take the perspective of the generally more prominent character and that the action per se does not influence the change in the strategy. Moreover, such strategy allows encoding of more fine grained information. Not only it deictically refers to the agent and patient but as well to the location of the action which arguably makes passivizing strategy more informatively efficient.

This is the first study to assess the focus of topicalization in Italian Sign language based on experimentally collected data and provides first quantitative insights in regard to the choice of linguistic strategies in encoding.

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Xiaoxia Sun

The transfer effect from language to music: A study on Chinese and Vietnamese native speaker's perceiving musical pitch

Abstract: By investigating musical pitch processing in speakers of tone vs. non-tone languages is one way to look for "language-to-music" transfer effect (Slevc, 2012). While this study was not to compare tone language speakers with non-tone language speakers, but to compare language speakers of of different numbers of tones. How speakers with different tone numbers process musical pitch is an integral part of looking for such transfer effect.

This experiment aims to investigate whether language would have a positive transfer effect to music by examining whether speakers of different numbers of tones have identical ability to perceive musical change.

This experiment recruited 13 Vietnamese native speakers and 13 Chinese Mandarin native speakers. The stimuli are note discrimination (pairs of notes), interval change (pairs of two- notes melody) and contour change (pairs of four-notes melody). The subjects listen to stimuli. They are asked to discriminate whether there is pitch change of what they heard (discrimination) or not and conduct "yes" or "no" task. This is a tonal group (Vietnamese, Chinese) * pitch discrimination (note, interval change, contour change) * distance level (>100cents, <100cents) design.

If linguistic tones have a positive transfer effect to music as previous studies showed (e.g, Deutsch 2006, 2009; Pfordresher & Brown, 2009; Hove, Sutherland & Krumhansl 2010; Bidelman, Hutka & Moreno 2013; Ngo et al. 2016), a more complicated tone language (Vietnamese in this study, which has six tones) should have a bigger effect on music than a less complicated tone language (Chinese in this study, which has four tones). That is, Vietnamese native speakers are expected to have more enhanced ability for music than Chinese mandarin speakers.

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Athena Szeto and Cassandra Foursha-Stevenson

Novel Word Learning and Executive Function in Active and Inactive Bilinguals

Abstract: The relationship between bilingualism and cognition has been studied extensively over the years with a great deal of literature both in support of and challenging the idea of a bilingual advantage. However the effect of language use on the bilingual advantage has not been commonly studied and has been suspected to be a confounding variable in bilingualism research. Previous studies have reported bilingual participants demonstrating faster reaction times (RT) and greater accuracy than monolinguals in tasks that test inhibition and task switching (e.g. de Bruin, Bak & Della Salla, 2015). Previous studies have also found an advantage for bilinguals in further language learning in which bilinguals outperformed monolingual participants by accurately recalling more novel words after a brief learning period (e.g. Kan, Sadagopan, Janich & Andrade, 2014). For this study, we wanted to examine the effect of language usage and switching between languages on executive functioning and novel word learning. If regular language use and switching (e.g. daily use) does have an effect on cognition, we predicted that participants who regularly switched between languages would demonstrate faster RT and accuracy when compared with other participants. Participants were divided into three groups, monolinguals, inactive bilinguals (bilinguals who regularly use only one language), and active bilinguals (bilinguals who regularly use more than one language), and were compared on their performance on executive function and novel word learning tasks to determine whether there is an effect of active language use. Contrary to our predictions, the monolingual group demonstrated significantly faster RT than the active bilingual group on the Simon task ($F(2, 58) = 4.50$, $p < .05$, $\eta p2 = .134$). We found no significant differences between groups' RT and accuracy in the ANT (Attentional Network Task), card sort, and novel word learning tasks. No evidence supporting a bilingual advantage as a result of language use was found in the Simon, ANT, card sort, or novel word learning tasks. Conversely, active language use can result in a disadvantage in inhibitory processing in young adult bilinguals. It is possible that active language use may exhaust cognitive resources, thereby increasing RT.

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Katrine Falcon Søby and Line Burholt Kristensen

A German, an American, and an Englishman walk into a language class … – Crosslinguistic influence in L2 Danish grammar

Abstract: How much influence does your mother tongue have on languages you acquire later in life? Is there a shared grammar between L1 and L2s? Within the field of second language acquisition, cognitive linguistics and error analysis studies, the role of crosslinguistic influence is highly debated, especially when it comes to grammar.

