



university of  
 groningen

faculty of arts

THE 43RD EDITION OF  
**TABU DAG**

INTERNATIONAL  
LINGUISTICS  
CONFERENCE

GRONINGEN  
JUNE 15 & 16  
2023

# Book of abstracts

SPONSORS:



rijksuniversiteit  
 groningen

groninger universiteitsfonds



FRYSKE AKADEMY



# Contents

Welcome by our chair and the committee	4
Conference programme	6
Conference locations	12
Good to know	15
About TABU Dag	15
Location	15
Sustainability	16
Volunteers	16
Lunch	16
Conference dinner	16
Closing drinks	17
Coffee coupons	17
Code of conduct	17
Keynote speakers' abstracts and bios	18
Prof. dr. Simone Pfenninger (University of Zürich)	18
<i>Life-course distinctiveness and high-stakes thresholds</i>	
Prof. dr. John A. Bateman (Universität Bremen)	19
<i>To what extent should the linguistics of the future remain language-centred? A view from multimodal semiotics</i>	
Dr. Sacha Beniamine (University of Surrey)	20
<i>Who cares about comprehension?</i>	
Prof. dr. Naomi Nagy (University of Toronto)	21
<i>Heritage Languages: Extending Variationist Approaches</i>	
Workshops and demonstrations	22
Parallel sessions	23
Parallel session 1	23
Talk 1	23
Talk 2	24
Talk 3	25
Parallel session 2	26
Talk 1	26
Talk 2	27
Talk 3	28

<b>Parallel session 3</b>	<b>29</b>
Talk 1	29
Talk 2	30
Talk 3	31
Talk 4	32
<b>Parallel session 4</b>	<b>33</b>
Talk 1	33
Talk 2	34
Talk 3	35
Talk 4	36
<b>Parallel session 5</b>	<b>37</b>
Talk 1	37
Talk 2	38
Talk 3	39
<b>Parallel session 6</b>	<b>40</b>
Talk 1	40
Talk 2	42
Talk 3	43
<b>Parallel session 7</b>	<b>44</b>
Talk 1	44
Talk 2	45
Talk 3	46
Talk 4	47
<b>Parallel session 8</b>	<b>48</b>
Talk 1	48
Talk 2	49
Talk 3	50
Talk 4	51
<b>Poster presentations</b>	<b>53</b>
Poster session A – Thursday, June 15th	53
Poster session B – Friday, June 16th	79

# Welcome to TABU Dag!

Groningen can be beautiful this time of the year. The trees are lush green, the sky is sometimes clear, and you can almost hear the Noorderplantsoen park inviting you to sit on a bench and read a book in the company of a local seagull. And, most importantly, there is TABU Dag.

This year's edition of TABU Dag will be well remembered - among others, thanks to you. It was to our astonishment that we have received one of the highest numbers of submissions in the long history of the conference. The selection process was far from being easy. The final programme consists of the most fascinating papers that represent the beautiful diversity of approaches to studying language and communication - often defying the borders of classical linguistics.

This edition of TABU Dag will also be remembered because of our brilliant guests. We have invited the greatest specialists in their fields to give keynote lectures at our conference. We are very grateful to Simone Pfenninger, John Bateman, Sacha Beniamine, and Naomi Nagy for accepting the invitations and coming from all around the world to join us. Presenters: don't miss the opportunity to listen to their talks!

During TABU Dag, we all gather to learn from each other, connect, and network. Therefore, once your thirst for knowledge is satisfied, you can do something about the regular thirst. Please join us during the conference dinner on Thursday and closing drinks on Friday!

If need arises, you can easily find the organizing committee in the crowd. We wear red University of Groningen t-shirts and we will gladly help you with anything.

On behalf of the organizing committee,  
Maciej Grzenkowicz  
Chair of TABU Dag 2023

# TABU Dag 2023 is organized by



**Angela Cristiano**

PhD student



**Liset Rouweler**

Coordinator  
PhD alumnus



**Maciej Grzenkowicz**

PhD student



**Hedwig Sekeres**

PhD student



**Alexander Martin**

Assistant professor



**Kim Vos**

PhD student



**Janine Rook**

PhD student



**May Y. Wu**

PhD student

# Conference programme

## Thursday, 15th June

**8:30 - 9:30**

**Conference registration\***

Academy Building, Bruinzaal

**9:30-9:40**

**Welcome by the director of the Center for  
Language and Cognition Groningen,  
prof. dr. Gertjan van Noord**

Academy Building, Geertsemazaal

**9:40-10:40**

**Keynote lecture by Simone Pfenninger**  
***Life-course distinctiveness and high-stakes***  
***thresholds: How to find evidence of non-linearity***  
***in language learning across the lifespan***

Academy Building, Geertsemazaal

**10:40-11:00**

**Break with coffee, tea, and snacks**

Harmony Building, The Canteen

**11:00-12:00**

**Parallel session 1 / Parallel session 2**

Academy Building, A2 / Academy Building, A3

**Parallel session 1**

Nike Francesca Del Quercio

*Contemporary Italian between explicit and implicit norm: A survey on the use and  
perception of linguistic innovations*

Trijntje Carolien Buma

*Speak normal or be damned? The attitudes of youngsters towards four different  
accents in Dutch*

Diletta Comunello and Maria Mazzoli

*How ideologies influence linguistic perception: the Italian case of Particle Verbs*

**\*Registration also possible later at the information desk in front of the Weberfoyer**

## Thursday, 15th June

### Parallel session 2

Sofie van der Meij

*Postmortems as an environment for discussing gameplay in the tabletop game The Mind*

Lourens Kraft van Ermel, Jana Declercq, and Mike Huiskes

*"Do you have any idea what is going on yourself?": The Construction of Lay Perspectives in Dutch Primary Care Physiotherapy*

Jeunard Boekhoudt and Gregory Mills

*Does the axis of gestures affect the emergence of novel sign language?*

**12:00-13:00**

**Lunch break**

Harmony Building, The Canteen

**13:00-14:00**

**Keynote lecture by John A. Bateman**

***To what extent should the linguistics of the future remain language-centred?***

***A view from multimodal semiotics***

Academy Building, Heymanszaal

**14:00-14:30**

**Workshop: Eye-tracking  
by SR Research - EyeLink**

Academy Building, A2

**14:30-15:00**

**Break with coffee, tea, and snacks**

Harmony Building, The Canteen

**15:00-16:20**

**Parallel session 3 / Parallel session 4**

Academy Building, A2 / Academy Building, A3

**Thursday, 15th June**

**Parallel session 3**

Annetje Gleichman, Noah van den Hoeven, Britt te Winkel,  
Mandy van de Wiel, and Atty Schouwenaars  
*Comprehension of subject-verb agreement in children with DLD*

Marieke de Jong and Atty Schouwenaars  
*Comprehension of Pronominal Reference in Relative Clauses in Dutch Children:  
The Influence of Case-Marking*

Gautam Ottur  
*Serial verbs in head-final languages needn't be Kaynian --- a rebuttal from Malayalam*

Hans Wilke  
*Redefining at-issueness as a gradable concept:  
The effect of clause type and clause position on at-issue potential*

**Parallel session 4**

**(cancelled)** Freya Gastmann, Greg Poarch, and Sarah Schimke  
*Modulating factors of cross-language activation in adolescent L2 learners' word recognition*

Merel Lobo  
*"Redd for å bli misforstått" The role of linguistic normativity in the host community on the  
socioemotional and linguistic experience of migrants*

Raoul Buurke, Martijn Bartelds, Remco Knooihuizen, Wilbert Heeringa, and Martijn Wieling  
*Changing regional language speakers populations in the northern Netherlands: Contrasts  
between the Frisian and Low Saxon language areas*

Remco Knooihuizen, Evelyn Bosma, Hans Van de Velde, Femke van Seijen, and Hans de Jong  
*Variation in Frisian and Dutch verb clusters:  
The effect of standard language literacy and ideology*

**16:20-17:20**

**Poster session A**

Harmony Building, Marielokezaal and Expositieruimte

**18:00-21:00**

**Conference dinner in Wadapartja**



# Friday, 16th June

**8:30 - 9:00**

**Conference registration\***

Academy Building, Bruinzaal

**9:00-10:00**

**Keynote lecture by Sacha Beniamine**

***Who cares about comprehension?***

Academy Building, Geertsemazaal

**10:00-11:00**

**Parallel session 5 / Parallel session 6**

Academy Building, A2 / Academy Building, A12

## **Parallel session 5**

Max Reuvers

*Dead and buried, or part of who we are? The meaning of 'deadname' on r/trans*

Sara Gemelli

*"Am I ugly enough?":*

*language, discourse, and identities in an Italian incel community*

Erynn Young

*A qualitative and critical corpus analysis  
of racialized descriptors in digital activist discourse*

## **Parallel session 6**

Reihaneh Amooie and Hadi Veisi

*On the effectiveness of end-to-end text-to-speech for Persian language*

Remi Thüss and Tommaso Caselli

*COVID-19: We might need to check that!*

Jeffrey Frikken, Yfke Ongena, and Marieke Haan

*Satisficing in questionnaires: an experimental study on the effects of agree-disagree versus construct-specific and fully versus end labelled answer scales on answer patterns leading to data quality reduction*

**\*Registration also possible later at the information desk in front of the Weberfoyer**

## Friday, 16th June

**11:00 - 11:20**

**Break with coffee, tea, and snacks**

Harmony Building, The Canteen

**11:20 - 12:40**

**Parallel session 7 / Parallel session 8**

Academy Building, A2 / Academy Building, A12

### Parallel session 7

Nicolás Acuña Luongo

*Interaction between word processing and low-level visual representations in autistic college students*

Csilla Tatar, Ezra Keshet, Jelena Krivokapić, and Jonathan R. Brennan

*Early prosodic marking of sarcasm and its perception in autistic and neurotypical listeners*

Joshua Krause, Jelmer P. Borst, and Jacolien van Rij

*Investigating early frequency effects in lexical decision making using pupil deconvolution*

Dan Mu, Shuyao Li, Srdjan Popov, and Frank Tsiwah

*Is there any memory benefit in reading words aloud? Evidence from event-related potentials*

### Parallel session 8

Madison Steele and Jan D. ten Thije

*Contradictions with inclusive multilingualism in participatory bodies at Dutch universities*

Guste Staseviciute and May Y. Wu

*The Role of Silent Pauses and Hesitation Markers in L2 Oral Production: Analysing Speaking Tasks Eliciting Autobiographical Memory Retrieval*

Annalisa Arcidiacono

*Code-Switching in Bilingual Norwegian-English Speakers at the V2 Word Order Position*

Annika Rossmanith

*Socio-affective Factors, Retirement Resources, and Variability in Linear and Non-Linear L2 Trajectories of Third Age Learners*

## Friday, 16th June

**12:40 - 13:40**

**Lunch break**

Harmony Building, The Canteen

**13:40-14:10**

**Workshop: CLARIAH**

Academy Building, A2

**12:40-14:10**  
*simultaneously*

**Demonstration of the mobile laboratory of  
Speech Lab Groningen (SpraaLab)**

In front of the Academy Building, Speech Lab Van

**14:10-15:10**

**Keynote lecture by Naomi Nagy**  
***Heritage Languages: Extending Variationist  
Approaches***

Academy Building, Heymanszaal

**15:10-16:10**

**Poster session B**

Harmony Building, Marielokezaal and  
Expositieruimte

**16:30-18:00**

**Closing drinks at De Urwerker**

Just a few steps from the Harmony Building

# Conference locations

The conference will take place in two university buildings in the city centre:

## **Academy Building**

Broerstraat 5

9712 CP Groningen

## **Harmony Building**

Oude Kijk in 't Jatstraat 26

9712 EK Groningen

See the following pages for maps of both locations.

In the **Academy Building** map, the rooms designed to host the conference are highlighted. To reach the **Geertsemazaal**, enter the Academy Building through the main entrance and then turn left. At the end of the corridor turn right and walk past the canteen. Then, turn right and take the stairs to the third floor and turn left. The Geertsemazaal is on the left. The route to the stairs is designated with the purple arrows in the map of the Academy Building.

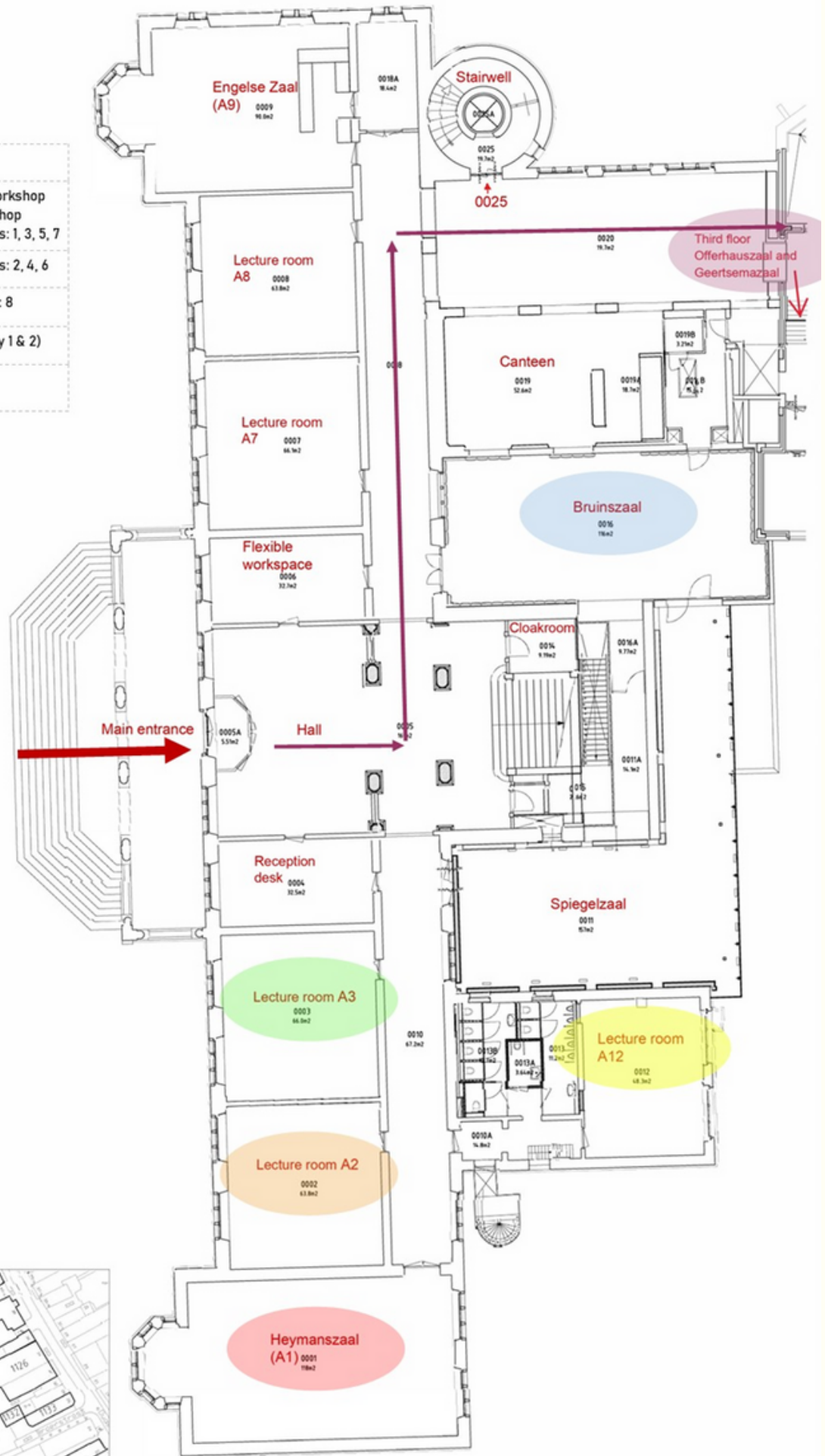
In the **Harmony Building** map, the area of the **Weberfoyer** is highlighted in red. The rooms for the poster sessions (i.e., **Marielokezaal** and **Expositieruimte**) are adjacent to the **Weberfoyer**. The **Canteen** is also highlighted, as its first floor will be reserved for the lunches and coffee breaks.

Finally, you can find the **information desk** with the TABU Recycle stand in the Harmony Building in front of the **Weberfoyer**.

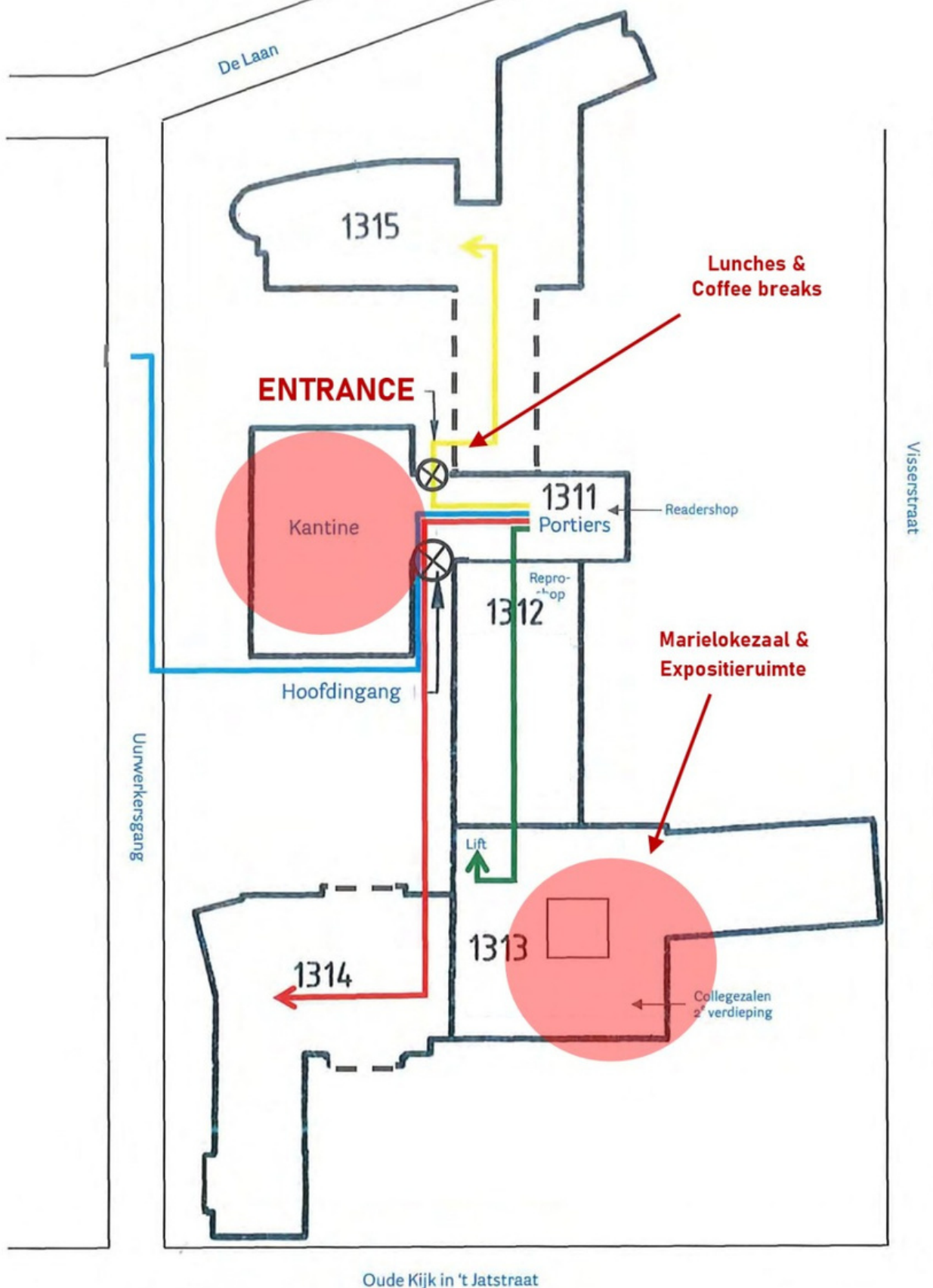
Academy Building  
Building 1111  
Ground floor

Heymanszaal (A1):	Keynotes 2 & 3
A2:	SR Research Workshop CLARIAH Workshop Parallel sessions: 1, 3, 5, 7
A3:	Parallel sessions: 2, 4, 6
A12:	Parallel session: 8
Bruinszaal:	Registration (day 1 & 2)
Geertsemazaal:	Welcome Keynotes 1 & 3

SPEECH LAB  
demonstration



# Harmoniegebouw



# Good to know

## About TABU Dag

TABU Dag originates from the University of Groningen's linguistic journal, first published in 1970 and called TABU: taalbulletin, 'language bulletin'! The conference has been held yearly for over 40 years now, delving into all the different fields of linguistics and becoming more and more established.

TABU Dag wants to be a conference organized BY PhDs and Early Career Researchers FOR PhDs and Early Career Researchers! While it is open to everyone, it can be intimidating to share our studies and get to know other researchers in the early stages of our careers. Our organizational committee involves young researchers that can relate to this, and therefore want to shape the conference to encourage participation from graduate students, PhDs, and post-docs.

## Location

TABU Dag takes place every year at Faculty of arts in Groningen. Because what better place to meet likeminded people and talk about what you love, than in the most romantic city of the Netherlands?

Have fun exploring Groningen using the TABU Dag's walking tour you'll find in the digital bag - by yourself, or with some new friends you met at the conference. Take a lovely stroll through the renaissance style garden called Prinsenhofstuin, admire the roses and sip tea in the tea house. Or, if you're in for a little adventure, why not seek it a bit higher up, at the roof of the Forum or at the Martinitower? Watch out for the notorious cyclists though, we need you in one piece at TABU Dag!



## **Sustainability**

This edition of TABU Dag has been organized to be as sustainable as possible. This means that we will serve vegan food, that we decided to go with digital conference bags to reduce waste, and that materials from previous editions, like tote bags, will be given away at a conference stand to promote recycling.

## **Volunteers**

As a committee, we would like to thank all the kind people who decided to lend us a hand by volunteering for this edition of TABU Dag. During the conference, you may spot some people wearing badges: they are our volunteers, who will help with things such as the registration process and info desk, the set-up, the wayfinding, and the organization of the poster sessions. If you feel lost or need help with something, don't hesitate to approach them, or a member of the committee.

## **Lunch and coffee breaks**

Lunch and coffee breaks will be served in the Weberfoyer for the whole duration of the conference. These will be in line with our sustainability theme as vegan options will be served.

## **Conference dinner**

For those who registered, the conference dinner will be hosted at Wadapartja (Westerhaven) on the 15th of June at 18.00. The restaurant serves a lot of local food and places great importance on sustainability, so it is a good opportunity to see what the region of Groningen has to offer!

Address:

**Wadapartja Westerhaven**

Pottebakkersrijge 21

9718 AG Groningen



## **Closing drinks**

From coffee to beers to cocktails, there is always something for everyone at De Uurwerker. Closing drinks will be on the 16th of June at 16.30. De Uurwerker is a nice spot close to the Harmony and Academy building, and it offers a wide range of drinks you can choose from to relax together with your colleagues after two intense days of linguistics!

Address:

### **De Uurwerker**

Uurwerkersplein 1

9712 EJ Groningen

## **Coffee coupons**

Do you want to explore Groningen a little bit while enjoying a drink? Or do you want to wake up with a coffee before going to the conference? During the conference days you can get one drink for free at the Chocolate Company, a nice spot situated in the city center. You can find further information on how to get your drink and the drinks you can choose from in our digital bag.

Address:

### **Chocolate Company**

Oude Ebbingestraat 72-74

9712HM Groningen

## **Code of conduct**

The spirit of TABU Dag is to encourage young researchers to share and communicate: to do so, a safe environment is crucial. We believe in integrity, equality, and respect, and we ask you to be open and kind and to adhere to this code of conduct. Any type of undesirable conduct will not be tolerated.

# Keynote speakers



**Prof. dr. Simone Pfenninger (University of Zurich)**

*Thursday, 15th June – 9:40–10:40*

Simone E. Pfenninger is Professor of English Linguistics at the University of Zurich. Her principal research areas are (variationist) second language acquisition, psycholinguistics and multilingualism, especially in regard to quantitative approaches and statistical methods and techniques for language application in education. Recent books include *SLA and Lifelong Learning* (2023, co-authored, Routledge), *The Changing English Language: Psycholinguistic Perspectives* (2017, co-edited, CUP), and *Beyond Age Effects in Instructional L2 Learning: Revisiting the Age Factor* (2021, co-edited, Multilingual Matters). She is co-editor of the SLA book series for *Multilingual Matters*, President of the International Association of Multilingualism (IAM), and Vice President of the European Second Language Association (EuroSLA).

Read more at: <https://www.simonepfenninger.eu/>

---

## **Life-course distinctiveness and high-stakes thresholds:**

### **How to find evidence of non-linearity in language learning across the lifespan**

The possible existence and nature of thresholds in the process of language learning and use across the lifespan raises many questions. For instance, although the existence of thresholds has often been suggested in various fields of linguistics – such as critical periods in infant speech perception development (Werker & Hensch 2015) and second language (L2) learning (Lenneberg 1967), internal resources thresholds (e.g. brain and cognitive reserves, Stern 2002), thresholds in language maintenance and shifts (Grin 1993), minimum comprehension thresholds in the legal community (Pavlenko et al. 2019), as well as thresholds for a diagnosis of dyslexia (Cilibrasi & Tsimpli 2020) – the search for the most likely location for a threshold has turned out to be difficult.

In this talk, I propose novel ways of detecting and estimating thresholds in the association between a continuous independent variable and a continuous dependent variable. My main focus is on retirement as a socially determined and linguistically constructed concept that potentially alters the process of cognitive aging and language acquisition, use and attrition later in life. Life course theory (Elder 1992) emphasizes that retirement, like so many other significant life events, is not an isolated event, but rather a transition and process embedded in a person's biography of prior and current roles and relationships. I suggest that this requires not only more complex, non-linear statistical models to estimate the point of change in a slope as a function of retirement, but also qualitative approaches that examine how L2 learners interpret their experiences 'here and now' as being coherent with their own internal frameworks, and how socially constructed categories are changing. I will also propose that apart from its analytical relevance, a clear concept of 'threshold' could provide a powerful tool for planning and intervention.

#### References:

- Cilibrasi, L. & I. Tsimpli (2020). Categorical and Dimensional Diagnoses of Dyslexia: Are They Compatible? *Frontiers in Psychology* 11. <https://doi.org/10.3389/fpsyg.2020.02171>
- Elder, G. H. (1998). The Life Course as Developmental Theory. *Child Development*, 69(1), 1–12. <https://doi.org/10.2307/1132065>
- Grin, F. (1993). The Relevance of Thresholds in Language Maintenance & Shift: A Theoretical Examination. *Journal of Multilingual and Multicultural Development* 14(5), 35–391.
- Pavlenko, A., Hepford, E., & S. Jarvis (2019) An illusion of understanding: How native and non-native speakers of English understand (and misunderstand) their Miranda rights. *The International Journal of Speech, Language and the Law*, 26, 2.
- Stern, Y. (2002). What is cognitive reserve? Theory and research application of the reserve concept. *Journal of the International Neuropsychological Society*, 8, 448–460.
- Werker, J. F., and Hensch, T. K. (2015). Critical periods in speech perception: new directions. *Annu. Rev. Psychol.* 66, 173–196.

# Keynote speakers



**Prof. dr. John A. Bateman (University of Bremen)**

*Thursday, 15th June – 13:00–14:00*

John Bateman is Professor of Applied Linguistics in the Linguistics and English Departments of the Faculty of Linguistics and Literary Sciences at Bremen University. He received his PhD in Artificial Intelligence from Edinburgh University in 1986. His research areas revolve around multimodal and multilingual semiotic descriptions, functional and computational linguistics, accounts of register, genre, functional variation, and natural language semantics, and formal and linguistic ontologies. He has published widely in all of these areas. Recent work focuses specifically on the semiotic foundations of multimodality and the use of interdisciplinary empirical methods for their investigation.

Read more at: <https://www.uni-bremen.de/prof-john-bateman/>

---

## **To what extent should the linguistics of the future remain language-centred?** A view from multimodal semiotics

In this invitation to discussion I briefly review some of the work emerging in several rather distinct areas where the traditional boundaries assumed between the 'language system' and other semiotics systems appear questionable. Those boundaries have served us well for over a hundred years, enabling linguistics to establish itself as a largely empirical undertaking capable of revealing deep-rooted properties both of the neurocognitive systems underlying language and of the general properties of socio-semiotic systems such as those of grammar, semantics, discourse, variation, and more. But the challenges of dealing with natural communication in highly mediated social environments accompanied by the explosive growth in techniques extending the material bases available for empirical work have made it considerably less clear that those traditional boundaries offer the best way of 'carving up' the phenomena at issue. On the one hand, there is already considerable evidence from neurocognition that properties formerly assumed to be essentially linguistic are not limited to verbal language at all. On the other hand, empirical studies of instances of communication both case-by-case and in larger corpora are increasingly demanding engagements with multiple semiotic systems even to adequately describe what is occurring. In short: humans care little about 20th-century academic discipline boundaries when communicating and so the approaches we develop for understanding communication may well need to become broader as well. As a step towards this, I will propose that an extended, semiotically more well-founded multimodal notion of 'text' may be just what we need to move forward.

# Keynote speakers

**Dr. Sacha Beniamine (University of Surrey)**

*Friday, 16th June – 9:00–10:00*



Sacha Beniamine is a Research Fellow at the Surrey Morphology Group of the University of Surrey. He received his PhD in Computational Linguistics from the Université Paris Cité (then Université Paris-Diderot) in 2018. In 2021, he was awarded a two-year British Academy Newton International Fellowship (Solving the word puzzle: morphological analysis beyond stem and affixes). From April 2023, a Leverhulme Early Career Fellowship funds his three-year project on neural models of morphological comprehension. His research focuses on the typology and evolution of inflectional systems. There is an exceptionally large amount of variation in how much inflectional morphology languages display, and in how morphological contrasts are expressed. His research aims to investigate this variation, discover its bounds and better understand morphological complexity. To do so, he collects and curates large lexicons for languages across the world, and produces computational tools to systematise linguistic analyses and scale up typological investigation.

Read more at: <https://sacha.beniamine.net/>

---

## Who cares about comprehension?

Linguistic communication involves two perspectives: that of a speaker (or, more generally, producer) and of a listener (or, more generally, receiver). Despite this, many linguistic theories are articulated around production, and formulated as generative devices, and dedicated either to deriving surface utterances from more abstract representations or to quantifying and characterising the basis for productive inferences. Perhaps a sign of this general focus is the fact that the word "speaker" has come to refer to humans as linguistic agents in general.

This talk takes the opposite perspective, and shows how attending to the information available for comprehension rather than production changes our perspective on linguistic theory. I focus on inflectional morphology and ask: Given an inflected wordform, what, in its shape, allows speakers to infer its morpho-syntactic properties? I describe a new theory of morphological exponence, grounded in set theory and fully implemented, which describes the distribution of discriminative sub-strings in inflectional paradigms.

Along the way, we will take two detours through orthogonal but interlocking questions, both illustrated on inflectional morphology, and with a wider scope across linguistics (sub)-fields. First, how can we scale up typological investigation using computational methods? I describe a data-direct approach which aims to automatically construct comparable linguistic analyses, with implemented pipelines leading all the way from minimally analysed data to measurements and comparisons. Second, I dive into matters of data management and standardisation: how concretely can we create long-lasting, reusable, high quality open datasets?

# Keynote speakers

**Prof. dr. Naomi Nagy (University of Toronto)**

*Friday, 16th June – 14:00–15:00*



I received my PhD from the University of Pennsylvania in 1996, working primarily with Gillian Sankoff and William Labov to integrate variationist analysis of language contact patterns with endangered language documentation. My dissertation documented Faetar, an endangered variety of Francoprovençal spoken by descendants of immigrants from the French Alps who had migrated to southern Italy some 800 years earlier. In 2008, I joined the Linguistics Department at the University of Toronto. Uniting interests in language contact, variationist sociolinguistics and Faetar, I developed the Heritage Language Variation and Change in Toronto project ([https://ngn.artsci.utoronto.ca/HLVC/0\\_0\\_home.php](https://ngn.artsci.utoronto.ca/HLVC/0_0_home.php)) to examine usage and variation in Toronto's heritage languages. We document cross-generational variation in eight heritage languages, including Faetar, via conversations, questionnaires and elicitation tasks, pushing variationist research beyond its monolingually-oriented core by synthesizing methods for examining intra- and interlanguage choices made by multilingual speakers, a group comprising well over half the world's population and much of Toronto.

Read more at: <http://individual.utoronto.ca/ngn/>

---

## Heritage Languages: Extending Variationist Approaches

Heritage language speakers often feel discouraged from using heritage languages because they are told that they don't speak it well. The HLVC Project (<https://ngn.artsci.utoronto.ca/HLVC>; Nagy in press.) offsets such views by investigating heritage language variation and change across generations, in eight languages spoken in Toronto. We apply comparative variationist sociolinguistic approaches to quantitatively analyze spontaneous speech. This approach, based on a corpus of 450+ speakers, shows that variation and change across the grammar of heritage languages resembles patterns reported for majority languages, contrasting with the simplification/attrition patterns reported in many experimental heritage language studies. Comparisons across generations and across languages, for several linguistic variables will be illustrated.

The following contact-related hypotheses are contradicted by the data:

- communities with higher ethnolinguistic vitality are more resistant to contact-induced variation;
- speakers with greater affinity for or more frequent use of English show stronger contact effects;
- successive generations of speakers, with increasing contact with English, show greater contact effects.

Reference:

Nagy, N. in press. Heritage Languages: Extending variationist approaches. Cambridge University Press.  
[abstract & TOC for book].

# Workshops and demonstrations

## **Eye-Tracking Workshop by SR Research Ltd.**

Hosted by Sam Hutton / Thursday, June 15th, 14.00 – 14.30 / Academy Building, A2

This workshop will provide a brief overview of the uses of eye tracking in language research, including the use of gaze-contingent tasks and the visual world paradigm for spoken language comprehension. Students using, or thinking about using EyeLink eye trackers will discover a wealth of information, including how to optimize their hardware setup, get the most out of stimulus presentation software, and maximize, measure and report eye tracking data quality.

---

## **Workshop by CLARIAH**

Hosted by Dr. Martin Kroon, MSc / Friday, June 16th, 13.40 – 14.10 / Academy Building A2

CLARIAH is a nation-wide digital research infrastructure for the humanities and social sciences. It offers a wide range of large collections of digital data and user-friendly applications for the processing of these data. Of particular interest to TABU-dag attendees is CLARIAH's work package for linguistics (WP3). In this brief workshop, Martin Kroon will showcase a selection of user-friendly tools for linguistic research in an informal setting, to acquaint the audience with what is available and what is possible. No prior knowledge is required.

---

## **Demonstration by SPEECH LAB (SPRAAKLAB)**

Presented by Speech Lab Groningen / Friday, June 16th, 12.40 – 14.10 / In front of the Academy Building

Join us for a demonstration of our mobile laboratory, SPRAAKLAB! Explore our state-of-the-art facility used for speech research, which is fully equipped with computers, microphones, and a sound-dampened room. SPRAAKLAB is always ready for data collection and makes it possible to reach participants that are otherwise hard to find, such as participants in rural areas or clinical and/or older participant groups. At SPRAAKLAB, which you can find in front of the Academy Building, you can get a short tour of the mobile laboratory and hear more about our experiences with it in visiting participants and outreach events. Moreover, to get an idea what our data (collection) typically looks like, we will demo our ultrasound device, with which you can see how your tongue moves during speech in real-time. We look forward to seeing you at TABU Dag!



# Parallel sessions

## Parallel session 1

Chair: T. Caselli

### Talk 1

#### ***Contemporary Italian between explicit and implicit norm: A survey on the use and perception of linguistic innovations***

**Nike Francesca Del Quercio**

nike.delquercio2@unibo.it / University of Bologna

Consistent with the growing body of literature on Italian language in use (Tavoni 2002, Cella 2018, Coletti 2021), this paper presents a study on the use and perception of innovation in contemporary Italian. Doing so, it aims to provide new insights into the linguistic norms used by native speakers to inform and reorient the approach to grammar traditionally adopted in schools.

Italian native speakers seem to be torn between the explicit norm of prescriptive grammar and the implicit or social norm (D'Achille 2019) of actual use. Influenced by "linguistic shame", as defined by Serianni (2004), they struggle to accept that perceived errors may turn into linguistic innovations after being widely used for a long time by the linguistic community. Scholars (D'Achille 2019, Ballarè 2020) and speakers (Renzi 2017, Ujcich 2022) have identified fifteen highly critical features in contemporary Italian.

Therefore, we analyzed how these features are presented in middle and high school grammar books. Then, we generated a survey to investigate the actual use and perception of such phenomena. The survey was formed by 43 questions; it was administered online to Italian native speakers, controlling for gender, age, area of residence, and level of education. Hundred-fifty respondents completed the survey: most of them were women over 35, and 80% had a university degree. Respondents were equally distributed between Northern, Southern, and Central Italy.

Data were descriptively analyzed, counting the number of occurrences of each feature, and comparing them with the standard form.

Results reveal that all fifteen identified phenomena are highly critical, especially for those cases in which more variants are allowed, such as relative and personal pronouns. However, respondents also reported using some forms frequently perceived as in danger, such as the use of the subjunctive in the third conditional and the future with epistemic value.

#### References:

- Cella R., (2018). Grammatiche per la scuola. In Antonelli, G., Motolese, M., & Tomasin, L. (2018). Storia dell'italiano scritto: IV, Grammatiche. Carocci.
- Ballarè, S. (2020). L'italiano neo-standard oggi: Stato dell'arte. *Italiano LinguaDue*, 12, 469-492. <https://doi.org/10.13130/2037-3597/15013>
- Coletti, V. (2021). *Nuova grammatica dell'italiano adulto*. Il Mulino.
- D'Achille, P. (2019). *L'italiano contemporaneo*. Il Mulino.
- Renzi, L. (2017). *Come cambia la lingua: L'italiano in movimento*. Il Mulino.
- Serianni L. (2004). Il sentimento della norma linguistica nell'Italia di oggi. In *Studi Linguistici Italiani*, vol. XXX, pp. 85-103.
- Tavoni, M. (2002). Caratteristiche dell'italiano contemporaneo e insegnamento della scrittura. In Bruni, F. (Ed.). (2002). *Manuale dell'italiano professionale: Teoria e didattica* (1. Ed.). Zanichelli.
- Ujcich, V. (2022). La correzione tra italiano contemporaneo e usi scolastici: 16 frasi corrette da 200 docenti di scuola primaria. *DIDIT. Didattica dell'italiano. Studi applicati di lingua e letteratura*, 2, Art. 2.

## Talk 2

### ***Speak normal or be damned? Attitudes of youngsters towards four different accents in Dutch***

**Trijntje Carolien Buma**

t.c.buma@student.rug.nl / University of Groningen

In this study the attitudes of university students (WO-high level of education) and vocational education students (MBO-lower/practical level of education) towards four different accents in Dutch are being examined. A verbal guise test is used to rate the four accents according to the dimensions 'status' and 'solidarity'. The accents concerned are the standard accent and nonstandard and non-native accents i.e., Randstad-Dutch (standard), British-Dutch, Polish-Dutch and Frisian-Dutch. Accents hardly ever are perceived as being neutral. From the side of the listener, accents evoke all kinds of opinions and ideas about the speaker. Especially, nonstandard accents including non-native accents, are associated with negative characteristic features. A fair amount of research has been performed on the attitudes towards non-standard and non-native accents, but mainly regarding accents in English. Besides, almost all the participants were college/university students. Whether and how level of education is a factor regarding the attitudes towards accents has not been subject of research yet. The studies that have been performed on accents in Dutch detected that in general, the Randstad-Dutch accent is considered to have high status, but low solidarity. A British accent is considered both high status and solidarity. Frisian-Dutch (more in general, regional accents), is rated low on status, but high on solidarity. Polish-Dutch (as an in-migrant accent) is expected to score both low on status and solidarity. Though, the latter accent does not have been studied in the Dutch situation before. Analyses of the data so far indicate that indeed the Frisian accent is rated high and the Polish accent is rated low on solidarity. Besides, it indicates a difference between the university (high) and vocational education students (lower) in the rating of the Randstad accent regarding solidarity. Further analysis will be performed on the impact of linguistic background on the rating of all accents.



### Talk 3

## ***How ideologies influence linguistic perception: The Italian case of Particle Verbs***

**Diletta Comunello and Maria Mazzoli**

dile.co@hotmail.it / m.mazzoli@rug.nl / University of Groningen

When National Standard Languages (NSL) come into contact with regional minority languages, the former undergoes variation and re-normativisation (see McLelland 2021; Vogl, 2012; Walsh, 2021). This happens despite the standard language ideology (SLI) that defines NSLs as stable and uniform and stigmatizes non-standard varieties and convergence to minority languages' features. Re-standardization results in the emergence of Neo-Standard (NS) varieties, such as NS Italian, which incorporate linguistic features from minority languages, i.e., Italian dialects (De Pascale et al. 2017). In particular, Particle Verbs (PVs) are an example of a feature that has entered the norm following a change in markedness (Berruto, 2017).

This study aims to investigate the acceptability of PVs in Italian and the influence of ideological factors on their perceived correctness. The research involved an Acceptability Judgement Task (AJT) and open-ended questions, which were analyzed using a thematic analysis and a regression analysis.

The analysis of the answers from 459 contributors revealed that prescriptivism and non-acceptability of PVs were strongly linked to participants' ideas about correct Italian. Participants believed that PVs were dialectal and ungrammatical in Italian, or that they were only appropriate for informal contexts. Only a minority considered PVs to be correct in Italian. The regression model showed that participants' ideologies significantly influence PVs' acceptability ( $R^2=0.19$ ,  $F(14, 12137)=214.6$ ,  $p<0.001$ ), in fact participants having a more prescriptive idea of Italian gave lower ratings to the sentences with PVs. This result highlighted the consistency between AJT's ratings and attitudes expressed in the open-ended questions.

Overall, the study demonstrates that the SLI shapes judgments about emerging features, such as PVs. This highlights the need to consider the influence of ideology on language attitudes and acceptance of linguistic features that deviate from the norm.

#### Selected references:

- Berruto, G. (2017). What is changing in Italian today? Phenomena of restandardization in syntax and morphology: an overview. M. Cerruti, C. Crocco, & S. Marzo (Eds.), *Towards a New Standard* (31-60) De Gruyter. <https://doi.org/10.1515/9781614518839-002>
- De Pascale, S., Marzo, S., & Speelman, D. (2017). Evaluating regional variation in Italian: Towards a change in standard language ideology? M. Cerruti, C. Crocco, & S. Marzo (Eds.), *Towards a New Standard* (118-142). De Gruyter. <https://doi.org/10.1515/9781614518839-005>
- McLelland, N. (2021). Language standards, standardisation and standard ideologies in multilingual contexts. *Journal of Multilingual and Multicultural Development*, 42(2), 109-124. <https://doi.org/10.1080/01434632.2019.1708918>
- Vogl, U. (2012). Multilingualism in a standard language culture\*. In O. Moliner, U. Vogl, & M. Hüning (Eds.). *Standard Languages and Multilingualism in European History*. (pp. 1-42) John Benjamins Publishing Company. <https://doi.org/10.1075/mdm.1.02vog>
- Walsh, O. (2021). Introduction: In the shadow of the standard. *Standard language ideology and attitudes towards 'non-standard' varieties and usages*. *Journal of Multilingual and Multicultural Development*, 42(9), 773-782. <https://doi.org/10.1080/01434632.2020.1813146>

# Parallel session 2

Chair: J. Declerq

## Talk 1

### ***Postmortems as an environment for discussing gameplay in the tabletop game The Mind***

**Sofie van der Meij**

t.s.van.der.meij@student.rug.nl / University of Groningen

Previous interactional research on tabletop games has focused either on how the gameplay itself is interactionally organized (e.g., Hofstetter 2020; 2021), or on everyday interaction that occurs around gameplay (e.g., Betz & Deppermann 2018). However, there are also moments during a game where previous actions and situations are discussed in hindsight, meaning that these can be considered related to the game but not a part of gameplay. This study focuses on the phenomenon postmortem as a site where previous actions are reconstructed, discussed and shared by players as they play the tabletop game The Mind. These postmortems occur at the end of a round of play, after the gameplay has, sometimes temporarily, “died”. The collection contains 48 instances of postmortems from five hours of data regarding four different groups of two or three players. The data were analyzed using multimodal conversation analysis. In this presentation, I will focus on a specific practice found in these postmortems, namely the use of conditional constructions like if...then or should have for discussing alternative realities in which other cards would have been dealt or players would have acted differently. Through those conditional constructions, players construct a narrative of what happened to them during a round of play in which they manage accountability for mistakes or losses, but also construct sharedness by verbalizing remarkable observations. In their responses, other players sometimes collaborate in constructing the shared narrative, but other times also contest it or propose alternative narratives, especially when they are blamed for losses. This study contributes to research on the activity of playing a game, but also on a more general level to existing research on how interactants (co-)construct narratives of situations that happened to them.

#### References:

- Betz, E. and A. Deppermann (2018). Indexing priority of position: Eben as response particle in German. *Research on Language and Social Interaction* 51 (2), 171-193. <https://doi.org/10.1080/08351813.2018.1449449>.
- Hofstetter, E. (2020). Thinking with the Body: Embodying Thinking as a Practice in Board Games. In S. Wiggings and K. Osvaldsson Cromdal (Eds.), *Discursive Psychology and Embodiment* (pp. 247- 273). Palgrave Macmillan.
- Hofstetter, E. (2021). Achieving Preallocation: Turn Transition Practices in Board Games. *Discourse Processes* 58 (2), 113-133, <https://doi.org/10.1080/0163853X.2020.1816401>.

## Talk 2

### ***“Do you have any idea what is going on yourself?”: The Construction of Lay Perspectives in Dutch Primary Care Physiotherapy***

**Lourens Kraft van Ermel (1), Jana Declercq (1), and Mike Huiskes (1)**

**`l.e.kraft.van.ermel@rug.nl` / (1) University of Groningen**

Lay perspectives are important in the recovery of patients with non-specific pain as they influence levels of pain and patients' pain experiences (e.g., Wertli, Burgstaller, et al., 2014). Although previous interactional research has mainly focused on patients' unsolicited attempts to share their perspectives (e.g., Ijäs-Kallio et al., 2010; Stivers, 2002), health professions also employ specific techniques to solicit them. Physiotherapists are recommended to assess lay perspectives using requests for lay diagnoses (Ten Have, 2001) and to include them in treatment (KNGF/VvOCM, 2021). However, little is known about how lay diagnoses are constructed through these requests and how physiotherapists follow up on them.

In this study, nine recordings of physiotherapy intakes were analyzed using qualitative, discourse, and conversation analytic methods. We found that requests for lay diagnoses are frequently embedded in previous health care visits (e.g., with other professionals) or patients' knowledge gathering activities. Patients often express low epistemic status when they construct their lay diagnoses. Additionally, physiotherapists' responses in the third position, such as follow-up questions, may influence the further development of patients' lay diagnoses.

We argue that these requests function specifically to create a slot for patients to provide their own view on their health problem, even if they have previously received (other) diagnoses or explanations. This also creates an epistemic interactional challenge, since these requests essentially reverse the usual epistemic dynamic of the patient providing the experiential perspective, and the medical professional doing the diagnostic work. Lastly, this study broadens understanding of lay diagnoses. Patients' lay diagnoses may include diagnoses or explanations of varying specificity. We argue that the specificity of further elaborations of these lay diagnoses is partly dependent on physiotherapists' subsequent responses to lay diagnoses. These findings can contribute to the interactional quality in physiotherapy consultations and the treatment of non-specific pain.

#### References:

- Ijäs-Kallio, T., Ruusuvaara, J. E., & Peräkylä, A. (2010). Patient involvement in problem presentation and diagnosis delivery in primary care. <https://helda.helsinki.fi/handle/10138/29637>
- Koninklijk Nederlands Genootschap voor Fysiotherapie (KNGF) / Vereniging van Oefentherapeuten Cesar en Mensendieck (VvOCM). (2021). KNGF-richtlijn Lage rugpijn en lumbosacraal radiculair syndroom. Stivers, T. (2002). Presenting the Problem in Pediatric Encounters: "Symptoms Only" Versus "Candidate Diagnosis" Presentations. *Health Communication*, 14(3), 299-338. [https://doi.org/10.1207/S15327027HC1403\\_2](https://doi.org/10.1207/S15327027HC1403_2)
- ten Have, P. (2001). Lay diagnosis in interaction. *Text – Interdisciplinary Journal for the Study of Discourse*, 21(1-2). <https://doi.org/10.1515/text.1.21.1-2.251>
- Wertli, M. M., Burgstaller, J. M., Weiser, S., Steurer, J., Kofmehl, R., & Held, U. (2014). Influence of Catastrophizing on Treatment Outcome in Patients With Nonspecific Low Back Pain: A Systematic Review. *Spine*, 39(3), 263-273. <https://doi.org/10.1097/BRS.0000000000000110>

## Talk 3

### ***Does the axis of gestures affect the emergence of novel sign language?***

**Jeunard Boekhoudt (1) and Gregory Mills (2)**

jeunardboekhoudt19@gmail.com / g.mills@kingston.ac.uk

(1) University of Groningen / (2) Kingston University London

Regarding the emergence of sign languages, researchers suggest that the increasing use of the x-axis is an indication of developmental progression in young sign languages (Padden 2016). This is because distinctions in location along the x-axis are often easier to perceive for an interlocutor in comparison to distinctions in location along the z-axis, which are distinguished only by their depth (Sato et al. 2022). Based on this, we ask if switching the mapping of x-axis movements with z-axis of interlocutors engaging in a gesture-based communication system has an effect on the sign languages that are created. To investigate this question, we conducted a collaborative experiment in Virtual Reality where we have pairs play games of charades. While playing, interlocutors are only allowed to use their left hand for gesturing/signing. In this experiment, we had pairs play charades in a Virtual Space where the mapping of x-axis movement is switched with the z-axis. The participants are ignorant of this manipulation, thus both participants are able to align/mimic each other's actions, as the manipulation symmetrically transposes both participants' movements onto each other's axes. Previous research on how sign language emerges also suggests that people from the same community often possess a shared gestural repertoire (Ortega et al. 2019), which makes it easier for people to conventionalize iconic gestures into a language. The manipulation in our experiment will also allow us to disrupt the shared gestural repertoire between participants and investigate how it affects the effectiveness of the language that emerges during the game. Our findings show that our manipulation had no significant effect on the effectiveness of the language that was created while playing our charade game. However, we did find participants adapting aspects of their own gestures to the manipulated gestures they were perceiving. We suggest that future research should try rerunning this experiment using a larger sample size.

#### References:

- Ortega, G., Schiefner, A. & Özyürek, A. (2019), 'Hearing non-signers use their gestures to predict iconic form-meaning mappings at first exposure to signs', *Cognition* 191, 103996. URL: <https://doi.org/10.1016/j.cognition.2019.06.008>
- Padden, C. A. (2016), *Interaction of morphology and syntax in American sign language*, Routledge Library Editions: Syntax, Routledge, London, England.
- Sato, A., Kirby, S. & Flaherty, M. (2022), 'Language emergence can take multiple paths: Using motion capture to track axis use in nicaraguan sign language', *Glossa: a journal of general linguistics* 7(1). URL: <https://doi.org/10.16995/glossa.6151>

# Parallel session 3

Chair: B. Hollebrandse

## Talk 1

### ***Comprehension of subject-verb agreement in children with DLD***

**Annetje Gleichman (1), Noah van den Hoeven (1), Britt te Winkel (1), Mandy van de Wiel (1) & Atty Schouwenaars (1)**

a.b.gleichman@student.rug.nl / n.l.van.den.hoeven@student.rug.nl

b.a.te.winkel@student.rug.nl / m.a.van.de.wiel@student.rug.nl / a.schouwenaars@rug.nl

(1) University of Groningen

Children with Developmental Language Disorder (DLD) have more problems with subject-verb agreement (SVA) in language production than typically developing (TD) children (e.g., de Jong, 1999; Leonard et al., 2000). Even though research has mainly focused on production, some studies show that children with DLD's comprehension of SVA is troubled too. For example, children with DLD were found less sensitive to omission of verb inflection (Rice, Wexler & Redmond, 1999). The aim of the present study is to investigate whether children use verb inflection to interpret the number of the subject.

The SVA comprehension of fourteen children (age 7-8) with DLD and 12 TD children was tested in a picture-selection task. Sentences were presented auditorily and the children had to choose between two images that only differed in number of subjects. All images were photos of Playmobil® items recreating realistic situations. Verb inflection was the only information available to correctly interpret the number of the subject and hence the sentence, as the subject itself was ambiguous between a singular and plural interpretation. The items consisted of the pronoun *ze* 'she/they', or a noun with a plural marker *-s* followed by a verb with an initial */s/*, like *de baby/'s sleet/ën* 'the baby/-ies sledges/sledge'. Besides variation in type of subject (pronoun vs. noun), the sentences differed in number of arguments, tense, and subject-verb order.

Novel findings include: (1) Regardless of the complexity of the argument structure, children sometimes consider the initial */s/* of the verb to be the plural marker of the noun. (2) Children with DLD experience difficulties in recognizing singular verb inflection both in present and past tense. (3) Children with DLD's comprehension of sentences is not influenced by subject-verb inversion.

To conclude, in comprehension, children with DLD use SVA differently and to a lesser extent than TD children.

#### References:

- de Jong, J. (1999). Specific language impairment in Dutch. Inflectional morphology and argument structure. Enschede, The Netherlands: Print Partners Ipskamp.
- Leonard, L. B., Miller, C. A., & Owen, A. J. (2000). The comprehension of verb agreement morphology by English-speaking children with specific language impairment. *Clinical Linguistics & Phonetics*, 14(6), 465-481.
- Rice, M. L., Wexler, K., & Redmond, S. M. (1999). Grammaticality judgments of an extended optional infinitive grammar: Evidence from English-speaking children with specific language impairment. *Journal of Speech, Language, and Hearing Research*, 42(4), 943-961.

## Talk 2

### ***Comprehension of Pronominal Reference in Relative Clauses in Dutch Children: The Influence of Case-Marking***

**Marieke de Jong (1) and Atty Schouwenaars (1)**

m.e.de.jong.6@student.rug.nl / a.schouwenaars@rug.nl

(1) University of Groningen

The syntactic complexity of relative clauses induces comprehension difficulties in children. Previous studies have shown that object relative clauses are more difficult to comprehend than subject relative clauses for children, who assign thematic roles linearly (e.g., Schaeffer, 2017). Contrastingly, children who speak languages with extensive case systems, such as Russian, have been demonstrated to use case-marking cues while processing relative clauses, causing them to be more accurate in comprehension than peers who speak dissimilar languages (Rakhlin et al., 2016).

The aim of the present study is to investigate whether Dutch children can integrate case-marking cues during processing of relative clauses. Although Dutch bears no case-marking on full noun phrases, it does on pronouns.

25 Dutch children aged 8-10 were tested on their ability to integrate case-marking cues during processing of three types of relative clauses in a picture selection task. Object relative clauses ("This is the boy that she calls") were the most difficult to comprehend, as participants were least accurate (~55% correct) and slowest in this condition. There was no significant difference in accuracy in the subject ("This is the girl that calls him"; ~93% correct) and passive relative clause conditions ("This is the boy that is called by her"; ~94% correct), although participants were significantly faster when responding to subject relative clauses.

As object relative clause comprehension remained a strenuous task for the participants despite case-marking cues, it can be concluded that they were unable to integrate these cues during processing. As Dutch does not have an extensive case system, children might be little sensitive to such cues and pay attention to the more salient cue of word order. These findings add to the debate on subject-object asymmetry in syntactically complex sentences and demonstrate the influence of typology on the usability of case-marking cues during relative clause processing.

#### References:

- Rakhlin, N., Kornilov, S. A., Kornilova, T. V., & Grigorenko, E. L. (2016). Syntactic complexity effects of Russian relative clause sentences in children with and without developmental language disorder. *Language Acquisition*, 23(4), 333-360.
- Schaeffer, J. (2017). Are Children with High-Functioning Autism Better at Syntax than Typically Developing Children? The Case of Dutch Object Relative Clauses. In M. LaMendola, & J. Scott (Eds.), *Proceedings of the 41st Annual Boston University Conference on Language Development* (Vol. 2, pp. 576-587). (BUCLD; Vol. 41). Cascadia Press.

## Talk 3

### ***Serial verbs in head-final languages needn't be Kaynian – a rebuttal from Malayalam***

**Gautam Ottur**

[gautamvasudevan.ottur@uni-goettingen.de](mailto:gautamvasudevan.ottur@uni-goettingen.de) / University of Göttingen

Syntacticians have searched for additional evidence to support the hypothesis of a universal underlying phrasal structure [ XP Spec [X' X Comp]] since Kayne (1994). However, the fact that a plurality of the world's languages have the surface word order SOV has raised concerns about this proposal. One argument for underlying SHC structure is the serial verb construction (SVC), wherein a series of verbal elements combine to express an event or series of events, and share the same tense, aspect, mood, and polarity (TAMP) values. Uniformity in the linear order of verbs across head-initial and -final languages has been considered as evidence of universal SHC-structure, e.g., by Carstens (2002) arguing that Ijɔ, superficially head-final, is underlyingly head-initial. I show that comparable syntactic effects are reproduced in Malayalam (Dravidian, also head-final), but that there, the Kaynian complementation structure proposed by Carstens (2002) is untenable.

Data from Malayalam suggest that pre-final verbs in Malayalam SVCs are islands, eligible for focus fronting and coordination amongst themselves, implying that they are adjuncts. These verbs cannot be considered full subordinate clauses, as they lack independent subjects and cannot be independently marked for TAMP. Although the direct objects of pre-final verbs seem to be able to bind the indirect objects of the final verb, implying c-command, it is in fact mediated by a null object pronoun in the final verb. The data also show that verb pairs may still convey resultativity without complementation, as adjuncts can introduce causational information.

Data from Malayalam thus suggest an alternative to the Kaynian analysis of SVCs. It remains to be seen whether these facts can be replicated in all serializing head-final languages, but the data presented indicate that both adjunction and complementation structures can produce the same surface linear order of VPs and have comparable effects on interpretation.

#### Selected references:

- Baker, Mark C. 1989. Object Sharing and Projection in Serial Verb Constructions. *Linguistic Inquiry* 20(4). 513–553.
- Carstens, Vicki. 2002. Antisymmetry and Word Order in Serial Constructions. *Language* 78(1). 3–50.
- Collins, Chris. 1997. Argument Sharing in Serial Verb Constructions. *Linguistic Inquiry* 28(3). 461–497.
- Collins, Chris. 2002. Multiple Verb Movement in #Hoan. *Linguistic Inquiry* 33(1). 1–29.
- Jayaseelan, K. A. 2004. The Serial Verb Construction in Malayalam. In Veneeta Dayal & Anoop Mahajan (eds.). Red. by Marcel den Dikken, Liliane Haegeman & Joan Maling, *Clause Structure in South Asian Languages*, vol. 61 (Studies in Natural Language and Linguistic Theory), 67–91. Dordrecht: Springer Netherlands.
- Kayne, Richard S. 1994. *The antisymmetry of syntax*. Vol. 25. MIT press.
- Kotowski, Ryan J. S., Enoch Oladé Aboh & Jan Don. 2021. Kwa Serial Verb Constructions and the eventive functional sequence. *Linguistics in Amsterdam* 14(2). 28–57.
- Muysken, Pieter. 1988. Parameters for serial verbs. In V. Manfredi (eds.), *Niger-Congo syntax and semantics: papers from the April 1987 workshop, Boston University*; vol. 1, 65–76. [Sl: sn].
- Veenstra, Tonjes & Pieter Muysken. 2017. Serial Verb Constructions. In Martin Everaert & Henk C. van Riemsdijk (eds.), *The Wiley Blackwell Companion to Syntax*, Second Edition, 1–51. Hoboken, NJ, USA: John Wiley & Sons, Inc.



## Talk 4

### ***Redefining at-issueness as a gradable concept: The effect of clause type and clause position on at-issue potential***

**Hans A. Wilke**

hwilke@exseed.ed.ac.uk / University of Edinburgh

At-issueness refers to the status of a clause – whether its content expresses the main point of a sentence (at-issue content) as opposed to a point that is more peripheral (not-at-issue content) (Jasinskaja, 2016; Koev, 2018; Potts, 2005, 2007). At-issue content is available to be taken up for subsequent discussion (discourse attachment) by being at the right edge of the discourse structure (Asher & Lascarides, 2003; Hunter & Asher, 2016; Polanyi, 1988; Webber, 1991). Sentences that consist of multiple clauses are generally expected to contain one (matrix) clause that carries the at-issue content– and other (subordinate) clauses whose content is not-at-issue. The traditional semantic view on at-issueness has held that the at-issue status of clauses is immutable and that, for example, Appositive Relative Clauses (ARCs) always contribute not-at-issue material (Potts, 2005, 2012). Discursive accounts and more recent experimental research, however, show that the at-issue status of ARCs can change depending on their position in a sentence (Syrett & Koev, 2015; Jasinskaja, 2016).

I report the results of six self-paced reading experiments in which reading times are measured when an ambiguous pronoun *It* is disambiguated to a referent in a subordinate clause or a matrix clause in varying positions, hence establishing discourse attachment with the clause containing the referent. Results show that not only ARCs but also temporal adverbial clauses can achieve at-issue status in sentence-final position, to the extent that they appear more at-issue than the matrix clause they follow. These findings suggest that the (not-)at-issue status of clauses is not an immutable property inherent to these clauses, but rather a dynamic property that can vary depending on both clause type and clause position. This view allows for a more comprehensive analysis of at-issue status which can better integrate ARCs and potentially other subordinate clauses into theories of at-issueness.