Previously, certain areas of language were believed to be impervious to crosslinguistic influence – e.g. morphology and syntax (Jarvis 2017). Several studies of primarily English as a second language have questioned these claims (Jarvis 2017; Thewissen 2015). In L2 Danish, the role of crosslinguistic influence has not been studied extensively. Danish is however an interesting case because of some special grammatical features: for instance V2 word order, adjective inflection for both attributive and predicative adjectives, gender, and instances where two forms sound the same but are written differently – e.g. the homophones and heterographs at motionere 'to exercise' and Hun motionerer 'she exercises' (Søby & Kristensen: forthcoming).

Some of these grammatical features occur in German, but not in English. Therefore, we examine the error profiles of two groups of L2 Danish learners in a corpus study: 28 L1 English learners (mean age 32.6 years) and 14 L1 German learners (mean age 32 years) at beginners' level. The corpus consists of written essays from a Danish language school with 8,256 words.

We report the types and frequencies of grammar anomalies in the two groups and discuss examples of differences between them. Besides highlighting the role of crosslinguistic influence, this study has consequences for language teaching practices: We account for aspects of Danish grammar that are difficult for both groups and discuss how grammar teaching can be targeted to students with different L1 backgrounds.

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Flavia Teoc

Heart is up – seats of memory in skaldic poetry

Abstract: The abstract concept of ”memory” is conceptualized in skaldic poetry through kenning metaphors that periphrase the heart and the breast, and embody domains of experience mapped usually as orientation metaphors. Knowing that the most proeminent of the orientational metaphors is good is up, the conceptualization of the heart as the very locus of memory in kennings such”the ship of thought”, ”the hard apple of the life-cliff”, ”the mountain of the mind”, or ”the rock of the fear”, illustrates that skalds used the vertical dimension of space to set the abstract dimension of memory where the positive valenced are localized. My paper will explore how this perspective of ”memory” is always mapped onto the semantic fields related to physical power health and vitality.

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E. Todisco, et al

Once upon a time in the realm of deixis. Temporal dynamics of spatial demonstratives during mother-child book reading

Abstract: Drawing on recent works in developmental psychology and linguistics (Carpenter et al., 1998; Liszkowski 2008; Yoshida & Smith, 2008; Yu and Smith, 2013), this study focuses on the importance of multimodal approaches to early adult-child deictic interactions. Speech, gesture and eye-gaze are harmoniously engaged in creating a common ground and in sharing early communicative intent (Leaven, 2016; Tomasello, 2003), as deixis, one of the first domains children move comfortably into, shows (Clark & Sengul, 1978; Diessel, 2006, 2013; Talmy, 2018). Notwithstanding, while speech (i.e. spatial demonstratives) and gesture (pointing) show a detailed deictic characterization, the role of eye-gaze falls broadly into the wide field of joint attention (Carpenter et al., 1998; Stukenbrock, 2015; Yu and Smith, 2017), with no clear relation to its linguistic counterpart and little knowledge of the temporal dynamics of their coordination. In order to fill this gap, the present study focusses on two main questions: how do verbal and nonverbal modalities work together immediately before deictic episodes? Do they show any multimodal structural priming effect during early adult- child interactions?

To that end, eight typically developed Italian children (20-33 months) have been videotaped during triadic mother-child book-reading sessions focusing on the occurrences of spatial demonstratives in a semi-naturalistic setting. Deictic occurrences have also been analysed to highlight whether they were affected by the forms produced by the interlocutors (see Pickering and Ferreira, 2008). Our exhaustive analysis of the overall deictic productions shed light on three main findings: a) the multimodal pattern preceding deictic communication is characterized by a predominant shared object attention condition led by eye-gaze, which positively correlates with children's Mean Length of Utterance and morpho-syntactic complexity level, and interweaves with the recent findings of Yu & Smith (2017) on eye-hand following patterns during mother-child interactions, b) children's (20-33 months) use of deictic communication is overwhelmingly synchronous multimodal, and further c) this synchronous multimodal deictic communication is unaffected by the deictic communication forms their caregivers take in subsequent deictic productions.