#### References:

- Asher, N., & Lascarides, A. (2003). *Logics of Conversation*. Studies in Natural Language Processing. Cambridge; New York: Cambridge University Press.
- Hunter, J., & Asher, N. (2016). Shapes of Conversation and At-Issue Content, *Semantics and Linguistic Theory*, 26, 1022–1042.
- Jasinskaja, K (2016). Not at issue any more [Unpublished manuscript], University of Cologne.
- Koev, T. (2018). Notions of at-issueness. *Language and Linguistics Compass* 12(12). 1–16.
- Polanyi, L. (1988). A formal model of the structure of discourse. *Journal of Pragmatics*, 12, 601–638.
- Potts, Christopher (2005). *The logic of conventional implicatures*. Oxford University Press.
- Potts, C. (2007). Into the Conventional-Implicature dimension. *Philosophy Compass*, 2, 665–679.
- Potts, C. (2012). Conventional implicature and expressive content. In C. Maien-born, K. von Heusinger, & P. Portner (Eds.), *Semantics: An International Handbook of Natural Language Meaning* (pp. 2516–2535). Berlin, Boston: De Gruyter Mouton volume 3.
- Syrett, K. & Koev, T. (2015). Experimental evidence for the truth conditional contribution and shifting information status of appositives. *Journal of Semantics*, 32(3), 525–577.
- Webber, B. L. (1991). Structure and Ostension in the Interpretation of Discourse Deixis. *Language and Cognitive processes*, 6, 107–135.



# Parallel session 4

Chair: M. Mazzoli

## Talk 1

### ***Modulating factors of cross-language activation in adolescent L2 learners' word recognition***

**Freya Gastmann (1), Greg Poarch (1), and Sarah Schimke (2)**

f.gastmann@rug.nl

(1) University of Groningen / (2) Ludwig-Maximilians-Universität München

In research on bilingual lexical processing, a word type often used to examine cross-linguistic influences is cognates, i.e., translation equivalents that share form and meaning across languages (e.g., German-English Kaffee-coffee). Bilinguals have been found to process cognates faster and more accurately than noncognates, i.e., translation equivalents without such overlap (e.g., German-English Tasse-cup). This finding is considered evidence for co-activation of languages, for which there is ample evidence during bilingual word recognition in both adults (Dijkstra et al., 2010) and children (Gastmann & Poarch, 2022); however, research with adolescent L2 learners has yielded fewer such findings.

To test language co-activation during L2 lexical processing in adolescents, L1 German low-intermediate learners of L2 English (N = 58; mean age = 13.4, SD = 0.7) were asked to perform an English Lexical Decision Task on cognate and noncognate words. Contrary to our predictions, (generalized) linear mixed effects analyses failed to replicate previous findings by yielding no cognate facilitation in accuracy and reaction time (RT) data. Post-hoc analyses, however, revealed that cognate processing was modulated by word frequency and participants' L2 English proficiency: The RT analysis yielded a three-way interaction ( $p = .048$ ) of cognate status, word frequency (SUBTLEX-Lg10; Brysbaert & New, 2009), and L2 proficiency (PPVT; Dunn & Dunn, 1997), revealing a cognate facilitation effect in less-frequent items in low(er)-proficient learners. The accuracy analysis yielded marginally significant two-way interactions, with cognate effects being restricted to less frequent items ( $p = .074$ ) and lower-proficient learners ( $p = .06$ ). In sum, no cognate effects for more frequent items and relatively higher-proficient learners emerged, possibly due to ceiling effects. These results expand previous findings of limited cognate facilitation (e.g., Bultena et al., 2014) to a younger learner population. In our presentation, we will discuss limitations of the current study and possible directions for future research.

#### References:

- Brysbaert, M., & New, B. (2009). Moving beyond Kučera and Francis: A critical evaluation of current word frequency norms and the introduction of a new and improved word frequency measure for American English. *Behavior research methods*, 41(4), 977-990. <https://doi.org/10.3758/BRM.41.4.977>
- Bultena, S., Dijkstra, T., & Van Hell, J.G. (2014). Cognate effects in sentence context depend on word class, L2 proficiency, and task. *Quarterly Journal of Experimental Psychology*, 67(6), 1214-1241. <https://doi.org/10.1080/17470218.2013.853090>
- Dijkstra, T., Miwa, K., Brummelhuis, B., Sappelli, M., & Baayen, H. (2010). How cross-language similarity and task demands affect cognate recognition. *Journal of Memory and Language*, 62(3), 284-301. <https://doi.org/10.1016/j.jml.2009.12.003>
- Dunn, L.M., & Dunn, L.M. (1997). *Peabody picture vocabulary test-III*. American Guidance Service.
- Gastmann, F., & Poarch, G.J. (2022). Cross-language activation during word recognition in child second-language learners and the role of executive function. *Journal of Experimental Child Psychology*, 221, 105443. <https://doi.org/10.1016/j.jecp.2022.105443>

## Talk 2

### ***“Redd for å bli misforstått” The role of linguistic normativity in the host community on the socioemotional and linguistic experience of migrants***

**Merel Lobo**

m.s.lobo@student.rug.nl / University of Groningen

Migration is a psychologically challenging process (Anczyk & Grzymała-Moszczyńska, 2021). It is partly made difficult by the sudden change in language (Sevinç, 2016). What factors can facilitate a positive language learning experience for migrants? How do language and wellbeing interplay? One factor that has been proposed to make a positive difference in the linguistic acculturation of migrants is the receptiveness of the host community towards linguistic diversity (Sevinç & Backus, 2017; Clément, 2003), the argument being that in a more tolerant environment migrants might experience less stigma, facilitating easy language use. This research highlights the link between language and wellbeing in the migrant context, and looks specifically to narrow down how linguistic normativity in the host country influences this process. Two groups of migrants are examined: Norwegians in the Netherlands, and Dutch people in Norway, thus eliminating potential effects of linguistic and cultural distance. The Netherlands represent the “normative” end of the spectrum of linguistic normativity (van der Meulen, 2020); Norway represents the “tolerant” side (Strand, 2015). Through questionnaires, the linguistic profiles of the participants (n=117) are mapped, as well as their self-reported language competence, attitudes and emotional landscapes. Through follow-up interviews (n=9), the interplay between these concepts is investigated in depth. This allows not only for group comparisons (if linguistic normativity is indeed a decisive factor, migrants in Norway are expected to fare better than those in the Netherlands), but also for an analysis of the interrelationships of language competence and use, positive and negative emotions, and language pressures (see also Sevinç, 2016; MacIntyre, Ross & Clément, 2019). Initial results indicate significant differences in (socio-)emotional and linguistic experiences between the groups.

#### References:

- Anczyk, A., & Grzymała-Moszczyńska, H. (2021). *The Psychology of Migration*. Leiden, The Netherlands: Brill. doi: <https://doi-org.proxy-ub.rug.nl/10.1163/9789004465237>
- Clément, R., Baker, S.C. & MacIntyre, P.D. (2003). Willingness to communicate in a second language: the effect of context, norms, and vitality. *Journal of Language and Social Psychology* 22: 190-209.
- MacIntyre, P.D., Ross, J. & Clément, R. (2019). Emotions are motivating. In Lamb, M., Csizér, K., Henry, A., Ryan, S. (eds.), *The Palgrave Handbook of Motivation for Language Learning*, 183-202. doi: [https://doi.org/10.1007/978-3-030-28380-3\\_9](https://doi.org/10.1007/978-3-030-28380-3_9)
- van der Meulen, M. (2020). Language Should Be Pure and Grammatical: Values in Prescriptivism in the Netherlands 1917-2016. In D. Chapman & J. Rawlins (eds.), *Language Prescription: Values, Ideologies and Identity*, 121-144. Bristol, Blue Ridge Summit: Multilingual Matters. doi: <https://doi.org/10.21832/9781788928380-008>

## Talk 3

### ***Changing regional language speakers populations in the northern Netherlands. Contrasts between the Frisian and Low Saxon language areas***

**Raoul Buurke (1), Martijn Bartelds (1), Remco Knooihuizen (1), Wilbert Heeringa (2), and Martijn Wieling (1)**

raoul.buurke@rug.nl

(1) University of Groningen / (2) Fryske Akademy

Regional languages in the Netherlands, such as Frisian and Low Saxon, are in decline, although there are noteworthy differences between these languages and their contexts (Driessen, 2012). Frisian is in a stronger political position than Low Saxon, because it is maximally protected under the European Charter for Regional and Minority languages, while other regional languages in the Netherlands are only partially protected (Swanenberg, 2013). Frisian is also in a stronger sociolinguistic position than Low Saxon, for example in terms of language attitudes of the speaker populations (cf. Ytsma, 2007 and Ter Denge, 2012). Moreover, Frisian is linguistically more resistant to Standard Dutch influence than Low Saxon (Buurke et al., 2022).

We supplement the existing comparisons between these languages with the results from a large-scale regional language questionnaire. The questionnaire was distributed through Lifelines, which is an ongoing cohort study in the northern Netherlands. This presented a unique opportunity to reach many regional language speakers, and the questionnaire could then be used to estimate the relative number of Frisian and Low Saxon speakers in the Netherlands in each province.

The sample of approximately 38k respondents was strongly biased towards regional language speakers, however, as we found that approximately 73 to 85% of the respondents indicated that they spoke the regional language (Frisian in Fryslân and Low Saxon in Groningen and Drenthe). We know this is too high on the basis of earlier population studies (Bloemhoff, 2005; Driessen, 2012; Provinsje Fryslân, 2020).

We used the data from previous population studies, in combination with data about generational transmission, to obtain a better estimate of the remaining speakers across generations. Moreover, we detail the differences within and between the speaker populations in terms of language attitudes, competence and use (e.g., inside and outside the home), and language acquisition patterns. These findings can be used as a contextual reference work for future studies on these languages.

#### References:

- Bloemhoff, H. (2005). Taaltelling nedersaksisch. een enquête naar het gebruik en de beheersing van het nedersaksisch in nederland. Sasland.
- Buurke, R. S. S. J., Sekeres, H. G., Heeringa, W., Knooihuizen, R., & Wieling, M. (2022). Estimating the level and direction of aggregated sound change of dialects in the northern netherlands. *Taal & Tongval*, 74(2), 183-214.
- Driessen, G. (2012). Ontwikkelingen in het gebruik van Fries, streektaalen en dialecten in de periode 1995-2011 [Nijmegen: ITS].
- Provinsje Fryslan. (2020). De Fryske Taalatlas 2020: Friese taal in beeld [Ljouwert: Provinsje Fryslân.].
- Swanenberg, J. (2013). All dialects are equal, but some dialects are more equal than others. *Tilburg Papers in Culture Studies*, 43.
- Ter Denge, G. J. M. (2012). *Linguae intergermanica: The use of Low Saxon, English, Dutch, German, and receptive multilingualism in northern Dutch-northern German communication* (Master's Thesis). Utrecht University.
- Ytsma, J. (2007). Language use and language attitudes in Friesland. In D. Lasagabaster & A. Huguet Canal (Eds.), *Multilingualism in European Bilingual Contexts* (pp. 144- 163). *Multilingual Matters*.

## Talk 4

### ***Variation in Frisian and Dutch verb clusters: The effect of standard language literacy and ideology***

**Remco Knooihuizen (1), Evelyn Bosma (2), Hans Van de Velde (3), Femke van Seijen (2), and Hans de Jong (1)**

r.m.knooihuizen@rug.nl

(1) University of Groningen / (2) Fryske Akademy / (3) Fryske Akademy and Utrecht University

A clear syntactic difference between Frisian and Dutch concerns the internal order of verb clusters in subordinate clauses. Standard Frisian only allows the “green” order, where the most deeply embedded verb is placed leftmost in the clause (1), but in Standard Dutch both the green (2) and the opposite “red” order (3) are allowed. In clusters of more than two verbs the difference between green Frisian and red Dutch is even more visible (4–5; cf. Koenenman & Postma 2006).

- (1) Jelle seit dat heit de ôfwask dien hat.
- (2) Jelle zegt dat vader de afwas gedaan heeft.
- (3) Jelle zegt dat vader de afwas heeft gedaan.
- (4) Jelle tinkt dat heit de ôfwask wol dien hawwe sil.
- (5) Jelle denkt dat vader de afwas wel zal hebben gedaan.

In recent decades, the red order appears to be on the rise in Frisian, potentially influenced by Dutch (de Haan 1997, Koenenman & Postma 2006, Hoekstra & Versloot 2016, Reitsma 2021, and others; cf. Bloem et al. 2017, Olthof et al. 2017). We know little about the sociolinguistic patterns of this potential language change in progress, although many Frisian speakers are overtly aware of the prescriptive rules (Stefan 2022: 59).

In this paper we present the first results of our experimental study of variation and change in Frisian verb clusters (cf. Lundquist et al. 2020, Reitsma 2021). Participants each produce 120 verb clusters in Frisian and Dutch in response to spoken and written stimuli. There is also a group of non-Frisian-speaking controls from the Northern Netherlands (60 clusters each).

We aim to explain the variable production of red, green and mixed word order by connecting it to language, modality and cluster type, as well as to the standard sociolinguistic factors and to self-reported language dominance, self-reported literacy in Frisian, and the results of a survey into standard language ideology.

#### References:

- Bloem, J., Versloot, A. & Weerman, F. (2017). Verbal cluster order and processing complexity. *Language Sciences* 60. 94–119.
- Haan, G. de (1997). Contact-induced changes in Modern West Frisian. *Us Wurk* 46. 61–89.
- Hoekstra, E. & Versloot, A. (2016). Three-verb clusters in Interference Frisian: A stochastic model over sequential syntactic input. *Language and Speech* 59(1). 43–58.
- Koenenman, O. & Postma, E. (2006). Veranderingen in Friese werkwoordclusters. *Nederlandse Taalkunde* 11(2). 124–145.
- Lundquist, B., Westendorp, M. & Strand, B.-M. S. (2020). Code-switching alone cannot explain intraspeaker syntactic variability: Evidence from a spoken elicitation experiment. *Nordic Journal of Linguistics* 43(3). 249–287.
- Olthof, M., Westendorp, M., Bloem, J. & Weerman, F. (2017). Synchronic variation and diachronic change in Dutch two-verb clusters. *Tijdschrift voor Nederlandse Taal- en Letterkunde* 133(1). 34–60.
- Reitsma, L. (2021). Bilingualism and contact-induced language change: Exploring variation in the Frisian verbal complex. PhD dissertation, Rijksuniversiteit Groningen.
- Stefan, N. (2022). Spoken Frisian: Language contact, variation and change. PhD dissertation, Universiteit van Amsterdam and Fryske Akademy.

# Parallel session 5

Chair: R. Knooihuizen

## Talk 1

### *Dead and buried, or part of who we are? The meaning of 'deadname' on r/trans*

**Max Reuvers**

m.l.r.i.reuvers@rug.nl / University of Groningen

In this paper, I present discourses of (dis)continuity between the pre-transition and current self that are associated with a (dis)preference for the term 'deadname' on the transgender subreddit r/trans, and the transnormativity that these discourses reflect.

Names are an important but oft-contested part of trans self-determination, and the selection and use of a name that accurately reflects one's gender identity is a core component of many trans people's transition. When others refuse to use this chosen name, and instead use their pre-transition name (or 'deadname'), they reject the trans person's gender identity and right to self-determination (Turton, 2021). As trans self-determination and others' rejection of it are central themes to many trans people's lives, names and the uptake thereof are common topics of discussion in trans spaces.

One such space is the subreddit r/trans, a dynamic, interactive, co-constructed online community by and for trans Reddit users. Online, trans-specific spaces are lifelines for many trans people, providing access to information, diverse representations of transness, and a community that shares a deeply personal experience. However, some of the discourses in these spaces perpetuate normative expectations of authentic and legitimate expressions of transness that draw on cisheteronormative ideas of gender and negatively impact the perceived legitimacy of nonconforming gender identities and expressions (Jones, 2019; Konnelly, 2022). This includes the idea that authentic and legitimate transness involves an experience of and relationship with the pre-transition self as based in trauma, constructing the transition as a break between two distinct lives. I show how discourses of (dis)continuity relate to the preference for the term 'deadname' over less common alternatives such as 'old name', and illustrate how its commonality reflects broader transnormative discourses on r/trans.

#### References:

- Jones, L. (2019). Discourses of transnormativity in vloggers' identity construction. *International Journal of the Sociology of Language*, 2019(256), 85-101. <https://doi.org/10.1515/ijsl-2018-2013/html>
- Konnelly, L. (2022). Transmedicalism and 'trans enough.' *Gender and Language*, 16(1), 1-25. <https://doi.org/10.1558/genl.20230>
- Turton, S. (2021). Deadnaming as disformative utterance: The redefinition of trans womanhood on Urban Dictionary. *Gender and Language*, 15(1), 42-64. <https://doi.org/10.1558/genl.18816>

### ***“Am I ugly enough?”: language, discourse, and identities in an Italian incel community***

**Sara Gemelli**

sara.gemelli@unibg.it / University of Bergamo/Pavia

In the diverse landscape of the Web, an ever-expanding place is occupied by the manosphere, a network of groups and subcultures who share the desire to free men from societal oppression, supposedly resulting from the achievements of women's rights movements (Nagle, 2017). One of the most well-known communities in this network is that of incels, ‘involuntary celibates’, who believe their inability to find a partner is mainly due to their physical appearance not meeting society's standards, particularly those of women.

Building on some of the recent works on the manosphere (Ging, 2019; Dordoni and Magaraggia, 2021; Jaki et al., 2019; Farrell et al., 2020; Heritage and Koller, 2020; Tranchese and Sugiura, 2021), this study investigates the use of language within an Italian incel forum, Il Forum dei Brutti (‘Forum of the Ugly’). The main aim of the research is to examine how participants create their individual identities and that of this virtual community (Castells, 2010; Androutsopoulos, 2007) through language. In particular, the study intends to analyze the configuration of the community as an in-group, in contrast to an out-group represented mainly by women.

The study employs a small corpus of 2.406 comments (around 94.000 words) manually extracted from the Forum. A descriptive analysis using Sketch Engine ([www.sketchengine.eu](http://www.sketchengine.eu)) identifies the pervasive presence of neologisms that show a high degree of creativity, seemingly aimed at reinforcing the group's identity. Subsequently, the data is analyzed using corpus-assisted Critical Discourse Analysis. The comments are manually classified into three sub-corpora based on the three main topics discussed in the community: physical appearance, in-group (represented by forum users and incels in general), and out-group (women). The IRaMuTeQ2 (Loubère & Ratinaud, 2014) tool is employed to compare the three corpora, which reveal distinct lexical peculiarities, providing a nuanced understanding of how participants write on these subjects.

#### References:

- Androutsopoulos, Jannis. 2007. Style online: doing hip-hop on the German speaking web. In Auer, Peter (ed.), *Style and social identities: alternative approaches to linguistic heterogeneity*, Berlin – New York: de Gruyter, 279–317.
- Castells, Manuel. [1996]. 2010. *The Rise of the Network Society*, Chichester: Wiley-Blackwell.
- Dordoni, Annalisa and Magaraggia, Sveva. 2021. Modelli di mascolinità nei gruppi online Incel e Red Pill: narrazione vittimistica di sé, deumanizzazione e violenza contro le donne. *AG About Gender – Rivista internazionale di studi di genere* 10(19): 35–67.
- Farrell, Tracie, Araque, Oscar, Fernandez, Miriam and Alani, Harith. 2020. On the use of Jargon and Word Embeddings to Explore Subculture within the Reddit's Manosphere. In *12th ACM Conference on Web Science (WebSci '20)*. Association for Computing Machinery, New York, NY, USA, 221–230.
- Ging, Debbie. 2019. Alphas, betas, and incels: theorizing the masculinities of the manosphere. *Men and Masculinities* 22(4): 638–657.
- Heritage, Frazer and Koller, Veronika. 2020. Incels, in-groups, and ideologies: The representation of gendered social actors in a sexuality-based online community. *Journal of Language and Sexuality*, 9(2): 153–180.
- Jaki, Sylvia, De Smedt, Tom, Gwóźdź, Maja, Panchal, Rudresh, Rossa, Alexander and De Pauw, Guy. 2019. Online hatred of women in the Incels.me forum: linguistic analysis and automatic detection. *Journal of Language Aggression and Conflict* 7(2). 240–268.
- Loubère, Lucie and Ratinaud, Pierre. 2014. Documentation IRaMuTeQ 0.6 alpha 3 version 0.1. [http://iramuteq.org/documentation/fichiers/documentation\\_19\\_02\\_2014.pdf](http://iramuteq.org/documentation/fichiers/documentation_19_02_2014.pdf).
- Nagle, Angela. 2017. *Kill All Normies: Online Culture Wars from 4chan and Tumblr to Trump and the Alt-Right*. London: Zero books.
- Tranchese, Alessia and Sugiura, Lisa. 2021. “I don’t hate all women, just those stuck-up bitches”: How incels and mainstream pornography speak the same extreme language of misogyny. *Violence against women* 27(14): 2709–2734.

## Talk 3

### *Is it black and white?*

### *Whiteness' rhetorical silence within #BlackLivesMatter social media posts*

**Erynn Young**

erynnjeann@gmail.com / University of Amsterdam

Ideology influences discourse, notably through how language is used to represent social actors. Racist ideologies like White Supremacy shape the use of rhetorical strategies for social actor representation across communicative settings. This study contributes to critical discourse studies on Whiteness' rhetorical silence (Rowe, 2000; Grimes, 2002; Crenshaw, 1997) by analyzing representational strategies used within #BlackLivesMatter activist social media posts by fashion magazines. Using corpus analytic methods, uses of White and Black as explicitly racialized descriptors are quantitatively and qualitatively compared and are contextualized within the wider sociocultural context of racialized discourse by applying van Leeuwen's (1995) representational frames for social actors as an analytic framework. The findings support claims in previous research (Rowe, 2000; Grimes, 2002; Crenshaw, 1997) that Whiteness tends to remain rhetorically silent, even within antiracist activism on social media.



# Parallel session 6

Chair: F. Tsiwah

## Talk 1

### ***On the effectiveness of end-to-end text-to-speech for Persian language***

**Reihaneh Amooie (1) and Hadi Veisi (2)**

r.amooie@rug.nl

(1) University of Groningen / (2) University of Tehran

Text-to-Speech (TTS) systems are a fundamental component of human-machine interaction systems. To build a TTS system, various approaches have been proposed. The state-of-the-art methods use deep neural networks to implement end-to-end speech synthesis models using pairs in the absence of labeling information and a separate grapheme-to-phoneme model. In this paper, we implement an end-to-end, DNN-based text-to-speech model using Tacotron for Persian to examine the effectiveness of this approach for this data-scarce language. To do so, we built a speech dataset of 49.8 hours by trimming Persian audiobooks into sentences. The audiobooks were narrated by a single professional female native Farsi speaker. The dataset comprises of 27999 short audio files and their transcriptions. We used Mean Opinion Score (MOS) to evaluate the test samples based on their quality. For testing, 21 subjects listened to 50 samples and rated them 1 to 5. The scores for the models trained with a dataset of 25 hours and a dataset of 49.8 hours were 3.18 and 3.38, respectively. We compared the results from the experiment with a Persian TTS model (Ariana robot) based on statistical parametric methods trained on around 4 hours of data that utilizes a conventional pipeline architecture. In order to evaluate the model, we used different types of sentences. The model performed differently on different sentence types, which can be attributed to the bias existing in the training dataset. Due to the unique complexities of the Persian language such as the absence of diacritics, presence of an abundance of homographs, and Ezafeh, end-to-end models trained on such amount of data do not seem to be an appropriate choice for Persian as a low-resource language. In the future works, we intend to examine transfer learning and data augmentation techniques in order to improve the quality of the output speech.

#### References:

1. Jurafsky, Daniel, James, H. M. (2009). Speech and Language Processing. Prentice Hall.
2. Wang, Y., Skerry-Ryan, R. J., Stanton, D., Wu, Y., Weiss, R. J., Jaitly, N., Yang, Z., Xias, Y., Chen, Z., Bengio, S., Le, Q., Agiomyrgiannakis, Y., Clark, R., Saurous, R. A. (2017). Tacotron: Towards end-to-end speech synthesis. arXiv preprint arXiv:1703.10135.
3. Bahdanau, D., Cho, K., & Bengio, Y. (2014). Neural machine translation by jointly learning to align and translate. arXiv preprint arXiv:1409.0473.
4. Hunt, Andrew J., and Alan W. Black (1996). Unit selection in a concatenative speech synthesis system using a large speech database. 1996 IEEE International Conference on Acoustics, Speech, and Signal Processing Conference Proceedings. Vol. 1. IEEE.
5. Javidan, Reza, and Iman Rasekh (2010). Concatenative Synthesis of Persian Language Based on Word, Diphone and Triphone Databases. Modern Applied Science 4.10 (2010): 97.
6. Homayounpour, M. M., and Namnabat, M. (2007). FARSBAYAN: A Persian speech synthesizer based on unit selection method. The CSI journal on computer science and engineering.
7. Shannon, M., Zen, H., Byrne, W. (2012). Autoregressive models for statistical parametric speech synthesis. IEEE transactions on audio, speech, and language processing, 21(3), 587-597.
8. Koriyama, T., Nose, T., Kobayashi, T. (2013). Statistical parametric speech synthesis based on Gaussian process regression. IEEE journal of selected topics in Signal Processing, 8(2), 173-183.



9. Yin, X., Ling, Z. H., Dai, L. R. (2014, May). Spectral modeling using neural autoregressive distribution estimators for statistical parametric speech synthesis. In 2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 3824-3828). IEEE.
10. Behbahani, Y. M., Babaali, B., Turdalyuly, M. (2016). Persian sentences to phoneme sequences conversion based on recurrent neural networks. *Open Computer Science*, 6(1), 219-225.
11. Kawahara, H. (2006). STRAIGHT, exploitation of the other aspect of VOCODER: Perceptually isomorphic decomposition of speech sounds. *Acoustical science and technology*, 27(6), 349-353.
12. Kawahara, H., Morise, M., Takahashi, T., Nisimura, R., Irino, T., & Banno, H. (2008, March). TandemSTRAIGHT: A temporally stable power spectral representation for periodic signals and applications to interference-free spectrum, F0, and aperiodicity estimation. In 2008 IEEE International Conference on Acoustics, Speech and Signal Processing (pp. 3933-3936).
13. Morise, M. (2015). CheapTrick, a spectral envelope estimator for high-quality speech synthesis. *Speech Communication*, 67, 1-7.
14. Black, A. W. (2006). CLUSTERGEN: A statistical parametric synthesizer using trajectory modeling. In Ninth International Conference on Spoken Language Processing.
15. Oord, A. V. D., Dieleman, S., Zen, H., Simonyan, K., Vinyals, O., Graves, A., Senior, A., Kalchbrenner, N., Kavukcuoglu, K. (2016). Wavenet: A generative model for raw audio. *arXiv preprint arXiv:1609.03499*.
16. Sotelo, J., Mehri, S., Kumar, K., Santos, J. F., Kastner, K., Courville, A., Bengio, Y. (2017). Char2wav: End-to-end speech synthesis. In ICLR2017 workshop submission.
17. Arık, S. Ö., Chrzanowski, M., Coates, A., Diamos, G., Gibiansky, A., Kang, Y., Li, X., Miller, J., Ng, A., Raiman, J., Sengupta, S., & Shueybi, M. (2017, July). Deep voice: Real-time neural text-to-speech. In International Conference on Machine Learning (pp. 195-204). PMLR.
18. Shen, J., Pang, R., Weiss, R. J., Schuster, M., Jaitly, N., Yang, Z., Chen, Z., Zhang, Y., Wang, Y., Skerry-Ryan, R. J., Saurous, R., Agiomyrgiannakis, Y., & Wu, Y. (2018, April). Natural tts synthesis by conditioning Wavenet on mel spectrogram predictions. In 2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 4779-4783). IEEE.
19. Ren, Y., Ruan, Y., Tan, X., Qin, T., Zhao, S., Zhao, Z., Liu, T. Y. (2019). FastSpeech: Fast, robust and controllable text to speech. *arXiv preprint arXiv:1905.09263*.
20. Vainer, J., Dušek, O. (2020). Speedyspeech: Efficient neural speech synthesis. *arXiv preprint arXiv:2008.03802*.
21. Bińkowski, M., Donahue, J., Dieleman, S., Clark, A., Elsen, E., Casagrande, N., Cobo, L., Simonyan, K. (2019). High fidelity speech synthesis with adversarial networks. *arXiv preprint arXiv:1909.11646*.
22. Li, N., Liu, S., Liu, Y., Zhao, S., Liu, M. (2019, July). Neural speech synthesis with transformer network. In Proceedings of the AAAI Conference on Artificial Intelligence (Vol. 33, No. 01, pp. 6706-6713).
23. Farrokhi, A., Ghaemmaghami, S., Sheikhan, M. (2004). Estimation of prosodic information for Persian text-to-speech system using a recurrent neural network. In Speech Prosody 2004, International Conference.
24. Naiemi, F., Ghods, V. (2019). Persian Speech Synthesis Using Pitch Frequency in Flite software. *Advanced Signal Processing*, 3(1), 97-107.
25. Abutalebi, H. R., Bijankhan, M. (2000). Implementation of a text-to-speech system for Persian language. In Sixth International Conference on Spoken Language Processing.
26. Griffin, D.; Lim, J. (1984). Signal estimation from modified short-time Fourier transform. *IEEE Trans. Acoust. Speech Signal Process.* 1984, 32, 236-243.
27. Naderi, N., Naser Sharif, B., Nikoofard, A. (2022). "Persian speech synthesis using enhanced tacotron based on multi-resolution convolution layers and a convex optimization method." *Multimedia Tools and Applications* 81.3.

## Talk 2

### ***COVID-19: We might need to check that!***

**Remi Thüss (1) and Tommaso Caselli (1)**

r.m.thuss@hotmail.com / t.caselli@rug.nl

(1) University of Groningen

The COVID-19 pandemic presented an "epidemic of misinformation" (Zarocostas, 2020), during which around 50% of people reported seeing COVID-19-related misinformation recently (Newman et al., 2022). Given the amount of messages produced every day, validating messages automatically is vital. This work presents CovidCheck, a dataset containing 340 labelled COVID-19-related tweets, allowing for testing of end-to-end verification systems in Dutch and English. Verifying a claim was divided into three sequential tasks:

1. Check whether the message requires fact-checking (check-worthiness).
2. Retrieve relevant information from Wikipedia (document and paragraph retrieval).
3. Produce a verdict based on the retrieved information.