Although we acknowledge that a larger population is needed to confirm our results, we do believe that, being the first experimental study specifically concerned with the use of demonstratives in early child language, it represents an important contribution to the study of multimodal adult-child interaction and provides a first attempt for a more fine-grained picture of the verbal and nonverbal interactive nature of deixis in the very early phases of language acquisition.

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Fabio Trecca, Kristian Tylén, Riccardo Fusaroli, Christer Johansson & Morten H. Christiansen

"Gik guldfisken ind i butikken?": Cross-Scandinavian differences in reliance on top-down information in spoken language processing.

Abstract: Research has suggested that Danish may be intrinsically harder to understand and learn both as L1 (e.g., Bleses Basbøll, & Vach, 2011) and L2 (e.g., Gooskens et al., 2010) than closely related languages such as Norwegian. The phonetic structure of Danish, which — unlike that of its Scandinavian neighbors — is characterized by pervasive reduction processes (e.g., Basbøll, 2005), has been hypothesized to make processing particularly challenging by blurring boundaries between words and degrading the morphological information at the end of words. To compensate for this qualitatively reduced input, speakers of Danish may develop implicit top-down strategies in sentence processing that make them more reliant on contextual information and prior knowledge (e.g., Kintsch, 2005; Marslen-Wilson & Welsh, 1978) than speakers of closely related languages. This attainment may make Danish communication less prone to breakdowns especially in situations of "noisy" language use (e.g., Gibson, Bergen, & Piantadosi, 2013).

Building on previous studies investigating the relative weight of top-down cues in sentence processing (e.g., Dabrowska & Street, 2006; Gibson et al., 2013), we tested this hypothesis by presenting adult native speakers of Danish and adult native speakers of Norwegian with a number of short stories in a sentence-picture matching experiment. In each story, the main

event was either semantically plausible (e.g., The boy bought a goldfish for his sister) or implausible (The goldfish bought a boy for its sister); likewise, the premises of each story were manipulated to be either semantically plausible or implausible (e.g., The boy walked into the store vs. The goldfish walked into the store); additionally, the syntactic structure of the story was manipulated, so that the main event occurred in sentences with either active vs. passive or propositional object vs. double object sentences structures. Different degrees of semantic incongruency in the narrative as well as syntactic complexity defined different levels of informational noisiness of the language input. For each story, comprehension accuracy was assessed via picture matching, and online language processing was measured via mouse-tracking.

The results showed that comprehension accuracy diminished as a function of semantic and syntactic complexity in equal measure for both language groups. However, analyses of real-time processing revealed interesting cross-linguistic differences, suggesting that speaker of Danish rely more on contextual information when processing spoken Danish, than Norwegian adults processing spoken Norwegian. Implications of these results for fundamental psycholinguistic and pragmatic questions will be discussed.

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Nella Trofimova, Svetlana Kiseleva, and Irina Rubert

Smell of love: Olfactory metaphor in Romanic discourse

Abstract: The paper tackles the question of smell semantics and semiotics in the context of intimate communication of sexes. The authors analyze the linguistic representation of different characteristics of woman's and man's smell, identify specific features of single lexemes' use for the transmission of olfactory sensations.

The analysis shows that the main thematic area in describing of olfactory aspect in romantic discourse is the nomination of a physiological impact on a partner who senses the existential necessity of perceiving the smell of the beloved woman or man. To verbalize this effect, metaphors are used which represent smells of sexes differently: women's smell acts as a peremptory aggressor, and the smell of a man is perceived as a tyrant who suppresses, paralyzes the woman's will.

An important means of describing female scent in romantic discourse is the so-called synesthemia that represents the smell as a life-sustaining food, as a thirst quencher or a veil enveloping the beloved person with an invisible cloud.

A special evaluation range of the beloved person's smell is represented by comparisons with flowers and fruit, traditionally presented as sources of fascinating aroma.

In conclusion, the authors construct as an example a cognitive model of female smell that connects the described linguistic facts into a logically connected scenario.

So, the woman's smell is described as her invisible clothing, it is light and inconspicuous. For the man in love it replaces the vital air, in its absence the man simply suffocates.

A man in love enjoys the smell of woman's hair and skin, which smell pleasantly like flowers and fruits, the "honest" fragrance is associated with intimate experiences.

The smell of a beloved woman is gentle, its assessment takes the entire positive scale from "good" to "divine".