Additionally, this work provides the first evaluation on CovidCheck. For check-worthiness, we fine-tuned two monolingual models, reusing data from Nakov et al. (2022), achieving a macro F1-score of 72.59 for Dutch and 77.76 for English. For document and paragraph retrieval, we compared pre-trained models against a simpler TF-IDF-based approach. For English, TF-IDF obtained the best results with a Precision@K=1 score of 0.29 for document retrieval and 0.20 for paragraph retrieval. For Dutch, transformer-based methods obtained the best results, with a Precision@K=1 score of 0.35 for document retrieval and 0.20 for paragraph retrieval. For the verdict subtask we applied XLM-RoBERTa fine-tuned for NLI, obtaining an F1-score of 0.31 for English and 0.29 for Dutch. This work displays the performance of different systems on COVID-19-related data, showing the relevance of topic-specific data

#### References:

- Preslav Nakov, Alberto Barrón-Cedeño, Giovanni Da San Martino, Firoj Alam, Mucahid Kutlu, Wajdi Zaghouani, Chengkai Li, Shaden Shaar, Hamdy Mubarak, and Alex Nikolov. 2022. Overview of the clef-2022 checkthat! lab task 1 on identifying relevant claims in tweets.
- Nic Newman, Richard Fletcher, Craig T. Robertson, Rasmus Kleis Nielsen, and Kirsten Eddy. 2022. Reuters Institute Digital News Report 2022. Technical report.
- John Zarocostas. 2020. How to fight an infodemic. *The lancet*, 395(10225):676.

## Talk 3

### ***Satisficing in questionnaires: an experimental study on the effects of agree-disagree versus construct-specific and fully versus end labelled answer scales on answer patterns leading to data quality reduction***

**Jeffry Frikken (1), Yfke Ongena (1), and Marieke Haan (1)**

j.k.frikken@rug.nl / (1) University of Groningen

Experimental studies that compared differences in data quality between agree-disagree (AD) versus construct-specific (CS) answer scales show mixed results: some studies have not found differences, whilst others found more valid scales and higher reliability for AD scales but still others did find so for CS scales; the latter are also found to be less prone to response effects (Dykema et al., 2022). Also research on the effects on data quality depending on the difference between fully versus end labelled answer scales resulted in mixed suggestions which of the two types is the preferred one to use. To contribute to knowledge on the differences in data quality when specific combinations of scale types are used, we conducted a 2\*2 experiment and examined how AD and CS answer scales, that are either fully or end labelled, affect data quality.

This was performed by analysing the quality of the data in a probability based general population survey from the LISS Panel (n=2,411), which is representative for the Dutch population, on different types of satisficing answer strategies, among which acquiescence response style (ARS), extreme response style (ERS), and midpoint response style (MRS). This as satisficing is the tendency of survey respondents to adopt response strategies, resulting in answer patterns that lead to a reduction in data quality (Roberts et al., 2019). Especially AD scales may be more subject to ARS and ERS based on the scale characteristics, whilst CS scale items are often designed as end labelled only as they often do not allow for true midpoint labels.

Preliminary analyses indicate no difference in ERS between AD and CS scales, more ERS for end labelled scales compared with fully labelled scales, and no larger degree of ARS for AD scales compared with CS scales.

#### References:

- Dykema, J., Schaeffer, N. C., Garbarski, D., Assad, N., & Blixt, S. (2022). Towards a reconsideration of the use of agree-disagree questions in measuring subjective evaluations. *Research in Social and Administrative Pharmacy*, 18(2), 2335-2344. <https://doi.org/10.1016/j.sapharm.2021.06.014>
- Roberts, C., Gilbert, E., Allum, N. & Eisner, L. (2019). Research Synthesis: Satisficing in Surveys: A Systematic Review of the Literature. *Public Opinion Quarterly*, 83(3), 598-626. <https://doi.org/10.1093/poq/nfz035>

# Parallel session 7

Chair: S. Sprenger

## Talk 1

### *Interaction between word processing and low-level visual representations in autistic college students*

**Nicolás Acuña Luongo**

acuna.nicolas17@gmail.com / Universidad Católica del Maule

Embodiment cognition has been proposed as an explanatory framework for some of the cognitive characteristics of autism spectrum disorder (ASD) (Moseley & Pulvermüller, 2018). However, research has focused on motor difficulties and emotion processing, not language processing. It is still necessary to determine to what extent the interaction between sensorimotor mechanisms and language processing is affected in people with ASD (Hannant, 2018). One scope of the embodiment perspective of language suggests that word processing is involved in constructing low-level visual representations (Ostarek & Huettig, 2017) in typical development (TD) people. In this sense, we aim to determine if word processing impacts the construction of low-level visual representations in ASD. 19 ASD college students and 22 typical development students (TD) participated in this research. Each participant observed different images of masked objects under the continuous flash suppression effect (Pournaghdali & Schwartz, 2020), together with the presentation of oral words that could be congruent or incongruent with the masked objects. We analyzed object detection rates in a mixed model whose fixed effects were the congruent/incongruent condition and the ASD/TD group. Preliminary results showed an interaction between condition and group ( $SE = 0.007$ ;  $df = 4173.525$ ;  $t = 2.078$ ;  $p = 0.038$ ). TD group had a 50% hit rate in the congruent and 45% in the incongruent conditions. The ASD group had a 54% hit rate in the congruent and 55% in the incongruent conditions. These results imply that the word congruence condition facilitated object recognition in the TD group but not in the ASD group. According to our results, people with ASD lack the effect of word processing in constructing low-level visual representations, thus suggesting that they have difficulties constructing an embodiment representation of meaning (Hannant, 2018). We discuss the relation between our results and the difficulties of non-literal language comprehension of ASD.

#### References:

- Hannant, P. (2018). Receptive language is associated with visual perception in typically developing children and sensorimotor skills in autism spectrum conditions. *Human movement science*, 58, 297–306. <https://doi.org/10.1016/j.humov.2018.03.005>
- Moseley, R. L., & Pulvermüller, F. (2018). What can autism teach us about the role of sensorimotor systems in higher cognition? New clues from studies on language, action semantics, and abstract emotional concept processing. *Cortex*, 100, 149–190. <https://doi.org/10.1016/j.cortex.2017.11.019>
- Ostarek, M., & Huettig, F. (2017). Spoken words can make the invisible visible—Testing the involvement of low-level visual representations in spoken word processing. *Journal of Experimental Psychology: Human Perception and Performance*, 43(3), 499. <https://doi.org/10.1037/xhp0000313>
- Pournaghdali, A., & Schwartz, B. L. (2020). Continuous flash suppression: Known and unknowns. *Psychonomic Bulletin & Review*, 27(6), 1071–1103. <https://doi.org/10.3758/s13423-020-01771-2>

## Talk 2

### ***Early prosodic marking of sarcasm and its perception in autistic and neurotypical listeners***

**Csilla Tatar (1), Ezra Keshet (1), Jelena Krivokapić (1), and Jonathan R. Brennan( 1)**

cstatar@umich.edu / (1) University of Michigan

Utterance-initial ironic tone is proposed to influence subsequent language processing (Mauchand et al., 2021), but its role in perception has not been studied in neurodiverse populations. The present study investigates (i) whether speakers and listeners use prosody for sarcasm in an early, five-syllable "pre-target" portion of an utterance, before a "target" word most closely associated with sarcastic intent, (ii) whether individuals vary in the prosodic features they associate with sarcasm and (iii) whether listener accuracy varies by speaker, self-reported autism diagnosis, or Autism Spectrum Quotient (Baron-Cohen et al., 2001) score.

We recorded speakers (n=8) producing pairs of identically phrased utterances presented in contexts conducive to either sarcasm or sincerity. The utterances were measured for F0 range, syllable duration, and wiggleness (a prosodic measure introduced in Wehrle et al. (2018)). The isolated pre-target fragments were presented in a forced-choice experiment to listeners who either did (n=55) or did not (n=45) self-identify as autistic, and who either scored above (n=60) or below (n=53) 29 on the AQ questionnaire.

Production results showed that most speakers systematically distinguish sarcasm and sincerity in pre-target utterance fragments, but they vary on the extent to which they make use of the measured features. Perception results showed that the majority of listeners recognize sarcasm from the pre-target utterances, but there is much variation in how well each speaker is perceived, and how well each participant perceives sarcasm. Although a greater number of participants who self-reported as autistic performed below chance, group membership did not predict average accuracy.

The study has implications for research in language processing, as the results provide supporting evidence that prosody early on in a sentence can contribute to sarcasm recognition (as assumed in Mauchand et al. (2021)), with the proviso that speaker and listener variation be taken into account.

#### References:

- Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The autism-spectrum quotient (AQ): Evidence from asperger syndrome/high-functioning autism, males and females, scientists and mathematicians. *Journal of autism and developmental disorders*, 31, 5-17.
- Mauchand, M., Caballero, J. A., Jiang, X., & Pell, M. D. (2021). Immediate online use of prosody reveals the ironic intentions of a speaker: neurophysiological evidence. *Cognitive, Affective, & Behavioral Neuroscience*, 21, 74-92.
- Wehrle, S., Cangemi, F., Krüger, M., & Grice, M. (2018). Somewhere over the spectrum: Between robotic and singsongy intonation. *Book series Studi AISV*, 4, 179-194.

## Talk 3

### *Investigating early frequency effects in lexical decision making using pupil deconvolution*

**Joshua Krause (1), Jelmer P Borst (1), and Jacolien van Rij (1)**

j.krause@rug.nl / j.p.borst@rug.nl / j.c.van.rij@rug.nl

(1) Bernoulli Institute for Mathematics, Computer Science and Artificial  
Intelligence – University of Groningen

The pupil dilation response is assumed to be a slow and indirect reflection of the latent cognitive events involved in task performance (Hoeks & Levelt, 1993). Conventional pupil deconvolution methods attempt to recover these events, promising a more precise study of cognitive processes (e.g., Wierda et al., 2012; Willems et al., 2015; Denison et al., 2020). We show that the assumptions made by the method are problematic when modelling data from psycholinguistic experiments such as lexical decision (LD) tasks and propose an extended model that combines generalized additive mixed models (Wood, 2017; van Rij et al., 2019) with Hidden semi-Markov models (Yu, 2010; Anderson et al., 2016) to address these problems.

The conventional model assumes that cognitive events all trigger a delayed pupil response (Hoeks & Levelt, 1993). The weighted sum of these individual responses is then believed to be reflected in the pupil dilation time course. Importantly, the conventional model is typically applied to averaged time courses, and thereby neglects the possibility that the timing between events and the shape of the response differs not just between subjects but also trials and events (cf. Wierda et al., 2012). However, accounting for trial-level variability is crucial for at least two reasons. First this is necessary for a precise recovery of latent events and thereby a detailed understanding of cognitive processing (cf. Anderson et al., 2016). Secondly, this enables the study of trial-level predictor variables, enabling for example the investigation of how continuous word frequency influences language processing.

We will compare the proposed extended model to the conventional method by applying both methods to the data from a LD experiment (N=26) in which we manipulated the frequency of words and nonwords (approximated by Google search result counts; Hendrix & Sun, 2020). We will explain how the extended model addresses the problems of the conventional deconvolution method, and show the results of the extended method: how the (early) cognitive events involved in lexical decisions are influenced by word and nonword frequency.

#### References:

- Hoeks, B., & Levelt, W. (1993). Pupillary dilation as a measure of attention: A quantitative system analysis. Wierda, S. M., van Rij, H., Taatgen, N. A., & Martens, S. (2012). Pupil dilation deconvolution reveals the dynamics of attention at high temporal resolution.
- Willems, C., Herdžin, J., & Martens, S. (2015). Individual Differences in Temporal Selective Attention as Reflected in Pupil Dilation.
- Denison, R. N., Parker, J. A., & Carrasco, M. (2020). Modeling pupil responses to rapid sequential events.
- Wood, S. N. (2017). Generalized Additive Models: An Introduction with R, Second Edition (2nd ed.).
- van Rij, J., Hendriks, P., van Rij, H., Baayen, R. H., & Wood, S. N. (2019). Analyzing the Time Course of Pupillometric Data.
- Yu, SZ. (2010). Hidden semi-Markov models.
- Anderson, J. R., Zhang, Q., Borst, J. P., & Walsh, M. M. (2016). The discovery of processing stages: Extension of Sternberg's method.
- Hendrix, P., & Sun, C. (2020). A word or two about nonwords: Frequency, semantic neighborhood density, and orthography-to-semantics consistency effects for nonwords in the lexical decision task.

## Talk 4

### ***Is There Any Memory Benefit in Reading Words Aloud? Evidence from Event-Related Potentials***

**Dan Mu (1), Shuyao Li (1), Srdjan Popov (1), and Frank Tsiwah (1)**

d.mu@student.rug.nl / (1) University of Groningen

It has been found that reading text aloud leads to better retention of textual information in memory than reading silently, and this phenomenon has been termed as “the production effect” (Ozubko & MacLeod, 2010). However, most of the results on the production effect have come from behavioral studies, where only accuracy is measured, with very little to nothing known about the neurophysiological manifestations of this effect. The goal of the current study is to use the electroencephalogram (EEG) to investigate whether reading Chinese single words aloud leaves stronger memory traces in the brain as compared to reading silently, by testing 20 native Chinese speakers. We will use a mixed-list design in which participants first perform a reading task (reading a list of Chinese words either aloud or silently) followed by a recognition task (containing randomly presented words read aloud, silently, and new words) where they have to judge whether a word has been read before or not. Both behavioral and brain responses will be recorded. We expect to find a bi-phasic FN400 (often observed over mid-frontal regions between 300-500ms after stimulus onset, reflecting familiarity during recognition) and LPC (Late Positive Component, often observed over left parietal regions between 500-800ms after stimulus onset, reflecting recollection of associated contextual details during recognition, see Rugg & Curran, 2007) as an indication of memory traces for both words read aloud and silently, as opposed to new words. However, we expect this effect to be stronger for read-aloud words than those read silently. This pattern of results would provide neurophysiological evidence that using articulatory gestures coupled with auditory feedback in reading words aloud enhances one’s ability to retain lexical information in memory, and this enhancement is reflected in both familiarity and recollection of lexical information during the recognition process.

#### References:

- Ozubko, J. D., & Macleod, C. M. (2010). The production effect in memory: evidence that distinctiveness underlies the benefit. *Journal of experimental psychology. Learning, memory, and cognition*, 36(6), 1543–1547. <https://doi.org/10.1037/a0020604>
- Rugg, M. D., & Curran, T. (2007). Event-related potentials and recognition memory. *Trends in cognitive sciences*, 11(6), 251–257. <https://doi.org/10.1016/j.tics.2007.04.004>



# Parallel session 8

Chair: R. Jonkers

## Talk 1

### ***Contradictions with inclusive multilingualism in participatory bodies at Dutch universities***

**Madison Steele (1)**  
**and Jan D. ten Thije (1)**

m.a.steele@uu.nl / j.d.tenthije@uu.nl  
(1) Utrecht University

When Dutch is the main administrative language at universities, internationals may be excluded in participatory bodies (medezeggenschapsorganen). When English is chosen, Dutch members with lower English proficiency are excluded. Instead of monolingualism or additive multilingualism, universities can benefit from inclusive multilingualism (Backus et al., 2013). Inclusive multilingualism integrates strategies such as lingua receptiva (receptive multilingualism), English as a lingua franca, code-switching, or translation/interpretation (Backus et al., 2013; ten Thije, 2019) and encourages interlocutors to help each other understand. Utrecht University's project Multilingualism and Participation (Meertaligheid en Medezeggenschap or M&M) produced a choice model that enables councils to select communicative modes based on linguistic repertoires (Groothoff et al., 2022). Lingua receptiva combined with translation/interpretation proved to be effective for the University Council, as internationals could participate immediately by hearing Dutch and speaking English. Tools and services were developed to facilitate multilingual communication, including a course in which internationals improve receptive Dutch proficiencies (listening, reading) and gain institutional knowledge to make participation more effective (Groothoff et al., 2022).

The current CoRe project (de Graaff & ten Thije, 2022) expands upon M&M and explores a communicative receptive approach to language learning and use. This presentation will discuss results from the sub-project on multilingual meeting discourse. Ehlich and Rehbein's (1986) Knowledge Model of Functional Pragmatics is used to reconstruct speech actions between interlocutors who hear one language and speak another. Results illustrate how the inclusiveness of the choice model is constrained by meeting structure. Tensions are visible when considering the chairperson, who influences language use by upholding language policy, appointing speakers, and checking understanding (Morwood, 2021) as a bystander (Bührig & ten Thije, 2023). Adding a multilingual dimension to institutional and intercultural discourse frameworks (Koole & ten Thije, 1994), this sub-project shows how language diversity is managed in multilingual academic settings.

#### References:

- Backus, A., Gorter, D., Knapp, K., Schjerve-Rindler, R., Swanenberg, J., Thije, J.D. ten, & Vetter, E. (2013). Inclusive multilingualism: Concept, modes and implications. *European Journal for Applied Linguistics (EuJAL)*, 1(2), 179-215. <https://doi.org/10.1515/eujal-2013-0010>
- Bührig, K., & Thije, J.D. ten. (2023). Discourse-pragmatic description. In R. Supheert, G. Cascio, & J.D. ten Thije (Eds.), *The riches of intercultural communication. Interactive, contrastive, and cultural representational approaches* (Vol. 1) (pp. 27-69). Leiden Brill.
- Ehlich, K., & Rehbein, J. (1986). *Muster und Institution: Untersuchungen zur schulischen Kommunikation*. Narr.
- Graaff, R. de, & Thije, J.D. ten. (2022). *Getting to the CoRe: a Communicative Receptive approach to language learning and mutual understanding in multilingual academic contexts*. NWO Open Competition SSH 2021: 406.21.CTW.024. Universiteit Utrecht.
- Groothoff, F., Hagar, T., Mulder, K., Naber, K., Spee, S., Sudhoff, S., & Thije, J.D. ten. (2022). Final report of the Project Multilingualism and Participation (version 2 June 2022). Utrecht University. PDF. <https://www.uu.nl/sites/default/files/Final%20Report%20M%26M%20project.pdf>
- Koole, T., & Thije, J.D. ten. (1994). *The construction of intercultural discourse: Team discussions of educational advisers*. Rodopi.
- Morwood, M. (2021). *Multilingual council meetings at Utrecht University: An examination of how lingua receptiva, non-verbal communication and the role of the chairperson contribute to effective multilingual council meetings*. [Master's thesis]. Utrecht University.
- Thije, J.D. ten. (2019). Receptive multilingualism. In D. Singleton & L. Aronin (Eds.), *Twelve lectures on multilingualism* (pp. 327-362). Multilingual Matters.

## Talk 2

### ***The Role of Silent Pauses and Hesitation Markers in L2 Oral Production: Analysing Speaking Tasks Eliciting Autobiographical Memory Retrieval***

**Guste Staseviciute (1) and May Y. Wu (1)**

g.staseviciute@student.rug.nl / y.wu@rug.nl

(1) University of Groningen

Pausing serves a significant pragmatic function in spontaneous speech, prompting the interlocutors to expect a minor delay in receiving information (Clark & Fox Tree, 2002). While the pause placement can reveal the type of hesitation occurring during oral production, uncovering the procedures of lexical retrieval, grammatical and, most importantly, content-planning hesitation (Fulcher, 2014), pausing behaviour is shown to be linked with cognitive demands in conceptualization, relevant for both L1 and L2 production (Felker et al., 2019). Particularly in L2 production, the frequent and long pauses are associated with elevated formulating and articulating demands, occurring during the conceptualization stage (Felker et al., 2019). The conceptualization of past events, specifically, has various levels of cognitive processing since it employs the multilayered autobiographical memory system (Conway & Pleydell-Pearce, 2000); when asked to retrieve past occurrences, the speaker will first have to activate cues held at the general event level which is subsequently followed by more precise knowledge, making it considerably more challenging to remember specific events compared to categorical knowledge (Anderson & Dewhurst, 2009). This intricate hierarchical structure of memory retrieval is likely to be reflected in pause and hesitation behaviour in L2 production, which is the main research interest of the present study.

To investigate the role of the autobiographical memory system in pausing patterns, this study compares L2 oral productions on three categoric and three episodic memory elicitation tasks collected from 21 Chinese learners of English. We hypothesize that episodic memory retrieval, affected by elevated cognitive demands in the autobiographical memory system, results in longer and more frequent pausing behaviour. The collected data is being processed using CLAN and Praat software packages and analysed by conducting a paired samples t-test, allowing to primarily focus on the potential contrast in speaking performance across the two conditions.

#### References:

- Anderson, R. J., & Dewhurst, S. A. (2009). Remembering the past and imagining the future: differences in event specificity of spontaneously generated thought. *Memory*, 17(4), 367–373. <https://doi.org/10.1080/09658210902751669>
- Clark, H. H., & Fox Tree, J. E. (2002). Using uh and um in spontaneous speaking. *Cognition*, 84(1), 73–111. [https://doi.org/10.1016/S0010-0277\(02\)00017-3](https://doi.org/10.1016/S0010-0277(02)00017-3)
- Conway, M., & Pleydell-Pearce, C. (2000). The Construction of Autobiographical Memories in the Self-Memory System. *Psychological review*, 107, 261–88. 10.1037//0033-295X.107.2.261.
- Felker, E. R., Klockmann, H. E., & De, J. N. H. (2019). How conceptualizing influences fluency in first and second language speech production. *Applied Psycholinguistics*, 40(1), 111–136. <https://doi.org/10.1017/S0142716418000474>
- Fulcher, G. (2014). *Testing second language speaking* (Ser. Applied linguistics and language study). Routledge. Retrieved January 23, 2023.

## Talk 3

### ***Code-Switching in Bilingual Norwegian-English Speakers at the V2 Word Order Position***

**Annalisa Arcidiacono**

annalisa.arcidiacono@outlook.it / University of Bergen

I investigated the effect of code-switching (CS), to L1 Norwegian and L2 English in V2 word order sentences according to the grammatical maze structure (Foster, 2010) at the point where the V2 requirement needs to be implemented in Norwegian (A), but not in English (B) because of syntactic constraints. According to the predictions, it would mean that from the testing position, the second segment of the sentence where the VP is presented, the phrase would be more difficult to process due to the code-switching condition and the V2 requirement. Based on the findings of past research (Schwochow et al., 2021), I hypothesize that the RTs will be faster when the participant will switch from L2 English to L1 Norwegian, because even if their L2 is strong, the L1 is still the dominant language system. Moreover, I also theorize that the sentences that contain both CS and V2 will be even more difficult to process, resulting in a higher RT.

#### Code Switching:

English to Norwegian (A):

(A) Before eight o'clock [spiser han || han spiser] pannekaker og bacon til frokost.

Norwegian to English (B):

(B) Før klokka åtte [he eats|| eats he] pancakes and bacon for breakfast.

My data support that both CS and V2 had longer reading times compared to a baseline without CS or V2 on the individual conditions. Two baselines were selected to isolate the effect of CS and V2. Significant differences from the baseline were detected, but there were no specific effects of which language it was code-switched to and from, only the general CS and V2 effects. In conclusion, CS did add extra difficulty for reading or deciding on the testing sentences, but the data does not support a significant difference based on the factor of Language. A significant increase in RT was also detected when switching to L1 or L2 due to V2.

#### References:

- Forster, K. I. 2010. Using a Maze Task to Track Lexical and Sentence Processing. *The Mental Lexicon Methodological and Analytic Frontiers in Lexical Research (Part I)* 5 (3): 347-57. DOI: 10.1075/ml.5.3.06wur.
- Schwochow, S., Larsen, T., & Johansson, C. 2021. The bilingual parser predicts one structure: codeswitching in the garden path. DOI: 10.13140/RG.2.2.20940.95368.

## Talk 4

### ***Socio-affective Factors, Retirement Resources, and Variability in Linear and Non-Linear L2 Trajectories of Third Age Learners***

**Annika Rossmanith**

annika.rossmanith@es.uzh.ch / University of Zurich

Previous research has demonstrated that pre-retirement planning and preparatory activities predict post-retirement well-being, as they generate more 'retirement resources' (Wang et al., 2011; Noone et al., 2013) – although “the underlying mechanism between pre-retirement planning and successful adjustment remains largely unclear” (Yeung & Zhou 2017: 2). As a complex and stimulating activity, second language (L2) learning has also been found to contribute to maintaining and improving, social, emotional, and motivational resources in the third age (Pfenninger & Kliesch 2023). Conversely, retirement resources vary greatly amongst older adults, and this variation may modulate L2 learning in the transition from work to retirement. While factors of retirement adjustment and the association between retirement and mental and physical health are well-documented (e.g., Schmitt 2018), no studies have analyzed if and how retirement impacts an individual's L2 development and use and vice versa. The exclusion of older adult language learners in the context of retirement contradicts the increasing interest in third-age L2 learning (Cox, 2019; Kliesch & Pfenninger, 2021; Pot et al., 2019; Ware et al., 2017), which acknowledges the importance of understanding older learners' abilities and needs in view of aging populations worldwide.

This PhD thesis is part of a longitudinal research project (VARIAGE); it addresses the following research question: How do individual differences in social-contextual, emotional, and motivational resources relate to L2 performance during the transition from work to retirement? In other words, who profits from L2 learning across retirement, and when and why?

This study will analyze the L2 trajectories of German-speaking adults (aged 62-65) in Switzerland who attend an intensive 2-year English course. The 40 participants are assessed on (1) a range of socio-affective measures, (2) a L2 test battery (Kliesch & Pfenninger, 2021), and (3) demographic measures. In a mixed-methods design combining generalized additive mixed modeling (Wood, 2006), time-series cluster analysis (Peng et al., 2022), experience sampling (Arndt et al. 2023), and qualitative thematic analyses (Braun & Clarke, 2006), this study aims to identify pre- and postretirement activities, critical life events, and retirement resources that mediate effects of retirement on language acquisition and use and to help explain inter- and intra-individual differences.

## References:

- Arndt, H. L., Granfeldt, J., & Gullberg, M. (2023). Reviewing the potential of the Experience Sampling Method (ESM) for capturing second language exposure and use. *Second Language Research*, 39(1), 39–58.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Cox, J. G. (2019). Multilingualism in older age: A research agenda from the cognitive perspective. *Language Teaching*, 52(3), 360–373.
- Kliesch, M., & Pfenninger, S. E. (2021). Cognitive and socioaffective predictors of L2 microdevelopment in late adulthood: A longitudinal intervention study. *The Modern Language Journal*, 105(1), 237–266.
- Noone, J., O'Loughlin, K., & Kendig, H. (2013). Australian baby boomers retiring 'early': Understanding the benefits of retirement preparation for involuntary and voluntary retirees. *Journal of Aging Studies*, 27(3), 207–217.
- Peng, H., Lowie, W., & Jager, S. (2022). Unravelling the Idiosyncrasy and Commonality in L2 Developmental Processes: a Time-Series Clustering Methodology. *Applied Linguistics*, 43(5), 891–911.
- Pot, A., Porkert, J., & Keijzer, M. (2019). The bidirectional in bilingual: cognitive, social and linguistic effects of and on third-age language learning. *Behavioral Sciences*, 9(9), 98.
- Pfenninger, S. E. & M. Kliesch. (2023). Variability as a functional marker of second language development in older adult learners. *Studies in Second Language Acquisition*.
- Reitzes, D. C., & Mutran, E. J. (2004). The transition to retirement: Stages and factors that influence retirement adjustment. *The International Journal of Aging and Human Development*, 59(1), 63–84.
- Scheibe, S., & Zacher, H. (2013). A lifespan perspective on emotion regulation, stress, and well-being in the workplace. In *The role of emotion and emotion regulation in job stress and well being* (Vol. 11, pp. 163–193). Emerald Group Publishing Limited.
- Schmitt, A. (2018). Übergang in und Anpassung an den Ruhestand als Herausforderung aus psychologischer Perspektive. *Organisationsberatung, Supervision, Coaching*, 25(3), 337–347.
- Wang, M., Henkens, K., & Van Solinge, H. (2011). Retirement adjustment: A review of theoretical and empirical advancements. *American Psychologist*, 66(3), 204.
- Ware, P., Bartlett, S. J., Paré, G., Symeonidis, I., Tannenbaum, C., Bartlett, G., ... & Ahmed, S. (2017). Using eHealth technologies: interests, preferences, and concerns of older adults. *Interactive Journal of Medical Research*, 6(1), e4447.
- Wood, S. N. (2006). Low-rank scale-invariant tensor product smooths for generalized additive mixed models. *Biometrics*, 62(4), 1025–1036.
- Yeung, D. Y., & Zhou, X. (2017). Planning for retirement: Longitudinal effect on retirement resources and post- retirement well-being. *Frontiers in Psychology*, 8, 1300

# Poster presentations

## Poster session A - Thursday, June 15th

Presenters	Title
Valentina Ciot, Teja Rebernik, Thomas Tienkamp, Roel Jonkers, Aude Noiray, Martijn Wieling, and Defne Abur	Acoustic measures of voice quality in Dutch speakers with and without Parkinson's disease
Jin Wang and Niels O. Schiller	Noun-Phrase Production in Late Second Language Learners: An ERP Study
Owen Kapelle and Monique Flecken	Perceiving colour through a language lens: A systematic review of experimental work on effects of language on colour perception.
Alissa Vogel	#estiktokat as a #breathingspace? - Legitimizing the use of Catalan on TikTok and the implications of a community hashtag
Ronald Zhang	How populist demagogues discursively construct themselves: Boris Johnson and Geert Wilders
Marjolein W. Talsma and Jan-Wouter Zwart	Rethinking her-. Dutch verbal prefixation and rule-ordering
Agnese Cardaio	Between working memory and Theory of Mind: The use of pronouns in the early stages of Alzheimer's disease
Aya Zarka and Aviya Hacohen	Exploring noun-type effects on Differential Object Marking in Levantine-Arabic: Evidence from gradable acceptability
Wenjiu Du	The syntax and semantics of serial verb constructions in Vietnamese

Greta Zella, Jan Willem Bolderdijk, Tommaso Caselli, Manjunath Padigar, Saskia Peels-Matthey, and Gerry Wakker	Connotation Shifts as a Proxy for Early Warning Signals in Sustainable Innovations
Thomas Wilschut, Hedderik van Rijn, and Defne Abur	Speaking the Mind: Investigating the Association between Speech Motor Control and Model-Based Estimations of Forgetting Rate
Kristina Weissbecker	What cognates in idiomatic expressions can tell us about the bilingual mental lexicon
Shuyao Li, Dan Mu, Srdjan Popov, and Frank Tsiwah	The Influence of Tonal Language Experience on Pre-attentive Lexical Tone Perception
Flavia Nährlich	Homogeneity in sentences with plural definites: a novel classification of non-maximal readings
Aliene Reinders, Roel Jonkers & Vânia de Aguiara	Verb processing and verb learning in children with posterior fossa tumors
Konrad Szczesniak	Do Opposites Really Attract? A Study of Semantic Change Patterns
Sanne van Eijdsen	Is there a trilingual advantage in inhibitory control?
Emma Zaal, Yfke Ongena, Nina van der Velden, Dan Loughnan, and John Hoeks	Stretching the truth: a systematic review on experiments reducing social desirability bias in survey research
Elisa de Jong, Marc van Dijk, Marinus Oterdoom, and Adrià Rofes	The ability of thematic and taxonomic semantic categorization in people with Essential Tremor & Parkinson's Disease, pre- and post- DBS surgery
Benjamin Peschel and Tony Schelhorn	Auditory-motor control analysis of voice production in hearing impaired speakers by means of Machine Learning
Valeria Arriaza Puebla	Processing of coherence relations in school students: effect of the connective and the stimulus modality
Maeike Slikkerveer and Simone Sprenger	The Dilation of the Pupil in Language Production
Matthias Reiner, Petra Hendriks, and Esther Ruigendijk	The role of linguistic predictions in the interpretation of wh-questions
Maria Mazzoli and Margaux Dubuis	Shades of grammar: The cognitive basis of morphological productivity in polysynthetic languages



# ***Acoustic measures of voice quality in Dutch speakers with and without Parkinson's disease***

**Valentina Ciot (1), Teja Rebernik (2), Thomas Tienkamp (2), Roel Jonkers (2),  
Aude Noiray (3), Martijn Wieling (2), and Defne Abur (2)**

valentinaciot@gmail.com

(1) University of Groningen/University of Trento (CIMEC) / (2) University of Groningen  
/ (3) École Normale Supérieure/PSL/Haskins Laboratories

Parkinson's disease (PD) is a neurodegenerative disorder characterized by global motor dysfunctions. Ninety percent of persons with PD (PwPD) present with deficits in speech and voice quality grouped under the term hypokinetic dysarthria, including reduced loudness and perception of breathiness [3]. Previous work supports that acoustic measures are an effective non-invasive tool for quantifying hypokinetic dysarthria in PwPD [5, 7]. Specifically, two relevant acoustic measures that have been associated with voice quality are smoothed cepstral peak prominence (CPPS) and relative fundamental frequency (RFF). CPPS is associated with severity of voice quality changes, where lower values are typically indicative of more dysphonic and aperiodic voices [8]. RFF is thought to reflect the degree of laryngeal muscle rigidity, with lower values suggesting increased rigidity [6, 10].

The current study aims to extend previous work on CPPS and RFF measures to assess possible changes in voice quality in Dutch PwPD compared to sex- and age-matched controls. For this purpose, we will assess CPPS and RFF in PwPD and a control group (data collection ongoing; at least 10 speakers in both groups).

CPPS will be extracted from samples of sustained vowel phonation (i.e., /a/, /e/, /i/, /o/, /u/) and analyzed in PRAAT [1], while RFF will be obtained from the production of a voiceless consonant in three non-words (i.e., /'a:fa:/, /'i:fi:/, /'u:fu:/) and analyzed in MATLAB R2021a [11], using the procedure outlined in [6]. The statistical analysis for both measures will be performed in RStudio [9]. We will assess the effect of group (PwPD) on CPPS and RFF using linear mixed effect models. Based on prior studies [2, 4, 10], CPPS and RFF values are expected to be significantly lower in PwPD than in control speakers. Investigations of CPPS and RFF aim to promote non-invasive clinical voice evaluation of dysarthria in PwPD.

## References:

- [1] Boersma, P., & Weenink, D. (2023). Praat: doing phonetics by computer [Computer program]. Version 6.3.05, retrieved 27 January 2023 from <http://www.praat.org/>
- [2] Burk, B. R., & Watts, C. R. (2019). The Effect of Parkinson Disease Tremor Phenotype on Cepstral Peak Prominence and Transglottal Airflow in Vowels and Speech. *Journal of voice: official journal of the Voice Foundation*, 33(4), 580.e11-580.e19.
- [3] Duffy J.R. (2013). *Motor speech disorders: Substrates, differential diagnosis, and management*. Elsevier Health Sciences.
- [4] Goberman, A. M., & Blomgren, M. (2008). Fundamental frequency change during offset and onset of voicing in individuals with Parkinson disease. *Journal of Voice*, 22, 178-191.
- [5] Godino-Llorente, J. I., Shattuck-Hufnagel, S., Choi, J. Y., Moro-Velázquez, L., & Gómez-García, J. A. (2017). Towards the identification of Idiopathic Parkinson's Disease from the speech. New articulatory kinetic biomarkers. *PloS one*, 12(12), e0189583. <https://doi.org/10.1371/journal.pone.0189583>
- [6] McKenna, V. S., Heller Murray, E. S., Lien, Y. S., & Stepp, C. E. (2016). The Relationship Between Relative Fundamental Frequency and a Kinematic Estimate of Laryngeal Stiffness in Healthy Adults. *Journal of speech, language, and hearing research: JSLHR*, 59(6), 1283-1294.
- [7] Moro-Velazquez, L., Gomez-Garcia, J. A., Arias-Londoño, J. D., Dehak, N., Godino-Llorente, J. I. (2021). Advances in Parkinson's Disease detection and assessment using voice and speech: A review of the articulatory and phonatory aspects, *Biomedical Signal Processing and Control*, Volume 66, 102418, ISSN 1746-8094.
- [8] Murton, O., Hillman, R., & Mehta, D. (2020). Cepstral Peak Prominence Values for Clinical Voice Evaluation. *American journal of speech-language pathology*, 29(3), 1596-1607.
- [9] RStudio Team (2020). RStudio: Integrated Development for R. RStudio, PBC, Boston, MA URL <http://www.rstudio.com/>.
- [10] Stepp, C. E. (2013). Relative fundamental frequency during vocal onset and offset in older speakers with and without Parkinson's disease. *The Journal of the Acoustical Society of America*, 133(3), 1637-1643.
- [11] The Math Works, Inc. (2021). MATLAB (Version 2021a) [Computer software]. <https://www.mathworks.com/>

# ***Noun-Phrase Production in Late Second Language Learners: An ERP Study***

**Jin Wang (1) and Niels O. Schiller (1)**

j.wang.46@hum.leidenuniv.nl / (1) Leiden University

The question of whether second language learners possess distinct language production mechanisms from native speakers has long been a controversial topic. This study investigated the activation and selection processes involved in noun-phrase production by native Chinese learners of German. Thirty-five participants were required to complete a picture-naming task using the picture-word interference paradigm. Grammatical gender congruency, semantic relatedness (same semantic category or not), and phonological overlap (first few phonemes overlap or not) were manipulated between target pictures and distractor words. Naming response latencies and EEG were recorded. Additionally, we assessed the German proficiency of the participants by using a language background questionnaire and the LexTALE test (Lemhöfer & Broersma, 2012). Our preliminary behavioural results showed a significant phonological facilitation effect on response times (naming latencies were significantly shorter when distractor and target overlapped in phonemes). However, there were no significant effects of grammatical gender or semantic interference. Consistent with the behavioural findings, EEG results showed that the phonological overlap condition elicited more pronounced negative ERP components. Furthermore, more pronounced negative ERPs were observed under the condition of grammatical gender incongruence, indicating the presence of gender congruency effect. The observed effects were moderated by the language proficiency of the participants.

## Reference:

Lemhöfer, K., & Broersma, M. (2012). Introducing LexTALE: A quick and valid Lexical Test for Advanced Learners of English. *Behavior Research Methods*, 44, 325-343.

# ***Perceiving colour through a language lens: A systematic review of experimental work on effects of language on colour perception***

**Owen Kapelle (1) & Monique Flecken (1)**

o.e.j.kapelle@uva.nl / m.flecken@uva.nl

(1) University of Amsterdam

We systematically review experimental papers published in the last twenty years on how language may affect the perception of colour. This is often referred to as a Whorfian Effect as it originates in Whorf's theory of linguistic relativity (1956), showing how specific language terminology (for colours) can influence how speakers of that language perceive colours. Research into the interaction between language and colour perception has been carried out with a wide range of methods, resulting in contradictory findings. A structural overview of the methodology used in the experimental work, and its results, is lacking. Therefore, we aim to identify methodological gaps and (in)consistencies that remain in the experimental work on this topic. Our review considers almost 150 experiments on approximately 5000 participants. In order to structure the review, we identify two main approaches: In the first one, the 'illustrative' approach, studies broadly investigate under which conditions a linguistic effect on perception is observed and under which it is not. For example, whether native language experiences affect a participant's colour perception (Winawer et al., 2007) or how disturbing language access affects colour perception in verbal interference studies (Roberson & Davidoff, 2000). In the second approach, which we call a 'mechanistic' approach, studies attempt to unravel the cognitive processes, neural mechanisms, or neural correlates that underlie a linguistic effect on perception. For example, studies that determine whether language affects perception at early or at late processing stages (Athanasopoulos et al., 2010). With this review, we aim to develop a methodological overview about which manipulations and paradigms appear to be robust and fruitful and are able to render a clear picture on the language-perception interaction. We provide suggestions for ways forward in this domain.

## References:

- Athanasopoulos, Panos, Dering, Benjamin, Wiggett, Alison, Kuipers, Jan-Rouke & Thierry, Guillaume. 2010. Perceptual shift in bilingualism: Brain potentials reveal plasticity in pre-attentive colour perception. *Cognition* 116(3), 437–443. <https://doi.org/10.1016/j.cognition.2010.05.016>
- Roberson, Debi & Davidoff, Jules. 2000. The categorical perception of colors and facial expressions: The effect of verbal interference. *Memory & Cognition* 28(6), 977–986. <https://doi.org/10.3758/BF03209345>
- Whorf, Benjamin L. 1956. Linguistics as an exact science. In J. B. Carroll (Ed.), *Language, thought, and reality: Selected writings of Benjamin Lee Whorf*, 220–32. Cambridge, MA: MIT Press.
- Winawer, Jonathan, Witthoft, Nathan, Frank, Michael, Wu, Lisa, Wade, Alex & Boroditsky, Lera. 2007. Russian blues reveal effects of language on color discrimination. *Proceedings of the National Academy of Sciences of the United States of America* 104(19), 7780–7785. <https://doi.org/10.1073/pnas.0701644104>

# ***#estiktokat as a #breathingspace? – Legitimizing the use of Catalan on TikTok and the implications of a community hashtag***

**Alissa Vogel**

a.c.vogel@student.rug.nl / University of Groningen

In this paper, I analyze to what extent the recently popularized social media platform TikTok can be considered a beneficial digital breathing space for the Catalan language. Speakers of minority languages oftentimes need to fight for their language's legitimacy to be fully recognized by the majority group. Opting not to use the majority language tends to be interpreted as more than a mere communicative act but as the performance of a political identity. Having one's language choice constantly questioned and judged can feel exhausting. Joshua Fishman (1991, 58) coined the concept of a "breathing space" for minority languages, a physical safe space in which a minoritized language can exist "predominant and unharassed." This notion has been extended to the digital world: virtual communities on social media platforms can function as digital breathing spaces (Belmar and Glass 2019; Cunliffe 2021).

In recent years, studies on the use of Catalan on various social media platforms were published: Twitter (Tölke 2015; Guevara Claramunt 2021), Facebook (Belmar 2019), YouTube and Instagram (Massaguer Comes, Flors-Mas, and Vila 2021), and TikTok and Twitch (Tudela-Isanta and Milà-Garcia 2022b). Only launched in 2017 but enjoying a high global popularity (Miltsov 2022), TikTok is a dynamic and innovative digital space. Since 2020, the presence of Catalan on the platform has significantly increased, which can be attributed to the initiative of a few young Catalan content creators and their use of the newly created hashtag #estiktokat to designate videos in their language (Tudela-Isanta & Milà-Garcia 2022a). Making use of Cunliffe's "engagement levels" (2021), I will discuss the creation and reception of videos tagged with this hashtag by insiders and outsiders to the Catalan speech community, and explore whether hashtags can help to establish and legitimize a language's social media presence, or protect it from the confrontation with negative attitudes.

## References:

- Belmar, Guillem. 2019. "Les xarxes virtuals i el català: actituds, usos i el paper de les comunitats virtuals com a refugi d'ús." *Révue d'Études Catalanes* 5: 26-39. <https://raco.cat/index.php/REC/article/view/376016>.
- Belmar, Guillem, and Maggie Glass. 2019. "Virtual communities as breathing spaces for minority languages: Reframing minority language use in social media." *Adeptus* 14. <https://doi.org/10.11649/a.1968>.
- Cunliffe, Daniel. 2021. "Minority Languages in the Age of Networked Individualism: From Social Networks to Digital Breathing Spaces." In *Language Revitalisation and Social Transformation*, edited by Huw Lewis and Wilson McLeod, 67-97. Cham: Palgrave Macmillan. <https://doi.org/10.1007/978-3-030-80189-2>.
- Fishman, Joshua A. 1991. *Reversing Language Shift: Theoretical and Empirical Foundations of Assistance to Threatened Languages*. Clevedon: Multilingual Matters.
- Guevara Claramunt, Marc. 2021. "Català a Twitter, l'àgora de la llengua." *Anuari de filologia. Estudis de lingüística* 11: 125-140. <https://raco.cat/index.php/AFEL/article/view/395793>.
- Massaguer Comes, Marina, Avel·lí Flors-Mas, and F. Xavier Vila. 2021. *Català, youtubers i instagramers: Un punt de partida per promoure l'ús de la llengua*. Barcelona: Generalitat de Catalunya, Departament de Cultura, Direcció General de Política Lingüística. <https://lengua.gencat.cat/web/.content/documents/publicacions/btpl/arxiu/29-btpl-catala-youtubers.pdf>.
- Milà-Garcia, Alba, and Anna Tudela-Isanta. 2022. "Lenguas minoritarias y redes sociales: la creación de #estiktokat para contenidos en catalán." *Cuadernos Europeos De Deusto*, no. 4 (julio): 173-202. <https://doi.org/10.18543/ced.2476>.
- Milà-Garcia, Alba, and Anna Tudela-Isanta. 2022. "La presencia del catalán en las plataformas digitales: el caso de Twitch y TikTok." *Caracol* 24: 76-109. <https://doi.org/10.11606/issn.2317-9651.i24p76-109>.
- Miltsov, Alex. 2022. "Researching TikTok: Themes, Methods, and Future Directions." In *The SAGE Handbook of Social Media Research Methods*, edited by Anabel Quan-Haase and Luke Sloan, 664-75. London: SAGE Publications Ltd. <https://doi.org/10.4135/9781529782943>.
- Tölke, Vanessa. 2015. "L'ús de les llengües minoritàries en les xarxes socials: el valencià en Twitter." *Zeitschrift für Katalanistik* 28: 95-115.

# ***How populist demagogues discursively construct themselves: Boris Johnson and Geert Wilders***

**Ronald Zhang**

z.zhang.54@student.rug.nl / University of Groningen

The last decades saw a dramatic uprise of right-wing populism, especially marked by Brexit and the presidency of Donald Trump (Dodd et al., 2017). In this process, populist demagogues not only play a significant role but represent this phenomenon (Berend, 2020). We, as audiences, are influenced by how they speak to the public, which serves the purpose of gaining more support and achieving their political goals.

This study investigates two populist demagogues in Europe who are active and influential in recent years: former Prime Minister Boris Johnson of the United Kingdom, and Member of Parliament Geert Wilders of the Netherlands. The most recent discourse of both dialogic (parliamentary) and monologic (non-parliamentary) speeches are selected for the analysis. Based on critical discourse analytic approaches, this qualitative research aims to identify the tactics deployed in their political discourse to construct their political images. Particularly, following the discourse-historical approach, this paper examines their rhetorical strategies of discursive construction, of not only positioning themselves as we but also establishing and destructing the other, from perspectives such as politics, culture and ethnicity (Dervin, 2015; Reisigl, 2017; Wodak, 2017; Wodak et al., 2009). Therefore, we are able to see the common strategies that they use, as well as the individual differences.

Right-wing political parties have now entered the mainstream and have been normalising their practices, which has changed the political structure (Wodak, 2021). By analysing the discourse, we are able to have a deeper and contextualised understanding of the ongoing rise of right-wing populism in Europe and the world. It can thus provide inspiration to comprehend and deal with the shifts. Moreover, it helps us reflect on the current democracy: understanding populism makes us aware of the strengths and weaknesses of the representative democratic system (Müller, 2017).

## References:

- Berend, I. T. (2020). *A Century of Populist Demagogues: Eighteen European Portraits, 1918–2018*. Central European University Press. <https://doi.org/10.1515/9789633863343>
- Dervin, F. (2015). Discourses of Othering. In K. Tracy, T. Sandel, & C. Ilie (Eds.), *The International Encyclopedia of Language and Social Interaction* (1st ed., pp. 1–9). Wiley. <https://doi.org/10.1002/9781118611463.wbielsi027>
- Dodd, N., Lamont, M., & Savage, M. (2017). Introduction to BJS special issue. *British Journal of Sociology*, 68(S1), S3–S10. <https://doi.org/10.1111/1468-4446.12326>
- Müller, J.-W. (2017). *What is Populism?* Penguin Books.
- Reisigl, M. (2017). The Discourse-Historical Approach. In J. Flowerdew & J. E. Richardson (Eds.), *The Routledge Handbook of Critical Discourse Studies* (pp. 44–59). Routledge. <https://doi.org/doi/10.4324/9781315739342.ch3>
- Wodak, R. (2017). The “Establishment”, the “Élites”, and the “People”: Who’s who? *Journal of Language and Politics*, 16(4), 551–565. <https://doi.org/10.1075/jlp.17030.wod>
- Wodak, R. (2021). *The Politics of Fear: The Shameless Normalization of Far-Right Discourse* (2nd edition). SAGE.
- Wodak, R., de Cillia, R., Reisigl, M., & Liebhart, K. (2009). *The Discursive Construction of National Identity* (A. Hirsch, R. Mitten, & J. W. Unger, Trans.; 2nd ed). Edinburgh University Press.

***Rethinking her-.***  
***Dutch verbal prefixation and rule-ordering***

**Marjolein W. Talsma (1) and Jan-Wouter Zwart (1)**

m.w.talsma@home.nl / c.j.w.zwart@rug.nl

(1) University of Groningen

Booij (2019:69) notes that stress plays an important role in determining whether Dutch verbs can undergo ge- prefixation during the formation of the past participle. He claims that verbs resist ge- prefixation if they begin with an unstressed prefix. Hence, verbs beginning with the prefixes ver-, be- and ont-, which never bear stress, never occur with ge-.[1] The prefix her- ‘re-’, on the other hand, can bear stress, although it does not have to. Thus, a verb such as *hér-analyseren*[2] ‘to reanalyze’ has a past participle *ge-her-analyseerd*, while a verb such as *her-stárten*, ‘to restart’ has a past participle *her-start* (see also Schultink, 1964).

Interesting in this respect are those verbs that take both a non-stressed prefix ver-, be- or ont- and the stressed prefix her-. If Booij (2019) is correct in stating that the determining factor in allowing/disallowing ge- prefixation is the stress of the initial prefix, we would expect these verbs to take ge- as long as her- bears stress. However, as is shown in (1), this prediction is not born out.

(1) a.	<i>hér-be-boss-en</i> re-BE-forest-INF ‘to reforest’	* <i>ge-her-be-bos-t</i> GE-re-BE-forest-D	<i>her-be-bos-t</i> re-BE-forest-D
b.	<i>hér-ont-dekk-en</i> re-ONT-cover-INF ‘to rediscover’	* <i>ge-her-ont-dek-t</i> GE-re-ONT-cover-D	<i>her-ont-dek-t</i> re-ONT-cover-D
c.	<i>hér-ver-kavel-en</i> re-VER-lot-INF ‘to reallof’	* <i>ge-her-ver-kavel-d</i> GE-re-VER-lot-D	<i>her-ver-kavel-d</i> re-VER-lot-D

Ge- prefixation is therefore sensitive to the presence of one of the three prefixes ver-, be- and ont-. Not only does this go against the observation that stress is the deciding factor in geprefixation, it seems that ge- prefixation targets the internal structure of the verb. This holds important implications for our understanding of morphological processes and syntactic structures.

[1] 1 We will gloss the prefixes ver-, be- and ont- and the affixes used in participle formation, ge- and -d/-t, as VER, BE, ONT, GE and D respectively.

[2] 2 The acute accent is used to indicate stress in these examples.

Reference:

Booij, Geert. 2019. The morphology of Dutch. Oxford: Oxford University Press. Schultink, Henk. 1964. De bouw van nieuwvormingen met her-. Tijdschrift voor Nederlandse Taal- en Letterkunde 80, 151-84.

# ***Between working memory and Theory of Mind: The use of pronouns in the early stages of Alzheimer's disease***

**Agnese Cardaio**

a.cardaio@student.rug.nl / University of Groningen

While Alzheimer's disease (AD) is primarily characterised by memory impairments, longitudinal studies also revealed changes in spoken discourse in individuals developing AD. In particular, a significant overuse of pronouns has been found years before a clinical diagnosis of AD, thus pointing towards the potential employment of linguistic markers for its early detection (Ahmed et al., 2013; Almor et al., 1999; Bittner et al., 2022; Chainay & Gaubert, 2020). Nevertheless, the pronoun types and discourse stages in which pronouns are overproduced have seldom been examined, despite their relevance to the understanding of the cognitive impairments that may determine this usage pattern in prodromal stages of AD (Sandoz et al., 2020).

This review paper aims to investigate the cognitive processes underlying pronoun overuse at early stages of AD, with a particular focus on the type of affected pronouns and the discourse context in which they occur. Following previous research, two distinct hypotheses are discussed. On one hand, as a negative correlation between working memory abilities and number of pronouns used has been attested in healthy ageing (Hendriks et al., 2008), pronoun overuse in prodromal stages of AD may be caused by an age-related deterioration of working memory that worsens with the progression of the disease. On the other hand, increase in pronoun use may be due to difficulties in considering the addressee's perspective resulting from the decay of Theory of Mind abilities (Bittner et al., 2022). In this case, pronoun overuse would be less dependent on discourse factors but strongly influenced by a decline in perspective-taking abilities, probably caused by AD. In sum, this study seeks to clarify whether the observed increase in pronoun rate is due to ageing or it can be attributable to cognitive decline specifically related to AD and hence constitute early evidence of the disease.

## References:

- Ahmed, S., Haigh, A. M., de Jager, C. A., & Garrard, P. (2013). Connected speech as a marker of disease progression in autopsy-proven Alzheimer's disease. *Brain: a journal of neurology*, 136(12), 3727-3737. <https://doi.org/10.1093/brain/awt269>.
- Almor, A., Kempler, D., MacDonald, M. C., Andersen, E. S., & Tyler, L. K. (1999). Why do Alzheimer patients have difficulty with pronouns? Working memory, semantics, and reference in comprehension and production in Alzheimer's disease. *Brain and language*, 67(3), 202-227.
- Bittner, D., Frankenberg, C., & Schröder, J. (2022). Changes in pronoun use a decade before clinical diagnosis of Alzheimer's dementia - Linguistic contexts suggest problems in perspective-taking. *Brain Sciences*, 12(1), 121-121. <https://doi.org/10.3390/brainsci12010121>.
- Chainay, H., & Gaubert, F. (2020). Affective and cognitive theory of mind in Alzheimer's disease: the role of executive functions. *Journal of Clinical and Experimental Neuropsychology*, 42(4), 371-386. <https://doi.org/10.1080/13803395.2020.1726293>.
- Hendriks, P., Englert, C., Wubs, E., & Hoeks, J. (2008). Age differences in adults' use of referring expressions. *Journal of Logic, Language and Information*, 17(4), 443-466. <https://doi.org/10.1007/s10849-008-9065-6>.
- Sandoz, M., Iglesias, K., Achim, A. M., Démonet, J. F., & Fossard, M. (2020). Referential adjustment during discourse production in Alzheimer's disease. *Journal of clinical and experimental neuropsychology*, 42(7), 710-724. <https://doi.org/10.1080/13803395.2020.1798883>.



# ***Exploring noun-type effects on Differential Object Marking in Levantine-Arabic: Evidence from gradable acceptability***

**Aya Zarka (1) and Aviya Hacohen (2)**

ayaza@post.bgu.ac.il / aviya@bgü.ac.il

(1) Ben-Gurion University of the Negev / (2) Ben-Gurion University of the  
Negev/McMaster University

Differential Object Marking (DOM) is a widely studied crosslinguistic phenomenon where only certain objects are case-marked (e.g., Aissen, 2003, Bossong 1991). In Levantine-Arabic (LA), DOM is licit only with definite objects (Aoun 1999). Beyond definiteness, individuation has been argued to be key in licensing Arabic DOM (Brustad 2000). Zarka (2021) further observes that LA DOM is licensed with count but not with mass nouns. Using a gradable acceptability task, we test the hypothesis that individuation is the relevant dimension for LA DOM.

The experiment was conducted via Qualtricsxm, with the verbal stimuli presented as audio files. The manipulated variable included three DP-types: count, substance mass, and object mass. 48 adult speakers of LA provided acceptability judgments on a 6-point scale, with only the extreme ends of the scale explicitly labeled (1= btñħkaš ('cannot be uttered'); 6= akid btñħka ('can absolutely be uttered').

Our findings provide novel empirical support for the individuation generalization discussed in the theoretical literature on Arabic DOM (Khan 1984, Brustad 2000, 2008, Zarka 2021): speakers are indeed much more likely to provide high acceptability scores for DOM sentences with a count (individuated) noun DP than for DOM sentences with a mass noun. Importantly, our study further refines this generalization by testing an additional class of nouns, namely, so-called "object mass" nouns (ʔθaθ 'furniture'). Such nouns are syntactically mass, but – unlike typical substance mass nouns – they refer to individuals (cf. Barner & Snedeker 2005). This allows for a direct comparison of substance- and object-mass nouns, which minimally differ with respect to individuation.

Moreover, our data are in line with Grimm's (2012, 2018) proposal that individuation is more accurately viewed as a scalar phenomenon, rather than a simple binary individuated/non-individuated contrast. Hence, we conclude that a scalar view of individuation is the relevant dimension for licensing DOM in LA.

## References:

- Aissen, J. (2003). Differential object marking: Iconicity vs. economy. *Natural language & linguistic theory*, 21(3), 435–483.  
Aoun, J. (1999). Clitic-doubled arguments. In *Beyond principles and parameters* (pp. 13–42). Dordrecht: Springer.  
Barner, D., & Snedeker, J. (2005). Quantity judgments and individuation: Evidence that mass nouns count. *Cognition*, 97(1), 41–66.  
Bossong, G. (1991). Differential object marking in Romance and beyond. In D. Wanner & D. Kibbee (Eds.), *New analyses in Romance Linguistics: Selected papers from the XVIII Linguistics Symposium on Romance Linguistics* (pp. 143–170). Amsterdam: John Benjamins.  
Brustad, K. (2000). *Spoken Arabic*. Georgetown University Press.  
Grimm, S. (2012). *Number and Individuation*. (Ph.D. Thesis), Stanford University. Stanford, CA.  
Grimm, S. (2018). Grammatical number and the scale of individuation. *Language*, 94(3), 527–574.  
Khan, G. A. (1984). Object markers and agreement pronouns in Semitic languages. *Bulletin of the School of Oriental and African Studies*, 47(3), 468–500.  
Zarka, A. (2021). Individuation and differential object marking. In *Proceedings of the Canadian Linguistic Association*, June 4–7.

# The syntax and semantics of serial verb constructions in Vietnamese

Wenjiu Du      wenjiudue@gmail.com / University of Leipzig

This study investigates the syntactic structures and semantic typology of Vietnamese serial verb constructions (SVCs). Following Haspelmath (2016, 2022)'s comparative concept and Bodomo's (2019) constraints on serialization, I delimit SVCs as monoclausal constructions consisting of multiple independent verbs that share a single structural or functional subject without any linking element or predicate-argument relation between the verbs.

While there are many criteria to classify SVCs, I adopt the verbal semantic typology that fits better in cross-linguistic comparison (Luke & Bodomo 2000: 172). In this fashion, eight types of SVCs might be attested in Vietnamese, including directional, instrumental, manner, postural, benefactive/malefactive, resultative, purposive, sequential SVCs.

Syntactically, three underlying representations have been proposed in the literature (Larson 1991): coordination, adjunction, complementation. The coordination proposal can be easily excluded as SVCs are free from the Coordinate Structure Constraint (Ross 1967). It remains unclear whether adjunction or complementation should be the optimal structure for SVCs. With special reference to directional SVCs (see example (1)), I argue that SVCs in Vietnamese are instances of complementation structures, validated by the reflexive binding test on the basis of the c-commanding relationship between arguments within the VPs (see figure 1 & 2). I assume the complementation structure can be extended effectively to any other type of SVCs, which allows for a uniform and consistent analysis (cf. Phan 2014). Collins' (1997) VP-shell structure with a pro approach is endorsed in this study with minor modification.

- (1) Chị ấy    đi    vào    nhà    (mình) .  
3SG.F    go    enter    house    herself  
DP1       V1   V2    DP2    REFL  
'She went into her (own) house.'

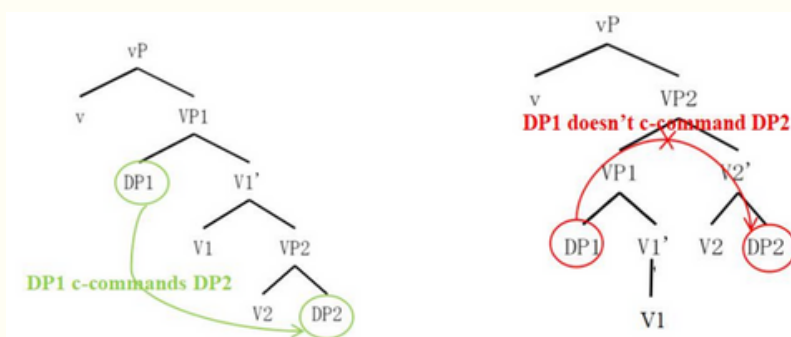


Figure 1. Complementation structure for (1). Figure 2. Adjunction structure for (1).

## References:

- Aikhenvald, A. Y. (2021). *Serial verbs*. Oxford: Oxford University Press.
- Bodomo, A. (2019). A Daagare Pandorass box: The syntax of verb serialization in an oral literature context. In J. Essegbey, D. Kallulli, & A. Bodomo (eds.) *The grammar of verbs and their arguments: A cross-linguistic perspective* (pp. 115-149). Cologne: Rüdiger Köppe Verlag.
- Collins, C. (1997). Argument sharing in serial verb constructions. *Linguistic Inquiry*, 28, 461-497.
- Haspelmath, M. (2016). The serial verb construction: Comparative concept and cross-linguistic generalizations. *Language and Linguistics*, 17(3), 291-319.
- Haspelmath, M. (2022). Biverbal constructions and related comparative concepts: (Retro-)definitions vs. Analyses. Talk at Conference: typology of complex predicates, JGU Mainz, <https://zenodo.org/record/7315405#.Y8nrFkHMK5c> (Jan 1 st, 2023 accessed).
- Luke, K. K., & Bodomo, A. (2000). A comparative study of the semantics of serial verb constructions in Dagaare and Cantonese. *Languages in Contrast*, 3(2), 165-180.
- Phan, T. (2014). Complex predicates in Vietnamese: In support of the extended VP hypothesis. In *The linguistics of Vietnam in the context of renovation and integration (International Conference)* (pp. 1156-1175). Hà Nội: Nhà xuất bản Khoa học Xã hội [Social Science Press].
- Ross, J. R. (1967). *Constraints on variables in syntax*. Ph.D. dissertation, MIT.