In situations of passion for a woman, her smell is represented as an aggressor, it pervades the man in love, destroys his moral foundations, manipulates his biological essence. The smell is perceived as a poison that stupefies, deafens, intoxicates.

This olfactory cognitive model confirms the opinion of the smell genius P. Susskind that persuasiveness of the smell is an irrefutable, undeniable and stronger than words. The romantic olfactory topic allows us to understand more deeply the surprising euphoric borderline state of consciousness, which we call love, and to solve the paradoxical situation of being between the subjective emotionality and rationality of the collective language.

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Emilia Tuuri

Tracing Paths and Directions in Finnish

Abstract: This presentation focuses on expressions of Path and Direction in Finnish. It relates the patterns found in motion descriptions of Finnish, an alleged satellite-framed language (Talmy 2000), to the discussions of motion typology. Relatively extensive data collected from 50 native Finnish speakers with visual elicitation stimuli (Ishibashi et al. 2006) allow for the study of language-internal variation alongside typological points of view. The study is based on an ongoing cross-linguistic project.

The categories of Path and Direction (as defined by Zlatev 2007) differ from each other in relation to spatial boundedness: When expressing Path, the trajectory is presented as having a starting point (e.g. ulos luolasta 'out of the cave'), an end point (e.g. sisään luolaan 'into the cave') or a middle point (e.g. pihan poikki 'across the yard). In the case of Direction (e.g. ylöspäin 'upwards', talolta poispäin 'away from the house') motion is presented as unbounded. In my presentation, I will show how the means of expression for these categories in Finnish are diverse, partly intersecting, and situationally defined. The different phases of Path are asymmetrical, regarding both frequency and complexity. Granularity of expression in the middle point of Path is unexpectedly high considering a generalization that it typically is a category less elaborated than the beginning and end of Path (cf. Papahagi 2011).

I will pay special attention to descriptions of crossing a spatial boundary. These expressions are most typically discussed with respect to verb-framed languages that are known to have constrained resources for boundary-crossing (cf. Aske 1989). A language like Finnish that allows boundary-crossings with all kinds of motion verbs should be rather uninteresting from this point of view. However, the fact that Manner verbs are allowed in boundary-crossing situations does not necessarily make them the primary means of expression (cf. e.g. Taremaa 2017). In Finnish, the deictic verbs mennä 'go' and tulla 'come' seem to be rather strongly connected to boundary-crossings, creating a pattern of "existential deixis" to the borderlines of Path and Direction.

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Mari Uuskula

Why water is grey in Estonian: on a culture-specific colour term vesihall

Abstract: Colour vocabulary seems to be constantly changing and fluctuating because of emerging concepts, technological advances and the growing fashion industry. Although the colour domain is in a state of flux, nearly every language has preserved culture-specific colour terms or colour expressions which are mainly known and used within one language and culture community and might therefore cause translation dilemmas. Among these colour words and concepts are the Estonian adjective vesihall, which should literally be translated into English as water grey, together with potisinine literally 'pot blue', rabarberiroosa 'rhubarb pink' and others. Leaving the rather anglo-centric theory of basic colour terms aside, this study concentrates on the semantics of vesihall and explains its meaning through semantic analysis. The data are extracted from 153 native Estonian speakers and are gathered using well-known psycholinguistic field methods such as a free-listing task combined with a colour naming task (Davies & Corbett 1994). Although we observe that this colour term has a strong tendency to get listed by the participants in the free-listing task (Uuskula & Bimler 2016: 73), its rather restricted use in reference to particular colours in the colour-naming task makes it comparable to beige in many European languages (Eessalu & Uuskula 2013). With support from Estonian reference corpora, this study also analyses why vesihall belongs in the semantic memory of Estonian speakers and yet does not have a clear physical appearance in a context-free colour naming task. Whether vesihall really does have a connection with the greyness of the Baltic Sea on many days throughout the year or is just close to the heart of Estonian speakers probably remains unanswered.