# ***Connotation Shifts as a Proxy for Early Warning Signals in Sustainable Innovations***

**Greta Zella (1), Jan Willem Bolderdijk (2), Tommaso Caselli (1),  
Manjunath Padigar (1), Saskia Peels-Matthey (1), and Gerry Wakker (1)**

[g.zella@rug.nl](mailto:g.zella@rug.nl) / [j.w.bolderdijk@uva.nl](mailto:j.w.bolderdijk@uva.nl) / [t.caselli@rug.nl](mailto:t.caselli@rug.nl) /  
[m.r.padigar@rug.nl](mailto:m.r.padigar@rug.nl) / [s.peels@rug.nl](mailto:s.peels@rug.nl) / [g.c.wakker@rug.nl](mailto:g.c.wakker@rug.nl)

(1) University of Groningen / (2) University of Amsterdam/University of Groningen

Identifying early warning signals may allow policy makers to efficiently use their resources to achieve maximum impact, a slight push at the right moment may determine whether a sustainable innovation will spread or not. We propose a methodology to detect early warning signals (EWS) for the adoption of sustainable innovations, by analyzing connotation shifts of occurrences of words denoting mainstream products and their more sustainable alternatives. Previous work (Scheffer et al., 2009; Lenton, 2020) suggests that detecting EWS can help to spot upcoming tipping points, i.e., critical thresholds leading to enduring changes in a system. Natural language has already been employed to detect EWS, with approaches such as topic modelling (Iliopoulos et al., 2022). In this contribution, we use the identification of connotation shifts along the sentiment dimension as a proxy for EWS detection in sustainable innovations. Connotations are emotional associations that represent the semantic-pragmatic sphere of lexical items and broaden their pure semantic meaning (Basile et al., 2022). We focus on the markets of dairy milk and vegan alternatives, examining how the distributional context and connotation of the word “milk” have changed from 2010 to 2022, on data collected from Reddit. Our hypothesis is that if these changes precede a spike in the market of milk’s vegan alternatives, they could be interpreted as predictors for tipping points. We have gathered over 1.000.000 comments containing the word “milk” from 18 subreddits, some of which wide-ranging, like “AskReddit”, while others specific, e.g., “vegan”. We will analyze this data to pinpoint possible variations in connotation of the word “milk”, whereas word embeddings will be employed to investigate how its distributional context might have changed over time. The study contributes to the literature on EWS detection in natural language and it is intended to provide useful insights for policy makers and marketers

## References:

- Basile, V., Caselli, T., Koufakou, A., and Patti, V. (2022). Automatically Computing Connotative Shifts of Lexical Items, pages 425–436.
- Iliopoulos, I., Kopalidis, N., Stavropoulos, G., and Tzovaras, D. (2022). National press monitoring using natural language processing as an early warning signal for prediction of asylum applications flows in europe. pages 4802–4806.
- Lenton, T. (2020). Tipping positive change. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 375:20190123.
- Scheffer, M., Bascompte, J., Brock, W., Brovkin, V., Carpenter, S., Dakos, V., Held, H., Nes, E., and Rietkerk, M. (2009). Early-warning signals for critical transitions. *Nature*, 461:53–9.

# ***Speaking the Mind: Investigating the Association between Speech Motor Control and Model-Based Estimations of Forgetting Rate***

**Thomas Wilschut (1), Hedderik van Rijn (1), and Defne Abur (1)**

t.j.wilschut@rug.nl / (1) University of Groningen

Speaking is a highly complex skill that requires a precise interplay between the lungs, vocal cords, jaw, lips and tongue. The brain initiates and coordinates all actions that are required to produce sounds, and constantly adapts the produced speech if needed: a process called sensorimotor adaptation (see Wolpert, Diedrichsen & Flanagan, 2011). Recent work has shown that an individual's sensorimotor adaptation rate (the rate at which speech commands are adjusted based on changes to sensory input) is influenced by various cognitive operations, such as attention, memory consolidation, learning, and changes in cognitive load (e.g., see Liu et al., 2018; McDougale, Ivry & Taylor, 2016). Furthermore, speakers with impairments in the domain of learning and memory (e.g., individuals with Alzheimer's disease and persons with Parkinson's disease) demonstrate disruptions to sensorimotor control of speech (e.g., see Liu et al., 2012). In the current study, we will explore the idea of using sensorimotor adaptation in speech as a trait-like measure of individual differences in learning and memory capacities. Participants (planned recruitment of 50 native Dutch, young adults) will complete both an adaptive memory task and a sensorimotor learning task. Using SlimStampen/MemoryLab, an ACT-R-based model of memory retrieval (van Rijn, van Maanen & van Woudenberg, 2009), we will estimate individual differences in learning and forgetting (Zhou et al., 2021), and we will investigate the relationship between sensorimotor learning and model-based estimations of forgetting rates. This study will be the first to examine the degree to which sensorimotor adaptation is associated with individual differences in rate of forgetting. As such, this study will aid our understanding of the relationship between speech-specific motor learning and memory capabilities. From a more practical perspective, this study can have implications for the development of speech-driven applications that aim to assess and/or aid memory capabilities. Furthermore, insights from this study can contribute to the further development of general-purpose models of memory retrieval, as sensorimotor learning rate may prove to be a key metric to inform such models.

## References:

- Liu, Y., Fan, H., Li, J., Jones, J. A., Liu, P., Zhang, B., & Liu, H. (2018). Auditory-motor control of vocal production during divided attention: behavioral and ERP correlates. *Frontiers in Neuroscience*, 12, 113.
- Liu, H., Wang, E. Q., Metman, L. V., & Larson, C. R. (2012). Vocal responses to perturbations in voice auditory feedback in individuals with Parkinson's disease. *PloS one*, 7(3), e33629.
- McDougale, S. D., Ivry, R. B., & Taylor, J. A. (2016). Taking aim at the cognitive side of learning in sensorimotor adaptation tasks. *Trends in cognitive sciences*, 20(7), 535-544.
- Van Rijn, H., van Maanen, L., & van Woudenberg, M. (2009, July). Passing the test: Improving learning gains by balancing spacing and testing effects. In *Proceedings of the 9th International Conference of Cognitive Modeling* (Vol. 2, No. 1, pp. 7-6).
- Wolpert, D. M., Diedrichsen, J., & Flanagan, J. R. (2011). Principles of sensorimotor learning. *Nature reviews neuroscience*, 12(12), 739-751.
- Zhou, P., Sense, F., van Rijn, H., & Stocco, A. (2021). Reflections of idiographic long-term memory characteristics in resting-state neuroimaging data. *Cognition*, 212, 104660.

# ***What cognates in idiomatic expressions can tell us about the bilingual mental lexicon***

**Kristina Weissbecker**

kristina.weissbecker@uni-kassel.de/ University of Kassel

Cognate facilitation effects have been a much-studied topic in the bilingualism research over the last decades (see e.g., Costa et al. 2000, Sánchez-Casas and García-Albea 2005). Interestingly enough, cognates are regularly included in idioms (Weissbecker 2022). Idioms, in turn, are an intricate case of studies due to their (non-)compositionality (e.g., Gibbs 1993, Fellbaum 1993). It is still an open question whether they require to be stored separately in the lexicon, and whether the literal meanings of the corresponding words in an idiom are accessed during processing (Gibbs 1993, Jackendoff 2002, 2007).

To address the issue of cognates within idioms and whether they are accessed during processing, we are conducting a bilingual experiment, pairing a self-paced reading task (SPR) with a lexical decision (LD). Sentences are in English and contain idiomatic VPs with an object noun as target; the independent variable is the target status (cognate or non-cognate). Items in the LD are German translations of the target words in the SPR. Fillers contain non-idiomatic phrases in the SPR and pseudowords in the LD. The dependent variables are reaction times and accuracy.

We predict a processing difference between experimental items and fillers which reflects speakers' accessing the literal meaning of the words within idioms. Furthermore, we hypothesize that speakers are also able to access cognate meaning, therefore a processing effect for cognate items is expected.

The results will have implications on our assumptions concerning the mental lexicon: an observed cognate effect would indicate strong connections between cognate translations, presumably even storage within one lexical entry. Absence of a processing effect would imply a separation of cognate translations (similar to non-cognates). Absence of differences between experimental items and fillers would mean, accessing the literal meaning of the words in idioms is not likely. In that case idiomatic expressions presumably require separate storage.

## References:

- Costa, A., Caramazza, A., and Sebastian-Galles, N. (2000). The Cognate Facilitation Effect: Implications for Models of Lexical Access. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 26.5 (pp. 1283-96).
- Gibbs, R.W. (1993). Why idioms are not dead metaphors. In C. Cacciari & P. Tabossi (Eds.), *Idioms. Processing, structure and interpretation* (pp. 57-78). Lawrence Erlbaum Associates.
- Fellbaum, C. (1993). The determiner in English idioms. In: C. Cacciari & P. Tabossi (Eds.), *Idioms. Processing, structure, and interpretation*. (pp. 271-295). Lawrence Erlbaum Associates.
- Jackendoff, R. (2002). *Foundations of language*. Oxford UP. ----. (2007). *Language, Consciousness, Culture*. MIT Press.
- Sánchez-Casas, R. & García-Albea, J. E. (2005). The representation of cognate and noncognate words in bilingual memory. In: J. F. Kroll & A. M. B. de Groot (Eds.), *Handbook of Bilingualism* (pp. 226-250). Oxford UP.
- Weissbecker, K. (2022, Aug. 5) 'That is where the shoe pinches' – cognates in context and in translation [Poster presentation]. ISBPAC 2023, Tromsø.

# ***The Influence of Tonal Language Experience on Pre-attentive Lexical Tone Perception***

**Shuyao Li (1), Dan Mu (1), Srdjan Popov (1), and Frank Tsiwah (1)**

s.li.64@student.rug.nl/ (1) University of Groningen

Phonological knowledge gained from language experience plays an important role in lexical tone perception (Xi et al., 2010). Previous neurophysiological studies have examined the role of tonal language experience in lexical tone perception and have reported stronger Mismatch Negativity (MMN, the indication of tone difference detection) on experienced (native) lexical tone perception than non-experienced (nonnative) lexical tone perception. However, most of these studies investigated typologically similar tonal languages such as Chinese, Cantonese and Thai. The goal of the current study is to investigate whether there is any difference between experienced (Chinese) lexical tone perception and another typologically different non-experienced language (Akan, an African language) lexical tone perception, by using an oddball paradigm. In the experiment, 20 Chinese native speakers who are naïve to Akan will watch a silent movie while listening to the auditory file of the Chinese and Akan lexical tones. They will be instructed to ignore the sound in their headphones and focus only on the content of the movie. Participants' EEGs (electroencephalogram) will be recorded. By conducting the experiment, we expect that, first, both Chinese and Akan deviant lexical tones can elicit MMN; second, Chinese deviant lexical tones will elicit more significant MMN amplitude than Akan lexical tones. These expected results would suggest that the familiarity of lexical tones developed in long-term tonal language experience would increase the sensitivity to lexical tones.

# ***Homogeneity in sentences with plural definites: a novel classification of non-maximal readings***

**Flavia Nährlich**

flavia.naehrlich@posteo.de / (1) University of Groningen

Homogeneity is a pervasive feature of natural languages that has been repeatedly studied in sentences with plural definites descriptions (e.g., Fodor, 1970; Löbner, 2000; Križ, 2015) such as (1). Here, the predicate ‘written in Dutch’ is ascribed homogeneously to the plurality denoted by the plural definite ‘the books’. (1) is usually true if all the books are written in Dutch and false if none of them are. As a consequence, such sentences are neither true nor false in non-homogeneous scenarios (some of the books are written in Dutch and some are not); we observe a truth-value gap.

(1) The books are written in Dutch.

However, sentences with plural definites can have non-maximal interpretations if the context allows for exceptions (pragmatic slack). Lasersohn (1999) demonstrates that (2) is true even if ‘a few insomniacs are puttering around their houses’.

(2) The townspeople are asleep.

Križ (2016) argues that the two phenomena, homogeneity and non-maximality, do not only appear together, they also disappear together: all has a slack-regulating effect and removes homogeneity. This observation motivates accounts on plural predication (Križ, 2016; Križ and Spector, 2021) in which the two phenomena are brought about by the same semantic mechanism. These accounts attempt to explain even extreme cases of nonmaximal readings (Malamud, 2012, example (2)). I argue, however, that the example from Malamud (2012) does not constitute a true non-maximal reading (pragmatic slack) but reanalyze it as a case of domain restriction. Moreover, I introduce a more fine-grained distinction between different types of non-maximal readings, including the so-called kind reading that has been observed with generics (Križ, 2015). I determine how and which non-maximal readings are linked to homogeneity and discuss consequences for theoretical accounts.

## References:

- Fodor, J. D. (1970). The linguistic description of opaque contexts. PhD thesis, Massachusetts Institute of Technology.
- Križ, M. (2015). Homogeneity effects in natural language semantics. PhD thesis, University of Vienna.
- Križ, M. (2016). Homogeneity, non-maximality, and all. *Journal of Semantics*, 33(3):493–539.
- Križ, M. and Spector, B. (2021). Interpreting plural predication: homogeneity and non-maximality. *Linguistics and Philosophy*, 44(5):1131–1178.
- Lasersohn, P. (1999). Pragmatic halos. *Language*, 75:522–551.
- Löbner, S. (2000). Polarity in Natural Language: Predication, Quantification and Negation in Particular and Characterizing Sentences. *Linguistics and Philosophy*, 23:213–308.
- Malamud, S. (2012). The meaning of plural definites: A decision-theoretic approach. *Semantics and Pragmatics*, 5:1–58.



# ***Verb processing and verb learning in children with posterior fossa tumors***

**Aliene Reinders (1), Roel Jonkers (1), and Vânia de Aguiara (1)**

a.reinders@rug.nl / (1) University of Groningen

*Background.* Intracranial tumors are the most frequent solid neoplasms in childhood (Dörner et al., 2007), and posterior fossa tumors account for 60% of the cases (Pollack et al., 1995). Survival rates have increased over the past decades, however, survivors of pediatric posterior fossa tumors (PPFTs) have reduced rates of academic outcome and employment (Lassaletta et al., 2015). They are also reported to show impairments in several domains of language (Huber et al., 2007; Lewis & Murdoch, 2011; Riva & Giorgi, 2000; Murdoch et al., 2004). To date, the verb learning abilities of children with PPFTs have not been examined. However, new verbs are harder to learn than nouns because of their semantic and syntactic complexity (Gentner, 2006), and vocabulary knowledge is a strong predictor of cognitive and language abilities (Marchman & Fernald, 2008). Therefore, the purpose of this study is to explore the verb processing and learning abilities of survivors of PPFTs.

*Method.* Forty-two childhood survivors of PPFTs and an equal number of typically developing siblings will be tested in verb and sentence production and comprehension. Furthermore, verb learning abilities will be assessed through a novel verb learning task. This task contains items with a varying degree of syntactic complexity, using unergative verbs (agent in subject position) and unaccusative verbs (non-agent in subject position), and of semantic complexity, using verbs with a higher or lower degree of concreteness.

*Predicted results.* Childhood survivors of PPFTs may perform below typically developing children in all tasks, with high inter-individual variability in what aspects of verb processing and learning are more impaired. We expect that difficulties in verb and sentence production and comprehension which are syntactic or semantic in nature, correlate with effects of the corresponding syntactic or semantic variables, which are manipulated in the verb learning test. Pilot results will be presented at the conference.

## References:

- Dörner, L., Fritsch, M. J., Stark, A. M., & Mehdorn, H. M. (2007). Posterior fossa tumors in children: how long does it take to establish the diagnosis?. *Child's Nervous System*, 23(8), 887-890.
- Gentner, D. (2006). Why verbs are hard to learn. In K. Hirsh-Pasek, & R. Golinkoff, (Eds.) *Action meets word: How children learn verbs* (pp. 544-564). Oxford University Press.
- Huber, J. F., Bradley, K., Spiegler, B., & Dennis, M. (2007). Long-term neuromotor speech deficits in survivors of childhood posterior fossa tumors: effects of tumor type, radiation, age at diagnosis, and survival years. *Journal of child neurology*, 22(7), 848- 854.
- Lassaletta, A., Bouffet, E., Mabbott, D., & Kulkarni, A. V. (2015). Functional and neuropsychological late outcomes in posterior fossa tumors in children. *Child's Nervous System*, 31(10), 1877- 1890.
- Lewis, F. M., & Murdoch, B. E. (2011). Language outcomes following risk-adapted treatments for tumors located within the posterior fossa. *Journal of Child Neurology*, 26(4), 440- 452.
- Marchman, V. A., & Fernald, A. (2008). Speed of word recognition and vocabulary knowledge in infancy predict cognitive and language outcomes in later childhood. *Developmental science*, 11(3), F9-F16.
- Murdoch, B. E., Docking, K. M., & Ward, E. C. (2004). Language and phonological awareness abilities of children treated for posterior fossa tumor. In *Neurogenic language disorders in children* (pp. 87-126). Brill.
- Pollack, I. F., Polinko, P., Albright, L. A., Towbin, R., & Fitz, C. (1995). Mutism and Pseudobulbar Symptoms after Resection of Posterior Fossa Tumors in Children: Incidence and Pathophysiology. *Neurosurgery*, 37(5), 885-892.
- Riva, D., & Giorgi, C. (2000). The cerebellum contributes to higher functions during development: evidence from a series of children surgically treated for posterior fossa tumours. *Brain*, 123(5), 1051-1061.

# ***Do Opposites Really Attract? A Study of Semantic Change Patterns***

**Konrad Szczesniak**

konrad.szczesniak@gmail.com/ Palacky University Olomouc

This presentation will focus on the cognitive-semantic link between the concepts of relatedness and attraction, as in the case of words like affinity, whose senses include 'relationship, connection' and 'liking, attraction'. Examples from a number of languages will be considered to illustrate the kinds of contexts in which one concept can be reinterpreted as the other. Such ambiguity is assumed to be the main mechanism behind the emergence of new senses (Harris & Campbell 1995, Hopper & Traugott 2003). It is further proposed that the semantic change under consideration is likely to occur in specific syntactic patterns and formulaic environments (Heine 2002). The findings, such as the direction of semantic change, will be considered against the backdrop of cognitive phenomena such as in-group bias (e.g. Sears & Rowe 2003), ethnocentrism, and egocentric bias. These will be contrasted with the well-known observation that "opposites attract". The upshot is that it is similarity-related biases that manifest themselves in semantic re-analyses and give rise to the gradual changes of meaning. This direction of semantic change is in line with the notion that linguistic categorizations are "reflections of general conceptual organization, categorization principles, processing mechanisms, and experiential and environmental influences" (Geeraerts & Cuyckens 2007: 3)

## References:

- Geeraerts, D. & Cuyckens, H. 2007. Introducing cognitive linguistics. In D. Geeraerts & H. Cuyckens (Eds.), *The Oxford Handbook of Cognitive Linguistics* (pp. 3-21). Oxford: Oxford University Press.
- Harris, A.C. & L. Campbell. 1995. *Historical syntax in cross-linguistic perspective*. Cambridge: Cambridge University Press.
- Heine, B. 2002. On the role of context in grammaticalization. In I. Wischer & G. Diewald (eds). *New reflections on grammaticalization*. Amsterdam: Benjamins.
- Hopper, P. & E.C. Traugott. 2003. *Grammaticalization*. Cambridge: Cambridge University Press.
- Sears, G. J. & Rowe P. M. 2003. A personality-based similar-to-me effect in the employment interview: Conscientiousness, affect-versus competence-mediated interpretations, and the role of job relevance. *Canadian Journal of Behavioural Science* 35(1): 13-24.

# ***Is there a trilingual advantage in inhibitory control?***

**Sanne van Eijdsen**

s.l.van.eijdsen@student.rug.nl / University of Groningen

Previous research has frequently established a so-called bilingual advantage, especially suggesting better developed inhibitory control for bilinguals compared to monolinguals (Bialystok et al., 2005; Bialystok et al., 2008; Green, 1998; Verreyt et al., 2016). The limited number of studies looking at whether trilingualism may lead to even more advanced inhibitory control than bilingualism, has found contradictory results (Hsu, 2014; Madrazo & Bernardo, 2018; Schroeder & Marian, 2017). Accordingly, the current psycholinguistic study sought to gain more insight into whether such a trilingual advantage exists and what cognitive factors may underlie this potential advantage. We compared fifteen early Dutch-English-German trilingual students to sixteen Dutch-English bilingual students with the objective of determining whether trilinguals have more advanced inhibitory control than bilinguals. We operationalized inhibitory control by using the Simon task (Simon & Rudell, 1967), measuring two main components: accuracy and reaction times. Furthermore, we calculated three effects based on the reaction times: the Simon effect, the interference effect, and the inverse efficiency score. Our results showed that trilinguals were more accurate than bilinguals in all conditions (congruent/incongruent/neutral trials). However, no significant difference between bi- and trilinguals was found for the other components of inhibitory control. Finally, we established that other factors, such as biological age or gender, had an important influence on the different elements of inhibitory control. Concluding, these findings seem to indicate that trilingualism leads to more advanced domain-general inhibitory control compared to bilingualism, with the strength of the effect being dependent on several other underlying factors.

## References:

- Bialystok, E., Craik, F. I. M., Grady, C., Chau, W., Ishii, R., Gunji, A., & Pantev, C. (2005). Effect of bilingualism on cognitive control in the Simon task: Evidence from MEG. *Neuroimage*, 24(1), 40-49. <https://doi.org/10.1016/j.neuroimage.2004.09.044>
- Bialystok, E., Craik, F. I. M., & Luk, G. (2008). Cognitive control and lexical access in younger and older bilinguals. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 34(4), 859-873. <https://doi.org/10.1037/0278-7393.34.4.859>
- Green, D. W. (1998). Mental control of the bilingual lexico-semantic system. *Bilingualism: Language and Cognition*, 1(2), 67-81. <https://doi.org/10.1017/S1366728998000133>
- Hsu, H. L. (2014). Effects of bilingualism and trilingualism in L2 production: Evidence from errors and self-repairs in early balanced bilingual and trilingual adults. *Journal of Psycholinguistic Research*, 43(4), 357-379. <https://doi.org/10.1007/s10936-013-9257-3>
- Madrazo, A. R., & Bernardo, A. B. I. (2018). Measuring two types of inhibitory control in bilinguals and trilinguals: Is there a trilingual advantage? *Psychological Studies*, 63, 52- 60. **References:**
- Ozubko, J. D., & Macleod, C. M. (2010). The production effect in memory: evidence that distinctiveness underlies the benefit. *Journal of experimental psychology. Learning, memory, and cognition*, 36(6), 1543-1547. <https://doi.org/10.1037/a0020604>
- Rugg, M. D., & Curran, T. (2007). Event-related potentials and recognition memory. *Trends in cognitive sciences*, 11(6), 251-257. <https://doi.org/10.1016/j.tics.2007.04.004>
- Schroeder, S. R., & Marian, V. (2017). Cognitive consequences of trilingualism. *International Journal of Bilingualism*, 21(6), 754-773. <https://doi.org/10.1177/2F1367006916637288>
- Simon, J. R., & Rudell, A. P. (1967). Auditory S-R compatibility: The effect of an irrelevant cue on information processing. *Journal of Applied Psychology*, 51(3), 300-304. **References:**
- Ozubko, J. D., & Macleod, C. M. (2010). The production effect in memory: evidence that distinctiveness underlies the benefit. *Journal of experimental psychology. Learning, memory, and cognition*, 36(6), 1543-1547. <https://doi.org/10.1037/a0020604>
- Rugg, M. D., & Curran, T. (2007). Event-related potentials and recognition memory. *Trends in cognitive sciences*, 11(6), 251-257. <https://doi.org/10.1016/j.tics.2007.04.004>
- Verreyt, N., Woumans, E., Vandelandotte, D., Szmalec, A., & Duyck, W. (2016). The influence of language-switching experience on the bilingual executive control advantage. *Bilingualism: Language and Cognition*, 19(1), 181-190. <https://doi.org/10.1017/S1366728914000352>

***Stretching the truth: a systematic review on experiments  
reducing social desirability bias in survey research***

**Emma Zaal (1), Yfke Ongena (1), Nina van der Velden (1), Dan  
Loughnan (1), and John Hoeks (1)**

e.l.zaal@rug.nl / (1) University of Groningen

Social Desirability Bias (SDB), presenting your behaviors and cognitions more favorably than they actually are, is a phenomenon that poses serious issues in social science research that makes use of self-reports (i.e., interviews & surveys). SDB leads respondents to answer questions towards perceived societal norms or to not answer at all (i.e., non-response). For instance, respondents have the tendency to underreport behaviors like illegal drug use and radical right-wing voting (non-normative behavior) and overreport behaviors such as working out and voting (normative behavior). Data quality can be severely diminished by SDB which in turn can lead to misinforming follow-up research, policies and campaigns that are based on inaccurate survey data. Yet, we are still in the early stages of investigating what exactly the most promising methods are in reducing SDB in survey research.

To this end, we carried out a systematic review of experiments aimed at lowering SDB in studies published between 2017 and 2021 available in two academic databases: PsycInfo and Scopus. First, we outline all methodologies on SDB reduction that are employed in the collected studies. In addition, we present an overview of the most promising to the least promising reduction methods. In addition, we include recommendations on SDB reduction associated with: the behavioral topic (e.g., self-reported illegal drug use) or cognitive topic (attitudes towards radical right-wing voting) that is being investigated; question presentation (e.g., list framing), wording (e.g., forgiving question wording) and answer option manipulations (e.g., offering guilt-free options), and; context of questionnaire (e.g., mode of administration). Based on these findings, we discuss gaps in theory and practice that are still present regarding knowledge on how to reduce SDB most effectively, including recommendations on what future research should address to further close these gaps.

# ***The ability of thematic and taxonomic semantic categorization in people with Essential Tremor & Parkinson's Disease, pre- and post-DBS surgery***

**Elisa de Jong (1), Marc van Dijk (1), Marinus Oterdoom (1), and Adrià Rofes (1)**

e.c.de.jong.3@student.rug.nl / (1) University of Groningen

People with Essential Tremor (ET) and people with Parkinson's Disease (PD) develop long-term disabling movement disorders (Limousin & Foltynie, 2019). Deep Brain Stimulation (DBS) is applied as a surgical treatment for these disorders (Martinez-Ramirez et al., 2015). DBS is most frequently applied to the subthalamic nucleus (STN) in PD and to the ventral intermediate nucleus of the thalamus (VIM) in ET (Ashkan et al., 2017). DBS in the VIM or STN can cause difficulties in language functioning (e.g., Batens et al., 2014; Ehlen et al., 2014; 2016; Vos et al, 2021). Still, little is known about specific aspects of lexicosemantic processing in these populations.

The aim of this study was to examine taxonomic and thematic categorisation in people with ET and PD before and after DBS-surgery. Since the thalamus is involved in taxonomic relationships (Sachs et al. 2008), people with ET might have difficulties with taxonomic categorisation after VIM-DBS surgery. People with PD may perform worse in general, due to a deficit in lexical selection in situations with more competing alternatives (Castner et al., 2008).

Four adults with ET and four adults with PD were assessed one day before and about two months after DBS surgery. Cognition was assessed with the Montreal Cognitive Assessment (MoCa; Nasreddine et al., 2005), followed by performing the Text-to-Picture Semantic Association Task (TP-SAT; Svaldi, 2020). This multimodal task assesses semantic processing, word reading, lexical retrieval, speech planning and articulation within the same item and assesses both thematic and taxonomic semantic relations. Pre- and post-surgery assessments have been compared per individual and per group. One participant performed worse on the TP-SAT before VIM surgery than after surgery. Still, both performances were within average and there was no difference found between taxonomic and thematic categorisation. At this moment, data collection is still on-going for the other participants.

## References:

- Ashkan, K., Rogers, P., Bergman, H., & Ughratdar, I. (2017). Insights into the mechanisms of deep brain stimulation. *Nature Reviews Neurology*, 13(9), 548–554.
- Batens, K., De Letter, M., Raedt, R., Duyck, W., Vanhoutte, S., Van Roost, D., & Santens, P. (2014). The effects of subthalamic nucleus stimulation on semantic and syntactic performance in spontaneous language production in people with parkinson's disease. *Journal of Neurolinguistics*, 32, 31–41.
- Castner, J. E., Chenery, H. J., Silburn, P. A., Coyne, T. J., Sinclair, F., Smith, E. R., & Copland, D. A. (2008). Effects of subthalamic deep brain stimulation on noun/verb generation and selection from competing alternatives in parkinson's disease. *Journal of Neurology, Neurosurgery, and Psychiatry*, 79(6), 700–5.
- Ehlen, F., Schoenecker, T., Kuhn, A. A., and Klostermann, F. (2014). Differential effects of deep brain stimulation on verbal fluency. *Brain and Language*, 134, 3–33.
- Ehlen, F., Vonberg, I., Kühn, A.A., & Klostermann, F. (2016). Effects of thalamic deep brain stimulation on spontaneous language production. *Neuropsychologia*, 89, 74–82.
- Limousin, P., & Foltynie, T. (2019). Long-term outcomes of deep brain stimulation in Parkinson's disease. *Nature Reviews Neurology*, 15(4), 234–242.
- Nasreddine, Z. S., Phillips, N. A., Bédirian, V., Charbonneau, S., Whitehead, V., Collin, I., ... & Chertkow, H. (2005). The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment. *Journal of the American Geriatrics Society*, 53, 695–699.
- Sachs, O., Kircher, T., Weis, S., Huber, W., & Krings, T. (2008). Categorical and thematic knowledge representation in the brain: neural correlates of taxonomic and thematic conceptual relations. *Neuropsychologia*, 46(2), 409–418.
- Vos, S. H., Kessels, R. P. C., Vinke, R. S., Esselink, R. A. J., & Piai, V. (2021). The effect of deep brain stimulation of the subthalamic nucleus on language function in Parkinson's disease: a systematic review. *Journal of Speech, Language, and Hearing Research*, 64, 2794–2810.

# ***Auditory-motor control analysis of voice production in hearing impaired speakers by means of Machine Learning***

**Benjamin Peschel (1) and Tony Schelhorn (1)**

tony.schelhorn@uk-erlangen.de / benjamin.peschel@uk-erlangen.de  
(1) Universitätsklinikum Erlangen

## Introduction

We investigate the effect of hearing impairment on speech motor control (SMC) by eliciting the pitch shift reflex (PSR). First subjects are given a target pitch for phonation, while the produced sounds are captured and played back to them via noise cancelling headphones, replacing normal auditory feedback. Then, the artificial feedback is altered in pitch eliciting a change in phonation (PSR) in the majority of subjects. We capture the effect by employing a multi modal measuring system. Similar experiments have been performed on non-hearing-impaired subjects [1] including dysphonic speakers [2,3]. Applying modern artificial intelligence algorithms to this multidimensional data set, we hope to prove or refute the following hypothesis:

There are neurosensory, auditory and kinesthetic differences in SMC characteristics when eliciting the PSR between normal-hearing listeners and sensorineural hearing-impaired patients.