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Cordula Vesper

Creating non-conventional communication systems through joint action

Abstract: Social interaction often relies on and benefits from language as a powerful coordination tool (Tylén et al., 2010). In many real-time joint action tasks, however, verbal communication is not needed or inefficient for providing useful cues for coordination (Knoblich et al., 2011). In such cases, joint action partners may spontaneously create novel, non-verbal forms of communication. For example, when coordinating their actions towards a joint goal, people often adapt the way they perform their own movements to facilitate performance for a task partner (Vesper et al., 2010). By exaggerating specific kinematic aspects of their action performance, such that the communicative function (i.e. informing the partner) is embedded in the instrumental function (i.e. performing the joint task), joint action partners can facilitate the prediction of each other's actions. It has been frequently shown that such 'sensorimotor communication' or 'signaling actions' (Pezzulo et al., 2013) supports interpersonal coordination. What is less clear, however, is whether these adaptations can lead to more stable coordination systems, that can be transferred to and understood by other people, who have not been part of the original interaction.

I will discuss this question by presenting results from two studies on movement adaptations in joint action tasks (Vesper & Richardson, 2014; Vesper et al., 2017). These studies show (1) that adjusting aspects of one's own movement such as

amplitude or timing can lead to new forms of communication, (2) that these adjustments support interpersonal coordination in the joint action situation itself and (3) that novel participants are more accurate in using kinematic cues from actions that were generated in joint action contexts fostering non-verbal, communicative exchange. Together, these results provide insights not only into our human ability to creatively solve coordination tasks but also into transitions from goal-directed actions towards transferrable communicative systems.

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Arunima Vijay, Mila Vulchanova, & Valentin Vulchanov

Is Seeing Believing? The Role of Perception Verbs in False Belief Understanding in Autism

Abstract: False belief understanding in children with Autism Spectrum Disorder (ASD) has long been linked to children's comprehension of mental verb sentential complements (I think that you ate the apple) (de Villiers, 2000; Hale and Tager-Flusberg, 2003; Tager-Flusberg 2000). As embedded clauses headed by a verb of cognition, these structures allow speakers to express belief propositions that may or may not be reflective of reality (Tager-Flusberg, 1997). However due to the abstract nature of mental verbs, this verb class has a late developmental trajectory of acquisition (Papafragou, Cassidy, and Gleitman, 2006), and this timeline may act as a confounding factor in the delayed detection of false belief understanding. Here, we present an alternative theoretical approach focusing on the easier acquired verbs of perception (sensory verbs such as see) as a proposed litmus of false belief understanding in ASD. Recent findings investigating English speaking children's production of these two verb classes have highlighted that perception verbs also take complement clauses although in smaller frequencies than mental verbs (I see that you ate the apple), but are produced in overall greater quantities early in age (Davis, Vijay, Yang, Landau, 2017; Davis and Landau, 2018; Davis and Landau (under revision)). In complement constructions, perception verbs have extended mental meanings, providing both sensory and cognitive information. We investigated Norwegian adult's production of these verb classes through the Ringstad corpus of CHILDES and found that both perception and mental verbs in Norwegian also take on the sentential complement structure. The syntactic and semantic overlap of these verb classes suggests that children's understanding of perception verb complements may be a tighter link to false belief understanding than mental verb complements. We also present on-going data from a study investigating this theory through verbal elicitation tasks and false belief tasks in 6-13 year old children with ASD, children at-risk for ASD, and neurotypical children. Together, our corpus data and on-going work suggest a novel route of exploration for false belief understanding in autism.

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A. Vogel

"There is so little scope for imagination in cookery." How metaphors are used to depict the socialization of Anne in Anne of Green Gables.

Abstract: The transition from girlhood into womanhood can be exciting, difficult, and even painful. The joys and troubles of this transition, including how to obey, challenge and stretch social conventions, have been told in fiction for young female readers, among others in Anne of Green Gables by Montgomery (1908). The focus of my study is how Montgomery makes use of metaphors in order to describe Anne's socialization and how these are preserved, developed, or omitted in a translation into Swedish. I apply the MIPVU-method (Steen et al., 2010) which I combine with a pragmatic analysis in order to perform a critical metaphor analysis (Charteris-Black 2004). To account for the transfer from the English source text to the Swedish target text I work with a Translation Studies model (van den Broeck 1981, Toury 1995). Data have been gathered from a chapter where Anne invites Diana to tea and unintentionally intoxicates her with wine. Preliminary results show that both in the source text and the target text, metaphors grounded in the scheme CONTAINMENT play an important role. What is described as desired behavior is placed inside the CONTAINER, such as in the example there is so little scope for imagination in cookery. Here, cookery is construed as a container that a grown-up woman must spend time in, and from which fantasy must be excluded. Further, the source text appears to be more dynamic, thanks to metaphors originating from MOTION schemes, such as Marilla gave me a dreadful scolding, while the target text conveys a more static impression, through metaphors from SPATIALITY schemes, such as gräl̈ade hon rysligt på̊ mig 'she scolded me badly [literally: she scolded **on** me badly]. By the addition of similes, Anne is depicted as smaller and cuter in the target text compared to the source text; said Anne, forgetting to be dignified and jumping up quickly is translated into sade Anne, glöm̈de sin värdighet och skuttade upp som en kattunge 'said Anne, forgetting to be dignified and jumping up **like a kitten'**. Overall, the author makes abundant use of metaphors to describe the transition from girl to woman, and these are either preserved or slightly modified by the translator, in the latter case creating a somewhat tamer or cuter impression.

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M. Vulchanova, et al
U-shaped trajectories in L2 learning: Testing the dual processing hypothesis

Abstract: U-shaped trajectories are well-established in the acquisition of first languages. A U-shaped curve presupposes that some behaviors appear, disappear, and then apparently reappear over time. In first language acquisition the U-shaped curve is best illustrated on the developmental trajectory of regular and irregular verb morphology, as e.g., in the English past tense forms. Children acquiring English as a first language would typically initially produce correct past tense forms of certain frequent verbs (most often these are irregular forms), after which correct past tense production dramatically declines (with a mix of errors in both regular and irregular forms), eventually to accelerate and become correct again. This phenomenon has, among other grammar facts, given rise to Pinker's dual processing account regarding two parallel mechanisms which might underlie grammar competence: associative memory and symbol manipulating rules (Pinker, 1998; 1999).

While initially there has been an interest in the possibility of U-shaped curves in L2 acquisition, primarily based on observations (Kellerman, 1985; Shirai, 1990; Sjoholm, 1989), almost no study has approached this experimentally. Furthermore, U-shaped trajectories have primarily been addressed concerning lexical development, and mostly as the result of transfer from the L1.

We report the results of a study addressing the acquisition of past tense forms in English as an L2 in native speakers of Norwegian. We employed a cross-sectional design recruiting students at different levels of proficiency in 8th grade (N=20), 9th grade (N=20) and 10th grade (N=20). They were tested using an on-line form on regular and irregular past tense forms of verbs and plural forms of nouns implementing verb morphology elicitation modelled on the classical Wug-test design (Berko-Gleason, 1958). In addition, we collected data on the students' English proficiency, both in grammar and vocabulary to seek underlying concurrent predictive relationships with performance on the experimental task. We hypothesized that, if the U-shaped curve can be documented in the acquisition of English morphology, we would observe significant differences between the 3 groups of L2 language learners in accuracy of performance. In the talk, we present preliminary data from the on- going study and discuss it form the point of view of the suggested universality of U-shaped learning, rather than simply the result of L1 transfer. Such evidence will also speak in favour of the dual processing mechanism as underlying both L1 and L2 acquisition.

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M. Wallentin
Gender differences in language. A no-brainer?

Abstract: This presentation brings together a large corpus of research on sex and gender differences in language and brain, including a new meta-analysis on sex differences in post-stroke aphasia. Gender differences in language can be signs of cognitive differences, but can also by themselves be the cause for such differences. Females have a slight linguistic advantage to males, but effect sizes are small and gender explains very little of the variance seen in the population (1-2%). However, males outnumber females in the lowest 10th percentile in language tests (2:1), causing males to more often be diagnosed with developmental disorders which rely on tests of language development. Gender differences in language are thus negligible, if you focus on the whole population, but if you focus on language deficits, gender differences are outspoken. Differences in voice and word-use can be observed among the genders, making it possible to decode gender from either with a high degree of certainty. One finding is that women use more 1st person pronouns, which is also observed in depression which also is more prevalent in females, opening up for a potential link. Effect sizes are again small when looking at the population level. No

gender differences are observed in the linguistic symptoms of neurodegenerative disorders. Post-stroke aphasia is more prevalent among women than among men, but this seems to be an age-effect. A link between the brain and gender differences in language is thus missing.