## Materials and Methods

A total of 40 native German-speaking HI patients (20 male, 20 female) and 40 normal hearing subjects (20 male, 20 female) will be recruited for testing. These SMC differences present in PSR experiments can be measured with a multisensory setup, combining synchronous recordings of voice output, electroencephalogram (EEG) and vocal fold video capture. Acoustic feedback will be applied by Headphones while a microphone records the subjects voice signal. A high-speed camera will record videos of the subjects' vocal folds. The camera will be coupled to a flexible endoscope, which will be inserted nasally to allow phonation. A 32-channel EEG system will measure the acoustic change complex. We will employ state of the art Machine Learning models to efficiently analyse the large-scale multidimensional data set for predictors of hearing impairment. For this we will use convolutional neural networks and a combination of boosted decision stumps with established signal properties, like jitter for the voice parameters, glottal closure quotient for the video recording and mismatch negativity for the EEG recordings.

## References:

- [1] - S. Petermann, M. Döllinger, S. Kniesburges, A. Ziethe. Analysis of neurological and physiological processes underlying the pitch-shift reflex. *Acta Acust United Ac*, 102(2):284-97; 2016.
- [2] - Li, Y., Tan, M., Fan, H., Wang, E. Q., Chen, L., Li, J., Chen, X., Liu, H. (2021). Neurobehavioral effects of LSVT® LOUD on auditory-vocal integration in Parkinson's disease: A preliminary study. *Frontiers in Neuroscience*, 15, 181.
- [3] - Huang, X., Chen, X., Yan, N., Jones, J. A., Wang, E. Q., Chen, L., et al. (2016). The impact of Parkinson's disease on the cortical mechanisms that support auditory-motor integration for voice control. *Hum. Brain Mapp.* 37, 4248-4261. doi: 10.1002/hbm.23306

# ***Processing of coherence relations in school students: effect of the connective and the stimulus modality***

**Valeria Arriaza Puebla**

valeria.arriaza.p@gmail.com / Universidad Autónoma de Chile

Coherence relations are required for text comprehension (Kintsch, 1998; Recio et al., 2021). There is a broad consensus on the positive effect of the degree of cohesion of texts (Murray, 1997; Sanders & Noordman, 2000).

In the school context, due to the intrinsic connection between understanding and learning (McNamara, 2011), knowing the variables that affect the establishment of coherence in students allows us to identify factors that affect learning. However, comprehension in the classroom occurs in written and oral modalities (Shanahan et al., 2006; Manghi & Badillo, 2015). In psycholinguistic research, there is still no consensus on how modality can influence discourse processing (Cevasco & van den Broek, 2008; Knoepke et al., 2017). This research aims to determine the effect of the connective and the stimulus modality when school students establish coherent relations. Reading speed was considered a covariate. 144 students (M age= 13) collaborated in an experiment. The experimental tasks were organized into reading and listening phases using the self-paced reading/listening technique. The materials were prepared from prototype knowledge genres of school textbooks.

The ANCOVA test determined that the cohesive mark facilitates the processing of written coherence relations, as in other investigations ( $Pr>F= 0.000213$ ) (Murray, 1997; Sanders & Noordman, 2000). The main result of this study evidenced the ease of processing coherence relations in the oral modality compared to the written modality ( $Pr>F= 4.41e-10$ ). Also, we observed the relevance of the connective for coherence establishment, especially in written modality. Likewise, reading speed was a facilitator for establishing coherence ( $Pr>F= 1.79e-14$ ). Comparing the establishment of coherence in different sensory modalities refers to certain initial phases of language processing that are different in each sensory modality. Thus, in oral modality, integrating information other than strictly linguistic information could be more relevant than the presence or absence of the connective.

## References:

- Cevasco, J. & van den Broek, P. (2008). The importance of causal connections in the comprehension of spontaneous spoken discourse. *Psicothema*, 20, 801-806.
- Kintsch, W. (1998). *Comprehension: A paradigm for cognition*. Cambridge University Press.
- Knoepke, J., Richter, T., Isberner, M., Naumann, J., Neeb, Y. & Weinert, S. (2017). Processing of positive-causal and negative-causal coherence relations in primary school children and adults: a test of the cumulative cognitive complexity approach in German. *Journal of Child Language*, 1- 32
- Manghi, D. & Badillo, C. (2015). Modos semióticos en el discurso pedagógico de Historia: potencial semiótico para la mediación en el aula escolar. *Íkala: Revista de Lenguaje y Cultura*, 20(2).
- McNamara, D. S. (2011). Measuring deep, reflective comprehension and learning strategies: challenges and successes. *Metacognition and Learning*, 6(2), 195-203.
- Murray, J. D. (1997). Connectives and narrative text: The role of continuity. *Memory & Cognition*, 25(2), 227-236. doi:10.3758/BF03201114.
- Recio, I., Loureda, O., & Sanders, T. J. M. (2021). Constructing discourse: An experimental approach. *Revista signos*, 54(107), 1004-1025. doi:10.4067/S0718-09342021000301004
- Sanders, T. & Noordman, L. (2000). The role of coherence relations and their linguistic markers in text processing. *Discourse Processes*, 29(1), 37-60. doi:10.1207/S15326950dp2901\_3
- Shanahan, T., MacArthur, C. A., Graham, S., & Fitzgerald, J. (2006). Relations among oral language, reading, and writing development. *Handbook of writing research*, 171-183.



# ***The Dilation of the Pupil in Language Production***

**Maeike Slikkerveer (1) and Simone Sprenger (1)**

m.a.slikkerveer@student.rug.nl / (1) University of Groningen

In language production, it is thought that semantic information gets retrieved prior to phonological information (Levelt, Roelofs and Meyer; 1999). This has also been tested using a priming design, in which participants heard a prime that was either semantically or phonologically related at different onset times when naming pictures, such as in Roelofs, Meyer and Levelt (1990). This study indeed showed evidence for independent, serially ordered stages of lexical access. However, individual stages in language production remain difficult to visualize, since we don't have direct access to or awareness of these processes. Van Turenhout, Haagoort and Brown (1997) also investigated the different stages of language production with a go-nogo task using ERPs and similarly found early semantic activation and later phonological activation.

In this research, I investigate the possibility to visualise the time course of language production using pupillometry. Since it is known that the pupil is sensitive to and can reflect linguistic processes, widening when more mental effort is used (Verbree, van Rij and Sprenger; 2020), it would be interesting to investigate if the known effects from both the priming experiments as well as the go-nogo task can be replicated using pupillometry measurements. In order to do this, I measured participants' pupil responses in both a go-nogo task and a priming task. I expect the pupil to show earlier widening when semantic processing is required and later widening when phonological processing is required. Early results show a promising development and the full results will be available when the TABU dag takes place. In the future, this knowledge could be used to more accurately understand the exact processes that take place in the brain in language production and how they are related to each other in time.

## References:

- Levelt, W. J., Roelofs, A., & Meyer, A. S. (1999). A theory of lexical access in speech production. *Behavioral and brain sciences*, 22(1), 1-38.
- Schriefers, H., Meyer, A. S., & Levelt, W. J. (1990). Exploring the time course of lexical access in language production: Picture-word interference studies. *Journal of memory and language*, 29(1), 86-102.
- Verbree, R., van Rij, J., & Sprenger, S. (2020). Mentale Beanspruchung beim Sprechen: Erkenntnisse aus der Pupillometrie zur flüssigen und gestotterten Sprachproduktion. *Spektrum Patholinguistik*, 12, 211.

# ***The role of linguistic predictions in the interpretation of wh-questions***

**Matthias Reiner (1), Petra Hendriks (2), and Esther Ruigendijk (3)**

matthias.reinere@uni-oldenburg.de / p.hendriks@rug.nl /

esther.ruigendijk@uni-oldenburg.de

(1) University of Oldenburg/University of Groningen / (2) University of Groningen /  
(3) University of Oldenburg

Language processing has been argued to be predictive (Kuperberg & Jaeger, 2016). Such linguistic predictions consist of upcoming words and structures deemed most likely based on preceding information (Özge et al., 2022). Evidence suggests that linguistic predictions could compensate for difficulty in language processing caused by e.g., hearing impairments (HI) (Wingfield & Peelle, 2015). However, what kind of information is used to generate linguistic predictions, for which kind of listeners and in which situations this occurs is still unclear.

Evidence points to the use of both morphosyntactic cues and contextual information in forming linguistic predictions (Ryskin et al., 2020). Take wh-questions, such as “Welcher Frosch sieht die Vögel?” (“which frog sees the birds?”) as an example. To correctly interpret this question, we rely on specific cues like subject-verb agreement and case (“Welcher (nominative) Frosch (SG) sieht (SG) die Vögel (PL)”). In our design, we use wh-question processing to conduct a cross-linguistic investigation in a series of studies examining the role of different information sources. We investigate morphosyntactic (case and subject-verb agreement) and contextual information. We also examine how differences in perceptual salience between morphosyntactic and contextual information affect listeners, especially with HI, how this information is utilized to assist comprehension, i.e., to compensate for reduced speech perception, and to what degree languages differ in this predictions-based compensation.

Using eye-tracking, we investigate the relationship between the available information used for linguistic predictions and the accuracy and speed of wh-question interpretation. Additionally, we assess working memory capacity as a cognitive measurement. The four groups of participants consist of German L1 and Dutch L1 adults with HI alongside adult German L1 and Dutch L1 speakers with typical hearing.

The project is currently in its pilot phase, and we aim to present data of the first group of typical hearing German L1 speakers.

## References:

- Kuperberg, G. R., & Jaeger, T. F. (2016). What do we mean by prediction in language comprehension?. *Language, cognition and neuroscience*, 31(1), 32–59. <https://doi.org/10.1080/23273798.2015.1102299>
- Özge, D., Kornfilt, J., Maquate, K., Küntay, A., & Snedeker, J. (2022). German-speaking children use sentence-initial case marking for predictive language processing at age four. *Cognition*, 221, 104988. <https://doi.org/10.1016/j.cognition.2021.104988>
- Ryskin, R., Levy, R. P., & Fedorenko, E. (2020). Do domain-general executive resources play a role in linguistic prediction? Re-evaluation of the evidence and a path forward. *Neuropsychologia*, 136, 107258. <https://doi.org/10.1016/j.neuropsychologia.2019.107258><https://doi.org/https://doi.org/10.1016/j.cognition.2018.10.026>
- Wingfield, A., & Peelle, J. E. (2015). The effects of hearing loss on neural processing and plasticity. *Frontiers in Systems Neuroscience*, 9, 35–35. <https://doi.org/10.3389/fnsys.2015.00035>

# ***Shades of grammar: The cognitive basis of morphological productivity in polysynthetic languages***

**Maria Mazzoli (1) and Margaux Dubuis (1)**

m.mazzoli@rug.nl / margaux.dubuis1@gmail.com

(1) University of Groningen

In this talk we will outline the societal impact, conceptual framework and research questions of the SHADES project.

Polysynthetic languages, like Plains Cree (Canada) and Mapudungun (Chile), can build complex words that are expressed as entire sentences in more analytic languages, as in the Plains Cree word *nôhtedônôtacaskwêw* 'she tries to go and hunt muskrats'. The potential of polysynthetic word formation includes multiple derivational strategies, the affixation of noun-like components to verbs, and even the morphological expression of basic syntactic relationships, as in object noun incorporation (*-acaskw-* in the example).

Taking a cognitive and usage-based perspective to morphology (Jackendoff and Audring 2020, Audring 2022), we will put forward a holistic view on productivity encompassing "motivation" of word internal structure (as reflected in distributional properties) and "entrenchment" of this structure at the cognitive level (as reflected in speakers' intuitions and in levels of activation during processing).

Our team will test the hypotheses of:

- (1) a relationship between the perceived productivity of polysynthetic schemas (intuition), the cognitive availability of those schemas (activation), and corpus-based metrics (motivation);
- (2) a measurable (psycho)linguistic difference in entrenchment and motivation between productive and non-productive schemas;
- (3) a measurable (psycho)linguistic difference in entrenchment and motivation between syntactically-motivated and non-syntactically-motivated morphological schemas.

Inspired by postcolonial critical perspectives, the SHADES approach is centred around mutual knowledge transfer between community members and researchers (Mazzoli 2020). To ensure effective knowledge utilization, our team will create, in each fieldwork location, community-based language-education programs that respond to specific needs of our community partners.

## References:

- Audring, Jenny. 2022. Advances in morphological Theory: Construction Morphology and Relational Morphology. *Annual Review of Linguistics* 8: 39-58.
- Jackendoff Ray S. & Audring Jenny. 2020. *The Texture of the Lexicon: Relational Morphology in the Parallel Architecture*. Oxford, UK: Oxford University Press.
- Mazzoli, Maria. 2020. Michif studies: Challenges and opportunities in collaborative language research. *Journal of Postcolonial Linguistics* 3: 43-63.

# Poster session B – Friday, June 16th

Presenters	Title
Veerle Wilms	Bridging the gap between speech production and comprehension in (irrelevant) competing speech
Marta Massaia	Simulative clauses as relative clauses: evidence from Germanic
Majid Elahi Shirvan and Tahereh Taherian	Longitudinal Investigation of the Influence of Positive Psychology-based Language Learning on Third-agers' Quality of Life: A Latent Change Score Analysis
Laura Sala Franch	Functional Communication in Waterfowl Birds. Applying pragmatics linguistics theory of Speech Act Theory to naturally occurring animal behaviour
Xuedi Han	Accompany, identity, and emotion: Exploring identity negotiation during accompanying services
Özlem Yeter, Barteld Kooi, Rineke Verbrugge, and Petra Hendriks	Linguistic and Cognitive Building Blocks of Lie Detection: The Detective Game
Austin Howard	Sound Symbolism in Kichwa Communication and the Turkish Tongue
Nikki Hoekzema, Teja Rebernik, Thomas Tienkamp, Roel Jonkers, Aude Noiray, Adrià Rofes, Martijn Wieling, and Defne Abur	The relation between lexical retrieval, cognition, and articular coordination in persons with Parkinson's disease
Marie Guy Christel Vercauteren	Simultaneous Language Learning in Flanders, Belgium: How English as a Global Language affects the motivation to learn French among Flemish pupils
Natasha Dvorina, Alina Bihovsky, Michal Ben-Shachar, and Natalia Meir	Working memory and morphosyntactic comprehension and production in bilingual individuals with aphasia

Yuqing Zhang, Tessa Verhoef, Gertjan van Noord, and Arianna Bisazza	Do neural networks display a dependency length minimization (DLM) principle like humans?
Cristina Reguera-Gómez	Speech Recognition of Rural Spanish Using Google Cloud Speech-to-Text API
Katharina Polsterer, Teja Rebernik, Thomas Tienkamp, Hedwig Sekeres, Alessia Baque, Martijn Wieling, and Defne Abur	Impact of typical aging on auditory-motor learning
Lieke Hendriks	Disentangling Noun Phrase Ellipsis and split Noun Phrases in Dutch dialects
Odysseas Asithianakis	‘Eating’, ‘drinking’ or both?: Dutch and English exposure effects on the structure of young bilinguals’ receptive vocabulary networks
Louisa Richter, Jascha Rüsseler, Greg Poarch, and Merel Keijzer	Never too old to learn: Employing resting-state EEG to study the effectiveness of language learning in the elderly
Jan van Gulik	Young children’s peer talk in writing practices
Man Tsun Jess Kan	Connections between Souls: Morphosyntactic transfers between L3 and L4/Ln
Valentina Ciot, Teja Rebernik, Thomas Tienkamp, Katharina Polsterer, Hedwig Sekeres, Alessia Baque, Martijn Wieling, and Defne Abur	The impact of an altered auditory feedback task on articulatory-acoustic vowel space
Tongyao Diao and Ana Guerberofo Arenas	CREAMT: cognitive effort and creativity in literary texts translated using different modalities
Rachel D’Cruz and Defne Abur	Impact of age on acoustic and perceptual measures of voice quality in Italian speakers
Ghazal Hamdi	Emotions and Multilingualism in Transnational Migration: Egyptian immigrants in the Netherlands

# ***Bridging the gap between speech production and comprehension in (irrelevant) competing speech***

**Veerle Wilms**

veerle.wilms@mpi.nl / Max Planck Institute for Psycholinguistics Nijmegen

We are often confronted with others speaking in the background while in conversation (as in the cocktail party effect, Cherry, 1953). The language system deals with multiple streams of linguistic information while we do this: it processes incoming and outgoing messages while also ignoring linguistic information. Speech comprehension and production in competing speech (CS; i.e., a competing talker) have previously been studied with different designs and studies: speech-in-speech intelligibility on the one hand (e.g., Brouwer et al., 2012) and Lombard speech on the other (e.g., Lombard, 1911). Comprehension and production have yet to be studied together to better understand how language processing as a whole is affected by CS.

We propose a design for studying both speech comprehension (experiment 1) and production (experiment 2) in CS. Participants are presented with Dutch words (e.g., Zalm Salmon) that are accompanied with CS or white noise (for baseline performance). These competing noises are presented either during or immediately after the target word (Figure 1). Participants perform an animacy judgement (comprehension) or free word association task (production). The competing noise is thus manipulated within-subjects and the comprehension/production task between-subjects. The current study will focus on reaction times (RTs) and onset latencies to measure processing difficulties during both comprehension and production.

The hypotheses for these experiments are as follows: (1) comprehension is likely to be more negatively affected by CS than production, (2) comprehension is more negatively affected by CS when it is presented during rather than after the target words, and (3) production is more negatively affected by CS when it is presented after rather than during the target words. Hypothesis 2 and 3 follow from the idea that linguistic dual-tasking poses difficulties for the language system. The results of this study will show whether that is indeed the case for comprehension and production.

## References:

- Brouwer, S., van Engen, K.J., Calandruccio, L., & Bradlow, A.R. (2012). Linguistic contributions to speech-on-speech masking for native and non-native listeners: Language familiarity and semantic content. *The Journal of the Acoustical Society of America*, 131(2), 1449-1464. <https://doi.org/10.1121/1.3675943>
- Cherry, E. C. (1953). Some experiments on the recognition of speech, with one and with two ears. *The Journal of the Acoustical Society of America*, 25(5), 1262-2527. <https://doi.org/10.1121/1.1907229>
- Lombard, E. (1911). Le signe de l'élévation de la voix. *Annales des Maladies de l'Oreille, du Larynx, du Nez et du Pharynx*, 37, 101-119.

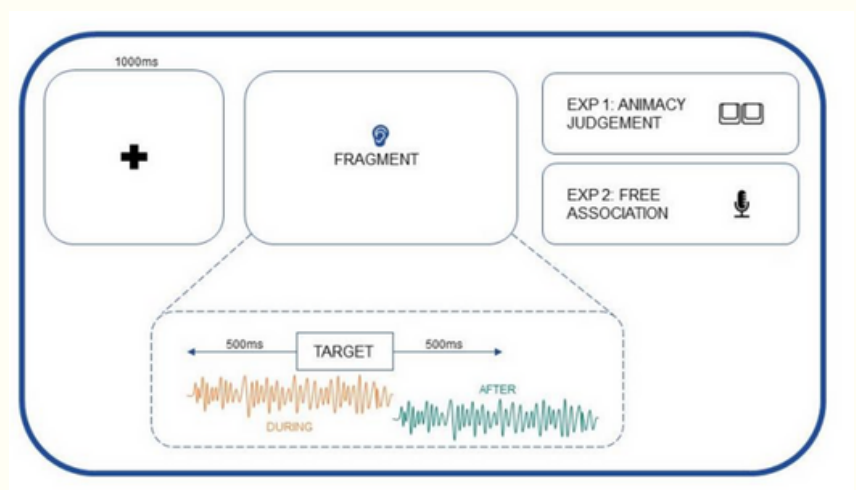


Figure 1. Trial structure

# ***Similative clauses as relative clauses: evidence from Germanic***

**Marta Massaia**

m.massai@uu.nl / Utrecht University

The typological literature on the constructions expressing comparison of equality isolates very specific constructions referred to as “similative clauses” which are defined to express “sameness of manner” (Haspelmath & Buchholz 1998: 278).

1) Jan        hat        (so)        getanzt,                wie        sein        Vater    immer    tanzt. (German)  
   John     has        so        danced                how     his        father   always   dances  
     “John danced as his father always dances.”

Similative clauses typically feature a so-called ‘standard marker’ (wie ‘how’ in the German example above) which introduces the subordinate clause and instantiates the similarity and/or identity relation between two ways of doing something and an optional parameter marker (so ‘so’) always in the form of a ‘manner demonstrative’ (in line with König&Umbach 2018).

In Germanic languages, standard markers represent a big source of variation, ranging from so-called ‘as’-elements (English as, Dutch als) to wh-elements (German wie), to complementizer-like elements (Mainland Scandinavian som); parameter markers on the other hand are a somewhat uniform class of elements (German so, Dutch zo, Mainland Scandinavian så) always translatable with ‘in this way/in the way (that)’.

My first aim is to give a systematic description of the points of similarity and variation across Germanic similative clauses. My second aim is to give an analysis of the syntax of similative clauses. I propose that similative clauses are to be analysed as relative clauses (light-)headed by the manner demonstrative so/zo/så; when the parameter marker is absent/covert, similative clauses pattern with free relative clauses.

## References:

- Haspelmath, Martin & Buchholz, Oda. 1998. Equative and similative constructions in the languages of Europe. In *Adverbial Constructions in the Languages of Europe*, Part 1, Johan van der Auwera (ed.), 277–334. Berlin: Mouton de Gruyter;
- König, Ekkehard & Umbach, Carla. 2018. Demonstratives of manner, of quality and of degree. In *Atypical Demonstratives: Syntax, Semantics and Pragmatics*, Marco Coniglio, Andrew Murphy, Eva Schlachter & Tonjes Veenstra (eds.), 285–328. Berlin: De Gruyter.



***Longitudinal Investigation of the Influence of Positive Psychology-based Language Learning on Third-agers' Quality of Life: A Latent Change Score Analysis***

**Majid Elahi Shirvan (1) and Tahereh Taherian (2)**

elahishmajid@gmail.com / t.taherian@rug.nl

(1) University of Bojnord / (2) University of Groningen

The aim of this research was to explore the changes in quality of life among third-age learners (aged 65-76) who were learning English as a foreign language in Iran. To do this, a seven-week positive psychology (PP)-based language course was developed and the constant and the proportional changes in quality of life of 62 third-agers were traced in the form of three components: Perceived stress, sense of self-efficacy, and satisfaction with life via latent change score (LCS) modeling. In terms of long-term, constant, dynamics, the results indicated a systematic increase in sense of self-efficacy and satisfaction with life and a systematic decrease in perceived stress during the PP-based language course. Also, regarding the short-term, proportional changes, the results indicated that the increasing development of general self-efficacy and satisfaction with life and the decreasing trend of perceived stress were accelerated from measurement 1 to measurement 4. Moreover, the findings revealed interindividual and intraindividual variations in the development of the quality of life among participants.

***Functional Communication in Waterfowl Birds.  
Applying pragmatics linguistics theory of Speech Act Theory to  
naturally occurring animal behaviour***

**Laura Sala Franch\***

laurasalafr@gmail.com / University of Amsterdam

*Objective:* Exploring the implications of applying a human pragmatic theory (Speech Act Theory), to natural interactions among waterfowl birds (ducks, geese, & swans). *Methods:* Ethnography is used to observe social interactions among the birds. Triangulation takes place through audio video-recordings, photos, and fieldwork notes. The interactions occur in urban parks in Amsterdam, The Netherlands.

*Analysis:* Dynamic Speech Act Theory is an analytical approach combining Conversation Analysis and Speech Act Theory to facilitate the implementation of Speech Act Theory onto discursive, naturally occurring interactions. Dynamic Speech Act Theory can portray the interactivity and sociability between the birds. *Results:* The data consists of a case series (three events: feeding, diving, grooming), where a range of vocal, gestural, and bodily interactions are described through discursive Speech Act Theory terms and concepts. Assertive, directive, and exhortative speech acts are observed, the illocutionary and perlocutionary levels are distinguished, and felicity conditions are fulfilled when possible. At the locutionary level, head turning and head bobbing gestures, body orientation and movement, gaze alternation, neck and face gestures, swimming trajectory, and vocal cues are observed among the birds.

*Conclusion:* A set of natural non-human animal interactions successfully Display the performance of social functions in interactions shaped by its audience and context. A neo-Gricean framework to the study of animal interaction as intentional and flexible, and a multimodal, discursive approach to Speech Act Theory were required to adapt the theory onto this dataset.

*Implications:* There are theoretical implications for Speech Ach Theory due to its application onto non-anthropocentric interactions. The practical application of Speech Act Theory onto animal communication allows us to see how universal this theory can be. Additionally, the Animal Communication Studies literature now includes pragmatic research on non-primate animals that accounts for a multimodal, flexible discourse between animals.

\*This paper was supervised by Leonie Cornips (Merteens Institute) and Josje Verhagen (University of Amsterdam) as part of a 4-month internship at the NL-Lab, Humanities Cluster KNAW.

# ***Accompany, identity, and emotion: Exploring identity negotiation during accompanying services***

**Xuedi Han**

xuedi.han@rug.nl / University of Groningen

Literally speaking, accompanying services is a consumer behavior which paying for money to buy somebody's accompaniment, including but not limited to "accompany seeing the doctor", "accompany playing games", "accompany renting the house" and so on. Different from "buying household service" and other consumer behaviors, many accompanying services are summarized as emotional services by scholars. It raises the question of how the sellers manage their complex personal and professional identity transformation in these interactions with consumers, especially in situations lacking standardizing processes. To be more specific, I catalog the services into real-live accompaniment, virtual accompaniment, and mixed accompaniment according to the spatial characteristics of the services process to explore the identity expression, negotiation and confirmation in accompanying service.

I select one representative service from each category as an independent case study and plan to use a multi-method approach—a combination of corpus-assisted discourse analysis and ethnographic observations (grounded theory). Throughout the building of advertisement data and comments corpus, the seller's presentation of the identity and the buyer's perception of that identity will be extracted for conducting initial identity construction analysis. During the participatory observation and personal interviews phases, a more specific identity expression and negotiation strategy will be summarized and distilled.

We can see this clearly in every scene of our lives that personal and professional identities are mixed under different contexts, public or private. From a broader perspective, it is useful to explore how the identity negotiation happens. When we are able to understand the mechanisms and the manifestations of this feature, and try to figure out the underlying needs of the phenomenon, we will be able to face it more openly and well-prepared for the following changes may have— it is an important and meaningful subject to study the emerging issue of identity negotiation in accompanying services.

## References:

- Goffman, Erving. (2008). Feng Gang translate. The presentation of self in everyday life. Peking University Press. Darics, Erika & Koller, Veronika. (2018). Language in Business, Language at Work. Bloomsbury. Jameson, Daphne A. (2014). Crossing public-private and personal-professional boundaries: How changes in technology may affect CEOs' communication, *Business and Professional Communication Quarterly*, 77(1) 7–30.
- Jian, Guan. (2021). Driving factors and cultural Changes behind the commercialization of emotion, *People's Tribune*, Z1, 141-143.
- Jian, Xu & Ya-ting, Huang. (2021). Identity transformation of Chinese secondary school teachers during educational reform, *Asian Journal of Social Science*, 49, 101-108.
- Ling, Jiang & Lu-ting, Qiang. (2021). New Phenomenon of Adolescent Network subculture and group mentality. *Contemporary Youth Research*, 2, 46-51+71
- Mo, Chen & Wan-xia, Shao. (2020). Construction and analysis of scene accompanying experience in "Cloud Variety", *China Journalism and Communication Journal*, 4, 139-151.
- Popov, Jelena. (2020). Boundary crossing and identity re-negotiation in internships: The integrative, future-oriented and transformational potential of interns' identity project, *Learning, Culture and Social Interaction*, 24.
- Mary Bucholtz & Kira Hall. (2005). Identity and interaction: a sociocultural linguistic approach. *Discourse Studies* Vol 7(4- 5): 585-614.
- Fina, A.D. (2013). Discourse and Identity. *The Encyclopedia of Applied Linguistics*. 2013
- Palgrave Macmillan. (2014). Language and Politics in Post-Soviet Russia: A Corpus Assisted Approach. University of Leicester, UK

# ***Linguistic and Cognitive Building Blocks of Lie Detection: The Detective Game***

**Özlem Yeter (1), Barteld Kooi (1), Rineke Verbrugge (1), and Petra Hendriks (1)**

ozlemyeter1@gmail.com / b.p.kooi@rug.nl / l.c.verbrugge@rug.nl /  
p.hendriks@rug.nl

(1) University of Groningen

Detecting lies is notoriously difficult. While there is a high chance of getting away with suspicious behaviour while lying, there is little room to doubt if liars self-trap themselves (Brennen, 2022). For example, if a mom asks her child “Did you put something in mom’s bed?” and gets “I did not put butter in your bed” as an answer, the mother can be sure that it was her child who put the butter in her bed. This phenomenon is called semantic leakage. Besides such involuntary semantic leakage, there are some linguistic patterns that liars show compared with truth tellers: use of fewer 1st person pronouns and mental-state verbs (Newman et al., 2003; Sarzynska-Wawer et al., 2023). However, detection of the lies containing these cues depends on the lie-receiver’s cognitive ability. Theory of mind (ToM) is one of the cognitive abilities that is required for lie detection, since receivers have to read liars’ intentions (Williams et al., 2018). Thus, this study will focus on three linguistic cues (i.e., semantic leakage, use of pronouns and mental state verbs) and ToM as a component of social cognition.

This study investigates adults’ ability to detect semantic leakage in written statements and whether linguistic and cognitive cues determine it. Participants will take the role of detective and have to detect whether someone is lying. They will read 16 short stories containing a mystery and a suspect. They will read suspects’ statements, half of which contain an occurrence of semantic leakage. Pronouns and mental state verbs are manipulated and counterbalanced across the stories for these test items. Participants’ ToM ability will be assessed by the social sub-scale of the Autism Spectrum Quotient (Baron-Cohen et al., 2001). The plan for the experiment is to collect data from ca. 120 participants.