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H. Wang and X. Li

An Innovative Verbal Humour Design Concept for Depressive Mood

Abstract: Depressive mood exerts negative effects on our life and work. Against the current technological background more attempts can be made by design researchers to form innovative and feasible design concepts and to produce practical technical artifacts to improve the life quality of people with depression. The paper will focus on the research of Design Science and its collaboration with Neuroscience to seek approaches to help people with depression. Because verbal humour can exert positive and active impacts on both physical and mental health as well as aspects concerning social interactions, it is worthwhile investigating the cognitive mechanism of verbal humour. In essence, the intervention effect of verbal humor on depressive mood is rooted in their cognitive mechanisms. The right hemisphere of the brain has a dominant effect on both verbal humor and depressive mood; some specific brain regions, such as amygdala, nucleus accumbens, hippocampus and so on, are particularly activated during the processing of both verbal humor and depressive mood. The elicitations by verbal humor positively activate the brain regions related with depressive mood and even normalize them. In addition, studies of the cognitive processing mechanism of verbal humor appreciation can provide knowledge system, evaluation methods and intervention tools to bridge the gap of the research between Neuroscience and Design Science to facilitate the creative design processes, contributing to the transfer of positive influences of verbal humour to the technical artifacts by assisting people in regulating and managing their emotional states.

Therefore, we will propose an innovative humour design concept embodied in 6Rs model on the basis of Life-Based Design theory and Individual Knowledge System Theory. Resorting to mobile phones as the main media connecting potential users and future technical artifacts, the model is integrated with the emerging EEG-based Brain Computer Interfaces to provide a "four in one" system: real-time recording, instant feedback, effective intervention and constant reinforcement to lay more objective and reliable foundation for the implementation of the future technical artifacts.

In conclusion, the merger of Life-Based Design theory, Individual Knowledge System Theory, EEG-based Brain Computer Interface and Mobile Health presents a creative and innovative approach to applying the verbal humor research to the technology design, bridging the gap between the cognitive linguistic studies and practical applications.

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Benjamin Wilson
Nonadjacent Dependency Learning in Humans and Monkeys

Abstract: Learning and processing natural language requires the ability to track syntactic relationships between words and phrases, often separated by intervening material in a sentence. Sequence processing tasks (including artificial grammar learning paradigms and statistical learning experiments) can be designed to emulate similar phonotactic and syntactic dependencies, including between adjacent or more distantly separated stimuli. Importantly, the non-linguistic nature of these approaches makes them ideally suited to study pre-verbal infants (e.g., Saffran et al., 1996) or nonhuman primates (e.g., Fitch and Hauser, 2004). Cross- species comparative approaches can provide insights into the evolution of these language- relevant abilities, identifying domain-general cognitive processes and neural systems that might be broadly evolutionarily conserved, and those which might have specialised in humans.

Nonhuman primates are able to implicitly detect dependencies between adjacent elements in sequences of auditory or visual stimuli. Moreover, these processes appear to be supported by homologous brain areas in humans and monkeys, suggesting a common evolutionary origin (reviewed in Wilson et al., 2017). However, in language, syntactic relationships exist not only between adjacent words, but also across longer distances, requiring the processing of more complex nonadjacent dependencies.

Evidence from a number of sources suggests that monkeys and humans are also able to detect nonadjacent dependencies between certain types of stimuli (e.g., Newport et al., 2004). However, there appear to be constraints on the circumstances in which the learning of nonadjacent dependencies occurs (Wilson et al., 2018), as I will discuss. I will show data from comparative experiments demonstrating that monkeys, but also many humans, fail to detect nonadjacent dependencies

when informative adjacent dependencies are also available (Wilson et al., 2015; Milne et al., 2018). Finally, I will present new data, directly comparing the learning of adjacent and nonadjacent dependencies in adult humans and macaque monkeys. The results demonstrate important similarities but also intriguing differences across the species, shedding light on the evolutionary origins of the ability of these abilities. These experiments pave the way for comparative neuroimaging studies, which will clarify the brain networks which support the learning and processing of different types of dependencies in humans and monkeys. This comparative approach can provide valuable insights into the evolution of the language system, identifying both evolutionarily conserved, domain-general cognitive and neural systems and those which may have specialised in humans for language.

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Olga Yarygina and Svetlana Stepanenko
On linguoperceptive peculiarities of the "life" image in literary discourse

Abstract: The research is supposed to further the study of deep structures of the prior considered module-relationship "perceptions-verbalised images" (see Yarygina 2017) and explicates some of the cognitive features of the linguoperceptive image of LIFE. Some cognitive peculiarities of the issue under study are distinguished and analysed in Julian Barnes's discourse. The image 'life' is considered one of the paramount integral parts of the integrative module-relation in question, and proved to contribute greatly to the true understanding of Julian Barnes's picture of the world.

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Vitor C. Zimmerer, Ewa Dąbrowska, Rosemary A. Varley
The syntax-lexicon continuum: Explaining variation in aphasic language

Abstract: Prominent approaches to explaining language in aphasia are based on generative "words and rules" theories (e.g. trace deletion, double dependency, tree-pruning, discourse linking). However, generative theories have been challenged by a range of observations such as:

a) The preservation of formulaic language, which can have a formally complex syntactic structure.

b) Verb bias effects predicting aphasic performance, e.g. passive sentences are easier to process if they contain a passive-loving verb such as injure.

c) Cases where the formally more complex grammatical construction is preferred over the simpler construction, e.g. plurals over singulars or passives over actives.

These phenomena are pervasive enough that they need to be captured within the core theory.

We review the data and show how they can be explained using the framework of usage- based Construction Grammar, and its main innovation, the syntax-lexicon continuum. In this theory, all linguistic knowledge is described in terms of constructions which differ in complexity and their degree of concreteness/abstractness. The framework predicts a large number of lexically specific expressions and grammatical frames, each having meaning and being subject to frequency effects. We pay particular attention to passive constructions, which have been a traditional testing ground for theories of aphasia.

We also discuss clinical implications and introduce a tool for measuring usage-frequency properties of language output.

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J. Zlatev, et al

Holistic Spatial Semantics reveals different patterns of motion description in Swedish, French and Thai

Abstract: Motion event typology has moved beyond the Talmian binary S/V typology to include (a) clearer definitions of key concepts such as Path (Imbert, 2012), (b) an open-ended typology, focusing on different constructions (Croft, et al., 2010), and (c) usage-based data showing extensive variation (Berthele, 2013). Naidu et al. (2018) document this trend, and propose a particular theoretical model, Holistic Spatial Semantics (HSS) to address current challenges. In short, the model proposes 10 universal categories of spatial meaning (Frame of Reference, Path, Direction, Motion, Region, Figure, Landmark, Manner, Cause, Shape) and that these can map in many-to-many ways to form classes, either overtly (as part of lexeme's conventional meaning) or covertly (in the context). For example, in (1) Motion and Manner are conflated in the main verb, Region is locally expressed by the preposition, but Path is covertly specified, by the construction as a whole, along with world knowledge.

(1)	Marie	a	couru	dans	la cuisine	
Marie	AUX	run.PST-PTCPin		DEF kitchen		
Figure		Motion+Manner		Region:In	LM	=>Path:End

Using this model and based on Frog Story narratives, Naidu et al. (2018) showed that Thai (Tai-Kadai) and Telugu (Dravidian) speakers used significantly different proportions of the HSS categories in the expression of self-motion events. In the present study, we compare Thai with two languages that may be considered typical for the original Talmian model: Swedish and

French, and look at a wider variety of events and constructions. 20 adult native speakers of each of the three languages were provided with 38 video-recorded translocative events. The stimuli varied with respect to causation and boundedness. The participants' descriptions were recorded, transcribed, segmented into clauses, and coded for the 10 HSS categories, plus covert expression.

As could be expected from the Talmian model, Manner was expressed more often in the Thai (62%) and Swedish (61%), than in the French (29%) descriptions. However, (bounded) Path was also expressed less often (35%) in the French descriptions than in Swedish (55%) and Thai (53%). To some degree, the French speakers compensated with covert expressions of Path, as in (1). Thai speakers, on the other hand, expressed Direction (i.e. unbounded motion) much more often (74%) than the Swedish (41%) or the French speakers (32%). There were also differences when considering self-motion and caused motion constructions separately. In sum, there are both qualitative and quantitative differences between the three languages that cannot be accounted for in any binary typology.

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