## References:

- Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The Autism Spectrum Quotient (AQ): Evidence from Asperger syndrome/high-functioning autism, males and females, scientists and mathematicians. *Journal of Autism and Developmental Disorders*, 31(1), 5-17.
- Brennen, T. (2022). The science of lie detection by verbal cues: What are the prospects for its practical applicability? *Frontiers in Psychology* 13(April): 835285. <https://doi.org/10.3389/fpsyg.2022.835285>
- Newman, M. L., Pennebaker, J. W., Berry, D. S., & Richards, J. M. (2003). Lying words: Predicting deception from linguistic styles. *Personality and Social Psychology Bulletin*, 29(5), 665-675. <https://doi.org/10.1177/0146167203029005010>
- Sarzynska-Wawer, J., Pawlak, A., Szymanowska, J., Hanusz, K., & Wawer, A. (2023). Truth or lie: Exploring the language of deception. *PLOS ONE*, 18(2), e0281179. <https://doi.org/10.1371/journal.pone.0281179>
- Williams, D. M., Nicholson, T., Grainger, C., Lind, S. E., & Carruthers, P. (2018). Can you spot a liar? Deception, mindreading, and the case of autism spectrum disorder. *Autism Research*, 11(8), 1129-1137. <https://doi.org/10.1002/aur.1962>

# ***Sound Symbolism in Kichwa Communication and the Turkish Tongue***

**Austin Howard**

austinwilliamhoward@gmail.com / Leiden University

I discuss both experimental work on ideophones in Turkish and documentation of thereof in Kichwa. Ideophones (marked, sound symbolic words depicting sensory imagery) are an increasingly described feature of many language families (Dingemanse, 2019). Cross-linguistic guessability could serve as a measure of iconicity, the resemblance of form and meaning: If their meanings are only accessible to those who have learnt the language, the argument for their iconicity is weakened.

Dingemanse et al. (2016) already provides evidence of cross-linguistic ideophone guessability in a 2-way forced choice task using 5 languages. I use a four-way forced-choice task using ideophones gathered from a list of Turkish ideophones (Baturay, 2010). 200 native English-speakers completed a 20-question experiment, in which they were told to guess which of four definitions matched the Turkish word with which they were presented. One of the four options was correct, accompanied by three foils.

The results indicate some ideophones were highly guessable and others not. This calls into question whether iconicity is a necessary property of ideophones and whether they constitute a defined word-class with a diverse cognitive profile, also questioning whether there are multiple levels of iconicity within and amongst language systems. Overall, ideophones were guessable on average, in line with previous studies.

Thus, ideophones both fit the contours of the language of which they are a part and yet also possess cross-linguistic properties absent in the general lexicon, as evidenced by their role in narratives. I demonstrate the importance of video recordings of language in general for focussing on greater aspects of human communication as well as the workings of lexical items within the semiotic system of living languages. Further, I show how these approaches can be better combined and how new questions can be posed and answered concerning the nature of language within culturally evolutionary frameworks.

## Selected references:

- Baturay, S. (2010). Apophony in Turkish Onomatopoeic Reduplications. Boğaziçi University, MA Thesis.  
International Periodical For the Languages, Literature.
- Dingemanse, M. (2018). Redrawing the margins of language: Lessons from research on ideophones. *Glossa: a journal of general linguistics*, 3(1). List of Ideophones with English Translations
- Dingemanse, M., Schuerman, W., Reinisch, E., Tufvesson, S., & Mitterer, H. (2016). What sound symbolism can and cannot do: testing the iconicity of ideophones from five languages. *Language*, 92(2), e117–e133.
- Howard, A. W. H. (2021). Sound Symbolism in the Turkish Tongue. [MA thesis, Radboud].
- Jendraschek, G. (2001). Semantic and structural properties of Turkish ideophones, *Turkic Languages*, 5, 88–103.
- Kelly, S. D., McDevitt, T., & Esch, M. (2009). Brief training with co-speech gesture lends a hand to word learning in a foreign language. *Language and Cognitive Processes*, 24(2), 313–334.
- Nuckolls, J. B. (2001). Ideophones in pastaza quechua. *Typological Studies in Language*, 44, 271–286.

## ***The relation between lexical retrieval, cognition, and articular coordination in persons with Parkinson's disease***

**Nikki Hoekzema (1), Teja Rebernik (1), Thomas Tienkamp (1), Roel Jonkers (1), Aude Noiray (2), Adrià Rofes (1), Martijn Wieling (3), and Defne Abur (1)**

n.hoekzema.1@student.rug.nl / t.rebernik@rug.nl / t.b.tienkamp@rug.nl /  
r.jonkers@rug.nl / aude.noiray@ens.psl.eu / a.rofes@rug.nl /  
m.b.wieling@rug.nl / d.abur@rug.nl

(1) University of Groningen / (2) Ecole Normale Supérieure/Université  
PSL/Haskins Laboratories / (3) University of Groningen/Haskins  
Laboratories

Parkinson's disease is a neurodegenerative disease presenting with motor symptoms, such as muscle rigidity and tremor [1, 2], as well as non-motor symptoms, including cognitive deficits [3]. Persons with Parkinson's disease (PwPD) also have problems with their speech motor control (known as hypokinetic dysarthria [2]) and suffer from language impairments, such as impaired sentence comprehension and reduced semantic activation [4]. Prior studies [5, 6] additionally indicate that lexical retrieval, i.e., the process of selecting the best fitting word from the mental lexicon corresponding to a certain concept [7], might be impaired in PwPD. To explore the possible effects of Parkinson's disease on lexical retrieval, we will look at the relation between lexical retrieval (as an indicator of language processing capabilities), cognition, and two measures of articulator coordination (percent of pause time and articulation rate). We will analyse data from ten PwPD and ten age- and gender-matched control speakers who have completed the Cookie Theft Picture task [8] eliciting spontaneous speech. A narrative speech scoresheet will provide a measure of lexical retrieval impairment, the participant's score on the Montreal Cognitive Assessment (MoCA) [9] will indicate their cognitive functioning, pause time will indicate the impact of cognition on the speech production [10], and articulation rate (measured as number of syllables per second) will assess speech motor control [11]. Based on prior studies [5, 6, 11, 12], we expect that PwPD will show a higher ratio of pauses and a lower articulation rate in their speech as well as score lower on the lexical retrieval task compared to control speakers. Furthermore, we expect a lower MoCA score (indicating cognitive impairments) will be related to more difficulties with lexical retrieval for all participants, regardless of group. Investigating lexical retrieval from a purely linguistic perspective is relatively new in the field of Parkinson's disease, therefore contributing to our knowledge about lexical retrieval and the possible interplay with cognition and articular coordination.

## References:

- 1 Pell, M. D., & Monetta, L. (2008). How Parkinson's Disease Affects Non-verbal Communication and Language Processing. *Language and Linguistics Compass*, 2(5), 739-759. <https://doi.org/10.1111/j.1749-818x.2008.00074>.
- 2 Jacobi, J., Rebernik, T., Jonkers, R., Proctor, M., Maassen, B., & Wieling, M. (2019). The effect of levodopa on vowel articulation in Parkinson's disease: a cross-linguistic study. In S. Calhoun, P. Escudero, M. Tabain, & P. Warren (Eds.), *Proceedings of the 19th International Congress of Phonetic Sciences: ICPhS2019* (pp. 1069-1073). Australasian Speech Science and Technology Association (ASSTA).
- 3 Pettit, L., McCarthy, M., Davenport, R., Abrahams, S. (2013). Heterogeneity of letter fluency impairment and executive dysfunction in Parkinson's disease. *Journal of the International Neuropsychological Society* 19(9), 986-994. doi: 10.1017/S1355617713000829.
- 4 Bastiaanse, R., & Leenders, K., L. (2009). Language and Parkinson's disease. *Cortex*, 45, 912- 914.
- 5 Salmazo-Silva, H., De Mattos Pimenta Parente, M. A., Rocha, M. J., Baradel, R. R., Cravo, A. M., Sato, J. R., Godinho, F., & Carthery-Goulart, M. T. (2017). Lexical-retrieval and semantic memory in Parkinson's disease: The question of noun and verb dissociation. *Brain and Language*, 165, 10- 20. <https://doi.org/10.1016/j.bandl.2016.10.006>
- 6 Arnott, W. L., Chenery, H. J., Angwin, A. J., Murdoch, B. E., Silburn, P. A., & Copland, D. A. (2010). Decreased semantic competitive inhibition in Parkinson's disease: Evidence from an investigation of word search performance. *International Journal of Speech-Language Pathology*, 12(5), 437-445. <https://doi.org/10.3109/17549507.2010.492875>
- 7 Aabedi, A. A., Kakaizada, S., Young, J. S., Kaur, J., Wiese, O., Valdivia, C. A. C., Krishna, S., Weyer-Jamora, C., Berger, M. S., Weissman, D. H., Brang, D., & Hervey-Jumper, S. L. (2021). Convergence of heteromodal lexical retrieval in the lateral prefrontal cortex. *Scientific Reports*, 11(1). <https://doi.org/10.1038/s41598-021-85802-5>
- 8 Goodglass, Harold, Edith Kaplan, and Barbara Barresi. (2001). *Boston Diagnostic Aphasia Examination - Third Edition*. Baltimore, MD: Lippincott Williams & Wilkins.
- 9 Nasreddine, Z.S., Phillips, N.A., B'edirian, V., Charbonneau, S., Whitehead, V., Collin, I., Cummings, J.L., Chertkow, H. (2005). The montreal cognitive assessment, moca: a brief screening tool for mild cognitive impairment. *Journal of the American Geriatrics Society*, 53(4), 695-699.
- 10 Cenoz, J. 2000. Pauses and hesitation phenomena in second language production. *ITL-Review of Applied Linguistics* Vol. 127-128, 53-69.
- 11 Goberman, A. M. (2005). Correlation between acoustic speech characteristics and non-speech motor performance in Parkinson Disease. *Medical Science Monitor*, 11(3), CR109-16.
- 12 Harel, B. T., Cannizzaro, M. S., Cohen, H., Reilly, N., & Snyder, P. J. (2004). Acoustic characteristics of Parkinsonian speech: a potential biomarker of early disease progression and treatment. *Journal of Neurolinguistics*, 17(6), 439- 453. <https://doi.org/10.1016/j.jneuroling.2004.06.001>



***Simultaneous Language Learning in Flanders, Belgium: How English as a Global Language affects the motivation to learn French among Flemish pupils***

**Marie Guy Christel Vercauteren**

mgc.vercauteren@gmail.com / University of Glasgow

Motivation is a significant factor in additional language acquisition; while it has been widely researched, there remain under-explored issues within language learning motivation which are worthy of investigation. Specifically, the notion of English as a Global Language (EGL) is a domain that requires further scrutiny in terms of its possible impact on the motivation to learn languages other than English (LOTEs). The present study is focused on examining how EGL may influence Flemish students' motivation to learn French. A total of 71 participants aged between 18–25 completed a retrospective questionnaire to report on their motivational trajectories in both languages. The quantitative data were analysed through the application of regression and correlation analysis using Excel Spreadsheets and the IBM SPSS Statistics Platform, and the qualitative data were subjected to a thematic analysis. The findings revealed that the motivation to learn French as an additional language decreases significantly over time, primarily due to the perceived difficulty of the language and the lesson materials/teaching approaches. In contrast, the motivation to learn English slightly increases over time due to the perceived usefulness of the language. Statistical analyses indicate that these motivations are neither positively nor negatively correlated, but qualitative data suggests that it depends on the learner. Therefore, it may be imperative for future research endeavors to prioritise individual learner profiles as opposed to a universally applicable approach. The principal implication of these findings is that the motivation to learn French in Flanders can be enhanced by adjusting the lesson materials and teaching approaches towards a more top-down, task-based approach.

# ***Working memory and morphosyntactic comprehension and production in bilingual individuals with aphasia***

**Natasha Dvorina (1), Alina Bihovsky (1), Michal Ben-Shachar (1), and Natalia Meir (1)**

n.dvorina@gmail.com / (1) Bar Ilan University

The current study investigates the morphosyntactic abilities of bilingual L1-Russian – L2- Hebrew-speaking people with aphasia (biPWAs) in their comprehension and production of a wide range of morphosyntactic structures in both languages. Furthermore, it evaluates the associations between the deficit in verbal working memory (WM) and language impairments in this sample.

Twenty chronic-stage biPWAs due to left hemisphere stroke and twenty matched neurotypical controls were assessed using the bilingual aphasia test (BAT, short versions) in L1-Russian and L2-Hebrew. Verbal WM was evaluated through the digit span in each language separately, listening span in L2-Hebrew [1] and modified listening span tasks in L1-Russian [2]. Visuospatial WM was measured through the Corsi block-tapping task.

Relative to neurotypical participants, biPWAs performed significantly lower in both languages when comprehending passive constructions and negation (both in active and passive forms). In L2-Hebrew, relative clauses with a past participle posed difficulties. In production, biPWAs faced greater difficulty producing object relative and passive sentences in L1-Russian and negative constructions in active and passive forms in L2-Hebrew. Also, due to the late age of L2-Hebrew onset, its morphosyntactic accuracy was lower than in L1-Russian. A more pronounced deficit was observed in verbal WM in both languages than in visuospatial WM abilities in biPWAs. Verbal WM was shown to be related to morphosyntactic comprehension and production. The study contributes to the understanding of the specific difficulties in the two languages of biPWAs based on the inherent properties of each language. Finally, it expands the link between language processing and WM to biPWAs.

## References:

1. Gvion, A., & Friedmann, N. (2008). FriGvi: A battery for the diagnosis of phonological working memory. *Language and Brain*, 7, 161-180.
2. Ivanova, M. V., & Hallowell, B. (2014). A new modified listening span task to enhance validity of working memory assessment for people with and without aphasia. *Journal of Communication Disorders*, 52, 78-98.  
<https://doi.org/10.1016/j.jcomdis.2014.06.001>

# ***Do neural networks display a dependency length minimization (DLM) principle like humans?***

**Yuqing Zhang (1), Tessa Verhoef (2), Gertjan van Noord (1), and Arianna Bisazza (1)**

yuqing.zhang@rug.nl / t.verhoef@liacs.leidenuniv.nl /  
g.j.m.van.noord@rug.nl / a.bisazza@rug.nl

(1) University of Groningen / (2) Leiden University

Given various grammatical options, human language learners prefer the order that reduces the overall length of syntactic dependencies (Arnold et al., 2000; Futrell et al., 2020). The origins of such preference remain subject of debate (Culbertson & Adger, 2014; Fedzechkina et al., 2017). A promising approach to studying the emergence of DLM and other language universals is to simulate them with neural-network learners. Previous work in this context, however, has produced contradictory patterns: in production tasks, LSTMs tend to avoid long-distance dependencies (Chaabouni et al., 2019) while pre-trained Transformers like BART and T5 do not (Zhao, 2022). Is the lack of DLM in the latter models due to their architectures or to the way they are trained?

Lian et al. (2023) recently developed a framework for the replication of language universals with neural learners, which combines supervised learning (SL) and reinforcement learning (RL). We adopt this framework to address the above question by comparing production preferences of RNNs versus Transformers. Specifically, we are training agents on artificial languages with 50% long- and 50% short-dependency utterances to see whether they will regularize towards reducing dependency length.

Preliminary results show that RNN learners successfully learn the languages and preserve the distribution of long/short dependencies found in the training data (thus not displaying any DLM) in a purely SL setting. This is in line with previous studies showing that neural learners exhibit probability-matching behavior after SL (Lian et al., 2021; Lian et al., 2023). Different outcomes may be expected when RL is added: (1) both learners regularize towards reducing dependency length, which would indicate that naturalistic communication settings are essential to simulate language universals. Alternatively, (2) RNNs may regularize but Transformers fail. This would imply that architectures play a role: RNNs have structural sequence-processing biases, which may not be inherent in Transformers.

## References:

- Arnold, J. E., Losongco, A., Wasow, T., & Ginstrom, R. (2000). Heaviness vs. newness: The effects of structural complexity and discourse status on constituent ordering. *Language*, 76(1), 28–55.
- Chaabouni, R., Kharitonov, E., Lazaric, A., Dupoux, E., and Baroni, M. (2019b). “Word-order biases in deep-agent emergent communication,” in *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics*, pp. 5166–5175.
- Culbertson, J., & Adger, D. (2014). Language learners privilege structured meaning over surface frequency. *Proceedings of the National Academy of Sciences*, 111(16), 5842–5847.
- Fedzechkina, M., Chu, B., and Florian Jaeger, T. (2017). “Human information processing shapes language change,” *Psychological science* 29(1), 72–82.
- Futrell, R., Levy, R. P., & Gibson, E. (2020). Dependency locality as an explanatory principle for word order. *Language*, 96(2), 371–412.
- Lian, Y., Bisazza, A., & Verhoef, T. (2021). The Effect of Efficient Messaging and Input Variability on Neural-Agent Iterated Language Learning. In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing* (pp. 10121–10129).
- Lian, Y., Bisazza, A., and Verhoef, T. (2023). “Communication drives the emergence of language universals in neural agents: Evidence from the word-order/case-marking trade-off,” *arXiv preprint arXiv:2301.13083*.
- Zhao, Y. (2022). “How to probe linguistic knowledge and bias,” Ph.D. thesis, The University of Arizona.

# ***Speech Recognition of Rural Spanish Using Google Cloud Speech-to-Text API***

**Cristina Reguera-Gómez**

cristinaregomez@gmail.com/ Utrecht University

In the last 20 years, there has been several improvements in the field of Automatic Speech Recognition (ASR). Despite being a technology originally developed around English, there have been increasing improvements in other languages, like Spanish. However, ASR systems tend to be less accurate when used to analyse speech that deviates from non-standard varieties. The main focus of this paper is to test how Google Speech-to-Text API (Google) recognises speech of rural Spanish speakers. The audio files analysed, obtained from Corpus Oral y Sonoro del Español Rural (Fernández-Ordóñez, 2005-), comprise fragments of interviews of five elderly participants who live in different rural regions in Spain. The results corroborate the hypothesis that the more the speaker deviates from the European Spanish standard variety selected as input language, the more mistakes it shows in the generated transcript. Nevertheless, it is important to note that despite the several mistakes that can be attributed to the existence of code-switching and dialectal-specific vocabulary, Google's ability to recognise non-standard varieties of Spanish, slang, and interjections was impressive. Perfect recognition is also hindered by the endless changes of speech variation. There are multiple ways of saying the same thing, and ASR software may not account for all of them. While I believe that constant change is permanent, I also believe that the field of ASR has improved immensely since its creation, especially in the last 20 years. That is the reason why I am positive that these recognition mistakes due to dialectal variation will improve greatly within the next few decades.

## References:

Fernández-Ordóñez, I. (dir.) (2005-). Corpus Oral y Sonoro del Español Rural. Available:

<https://www.corpusrural.es>. [Accessed 3 March 2023].

Google, Cloud Speech-to-Text. Available: <https://cloud.google.com/speech-to-text>. [Accessed 3 March 2023].

## ***Impact of typical aging on auditory-motor learning***

**Katharina Polsterer (1), Teja Rebernik (1), Thomas Tienkamp (1),  
Hedwig Sekeres (1), Alessia Baque (2), Martijn Wieling (1), and  
Defne Abur (1)**

k.m.polsterer@student.rug.nl

(1) University of Groningen / (2) University of Genoa

Aging is related to a range of structural and functional changes including the speech system (Tucker et al., 2021) and the brain (Reuter-Lorenz et al., 2021). Accordingly, previous work indicates that age induces changes of neural activity during speech production (Tremblay et al., 2017). More specifically, aging seems to cause considerable variability in integrating auditory and motor information cortically (Li et al., 2018). This integration is essential for auditory-motor learning, a cognitive mechanism that sustains speech motor control by allowing the stored set of motor plans for speech sounds to flexibly adapt (e.g., Mitsuya et al., 2017). Thus far, auditory-motor learning has predominantly been studied in populations of a specific age range (children, young adults, or older adults) and the results suggest differences by age group. However, no study has directly compared auditory-motor learning across age in the same study. In this study, we are therefore investigating how aging affects auditory-motor learning, and thus sensorimotor integration, for the control of vowel articulation.

To this end, we tested 92 native speakers of Italian aged 16 to 82 years. The participants produced the words ‘beve’, ‘deve’, and ‘vede’, while receiving auditory feedback (i.e., hearing themselves speak) via headphones for 108 trials in total. In a stepwise procedure, we manipulated the first formant (F1) of the first /e:/ to gradually increase throughout trials making the perceived vowel sound more similar to /a:/.

Typical young speakers adapt to the unexpectedly high F1 in the perceived feedback by decreasing the F1 in their productions (Villacorta et al., 2007). Here, we expect more variable but overall, less sensorimotor adaptation as age increases due to declined sensorimotor integration. Based on previous work (Li et al., 2018), we additionally expect to find that this aging effect differs between sexes in early adulthood, but not in older age.

### References:

- Guenther, F. H., Ghosh, S. S., & Tourville, J. A. (2006). Neural modeling and imaging of the cortical interactions underlying syllable production. *Brain and Language*, 96(3), 280–301. <https://doi.org/10.1016/j.bandl.2005.06.001>
- Li, J., Hu, H., Chen, N., Jones, J. A., Wu, D., Liu, P., & Liu, H. (2018). Aging and sex influence cortical auditory-motor integration for speech control. *Frontiers in Neuroscience*, 12, 749. <https://doi.org/10.3389/fnins.2018.00749>
- Mitsuya, T., Munhall, K. G., & Purcell, D. W. (2017). Modulation of auditory-motor learning in response to formant perturbation as a function of delayed auditory feedback. *The Journal of the Acoustical Society of America*, 141(4), 2758–2767. <https://doi.org/10.1121/1.4981139>
- Reuter-Lorenz, P. A., Festini, S. B., & Jantz, T. K. (2021). Executive functions and neurocognitive aging. In K. W. Schaie & S. L. Willis (Eds.), *Handbook of the psychology of aging* (pp. 67–81, 9th ed.). Elsevier: Academic Press. <https://doi.org/10.1016/B978-0-12-816094-7.00019-2>
- Tremblay, P., Sato, M., & Deschamps, I. (2017). Age differences in the motor control of speech: A fMRI study of healthy aging. *Human Brain Mapping*, 38(5), 2751–2771. <https://doi.org/10.1002/hbm.23558>

# ***Pre-service teachers' attitudes towards multilingual education in Fryslân: a DLC approach***

**Alison Henehan**

a.henehan@student.rug.nl / University of Groningen

Despite holding positive attitudes towards multilingualism, teachers do not always act accordingly (Angelis, 2011), or know how to manage multilingualism in the classroom (Robinson-Jones, Duarte & van der Meij, 2022). The teacher training programme in NHL Stenden (2023) in Fryslân prepares pre-service teachers for the multilingualism they will experience as teachers, in an officially bilingual and superdiverse region of the Netherlands (Mercator, 2007; Vertovec, 2007). In this study, we investigate pre-service teachers' attitudes towards multilingualism using dominant language constellations.

Dominant language constellations (DLCs) are an expression of a person's or group's most important languages, at the centre of their linguistic repertoire (Aronin, 2006; 2016). DLCs can be used in education, which can help to create clear language policies supporting multilingual societies and institutions (Lo Bianco, in Lo Bianco & Aronin, 2020). Pre-service teachers can create an artistic object in order to engage with their own multilingual identities inclusively (Ibrahim, 2022). Pre-service teachers in Norway came to understand their own multilingualism which encouraged them to engage in multilingual educational practices in the classroom (Ibrahim, 2022).

This study uses a mixed methods design (Creswell & Creswell, 2018) to examine the effect of an intervention on pre-service teachers' attitudes towards multilingualism in education. 72 pre-service teachers filled out a survey on multilingualism in education and 10.3.23 created their own DLC at the beginning of the intervention, and will repeat these exercises towards the end.

The pre-survey showed generally positive attitudes towards multilingualism in education. Over half the survey participants submitted a visual artefact representing their DLCs at the beginning of the intervention. Pre-service teachers used a range of images to represent their language use, including trees, buildings and the human body.

DLCs may help create concrete, inclusive language policies for teacher training institutions, while visual artefacts may help pre-service teachers engage in multilingualism.

## References:

- Aronin, L. (2006). Dominant language constellations: An approach to multilingualism studies. In M. Ó Laoire (Ed.), *Multilingualism in educational settings* (pp. 140-159). Hohengehren: Schneider Verlag
- Aronin, L. (2016). Multicompetence and dominant language constellation. In V. Cook & L. Wei (Eds.), *The Cambridge handbook of linguistic multicompetence* (pp. 142-163). Cambridge: Cambridge University Press.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: qualitative, quantitative, and mixed method approaches* (Fifth edition. International student). Los Angeles: SAGE.
- De Angelis, G. (2011). Teachers' beliefs about the role of prior language knowledge in learning and how these influence teaching practices. *International Journal of Multilingualism*, 8(3). <https://doi.org/10.1080/14790718.2011.560669> 10.3.23
- Ibrahim, N. C. (2022). Visual and Artefactual Approaches in Engaging Teachers with Multilingualism: Creating DLCs in Pre-Service Teacher Education. *Languages*, 7(2). <https://doi.org/10.3390/languages7020152>
- Lo Bianco, J., & Aronin, L. (Eds.). (2020). *Dominant Language Constellations*. Springer. <http://www.springer.com/series/5894>
- Mercator European Research Centre on Multilingualism and Language Learning. (2007). *The Frisian language in education in the Netherlands*. [www.mercator-research.eu](http://www.mercator-research.eu)
- NHL Stenden. (2023). *Studieopbouw Pabo (Leraar Basisonderwijs)*. <https://www.nhlstenden.com/hbo-opleidingen/pabo-leraar-basisonderwijs/studieopbouw-bachelor-pabo-leraar-basisonderwijs>
- Robinson-Jones, C., Duarte, J., & Günther-Van Der Meij, M. (2022). "Accept All Pupils as they are. Diversity!" - Pre-Service Primary Teachers' Views, Experiences, Knowledge, and Skills of Multilingualism in Education. *Sustainable Multilingualism*, 20(1), 94-128. <https://doi.org/10.2478/sm-2022-0005>
- Vertovec, S. (2007). Super-diversity and its implications. *Ethnic and Racial Studies*, 30(6), 1024-1054. <https://doi.org/10.1080/01419870701599465>

Lieke Hendriks

elisabeth.hendriks@uni-goettingen.de / University of Göttingen

Split Topicalization (ST) proves itself to be a confusing phenomenon. ST, a phenomenon in which the elements referring to one entity occur split across the sentence and carry different information structural roles as in (1)–(2), involves properties of two other constructions: N(oun)-topicalization and Noun Phrase Ellipsis (NPE). That is, the ingredients for ST are provided by noun selection in N-topicalization and adjectival behavior in NPE (see [1]).

(1)

Boeken	heeft	hij	(er)	vier	in de kast.
Books.TOP	has	he	ER	four.FOC	in the cupboard
"As for books, he has four in the cupboard."					(Brabantic Dutch)

(2)

Boeken	heeft	hij	(er)	vier	groene	in de kast.
Books.TOP	has	he	ER	four.FOC	green.FOC	in the cupboard
"As for books, he has four green ones in the cupboard."						(Brabantic Dutch)

The quantitative pronoun *er* plays an important part in NPE. Dialectal research has shown that Dutch dialects display variation in whether or not the quantitative pronoun *er* has to be present ([2], [3], [4]). When it comes to ST, *er* is optional which is surprising as southern dialects do require *er* in NPE contexts (3).

(3)

Hij	heeft	vijf	rode	appels	en	ik	heb	*(er)	vier.
He	has	five	red	apples	and	I	have	ER	four
"He has five red apples and I have four."									(Brabantic Dutch)

The present paper shows that allowing N-topicalization and NPE is not enough for a linguistic variety to approve of ST: even though all Dutch dialects allow N-topicalization and NPE, only the southern Dutch dialects spoken in the Netherlands allow ST. Moreover, the present paper also argues *er* to have a different syntactic nature in these southern dialects as opposed to other dialects. As a result, NPE and ST are disentangled from each other, yet their shared properties can still be explained via *er*.

## References:

- [1] Van Hoof, H. (2005). What stranded adjectives reveal about split-NP topicalization. *Organizing Grammar: Studies in Honor of Henk van Riemsdijk*, pp. 230–240.
- [2] Corver, N., & Kranendonk, H. (2008). Collective numeral constructions in Dutch: Remarkable plurals, regular syntax and silent nouns. *Linguistic Variation Yearbook*, 8, pp. 233–268.
- [3] Corver, N., van Koppen, M., & Kranendonk, H. (2009). Quantitative *er*: a new microcomparative view on an old puzzle. Paper presented at the 24th Comparative Germanic Syntax Workshop in Brussels.
- [4] Kranendonk, H. (2010). Quantificational Constructions in the Nominal Domain: Facets of Dutch Microvariation. PhD dissertation, Utrecht University



# ***‘Eating’, ‘drinken’ or both?: Dutch and English exposure effects on the structure of young bilinguals’ receptive vocabulary networks***

**Odysseas Asithianakis**

odysseas.asi@gmail.com / University of Amsterdam

Network analytical approaches have been applied successfully to the study of young bilinguals’ word learning strategies in previous literature (for a review, see [1]). In this exploratory study on the structure of the vocabulary of young bilingual children, social network analysis with ORA [2] was used to create a network for all the children (n=297; m= 34.5 months) and two networks of two subgroups based on exposure (Group A: higher English than Dutch exposure and Group B: higher Dutch than English exposure). The data came from the MIND (meertalighed in dagopvang) project [3]. There, the children were tested on their receptive vocabulary using the Peabody Picture Vocabulary Test (PPVT) in Dutch [4] and English [5]. The nodes of the present networks were the words of the PPVT, and the links between them were determined by how many of the participating children knew two words at the same time. In Group B (n=118; m= 34.84 months) and the total group of children, Dutch words were learned more frequently together with other Dutch words and more efficiently than English words. Group A (n=100, m= 34.23 months; Figure 1) showed higher cross-language learning, with both English and Dutch words being learned together more frequently and, thus, being neighbors more consistently in the network. In cases of cross-linguistic links, semantic ties seemed to have a facilitatory function, be they translation equivalence or wider shared semantic category relationships. Importantly, the language children had the most exposure to was the language the most central (learned) words in the network belonged to. The findings confirm existing theories of connectivity in bilingual networks, whereby children utilize the home language (English) to enhance their acquisition process, drawing on a plethora of semantic cues.

## References:

- [1] Wojcik, E. H. (2018). The development of lexical-semantic networks in infants and toddlers. *Child Development Perspectives*, 12(1), 34-38.
- [2] Altman, N., Carley, K. M., & Reminga, J. (2018). *Ora user’s guide 2018*. Center for the Computational Analysis of social and organizational systems. Carnegie Mellon University, Pittsburgh.
- [3] Aalberse, S. P., Andringa, S. J., Hanekamp, K., Keydeniers, D. J., Kuiken, F., Thieme, A. M. M., Verhagen, J. & Vos, E. (2021). *Meertaligheid in dagopvang. Een onderzoek naar de effecten van het gebruik van twee talen op het kinderdagverblijf*. Universiteit van Amsterdam.
- [4] Schlichting, L. (2005). *Peabody Picture Vocabulary Test—III-NL*. Amsterdam: Harcourt Assessment.
- [5] Dunn, L.M., & Dunn, L.M. (1997). *Peabody Picture Vocabulary Test—Third Edition*. Circle Pines, MN: American Guidance Service.

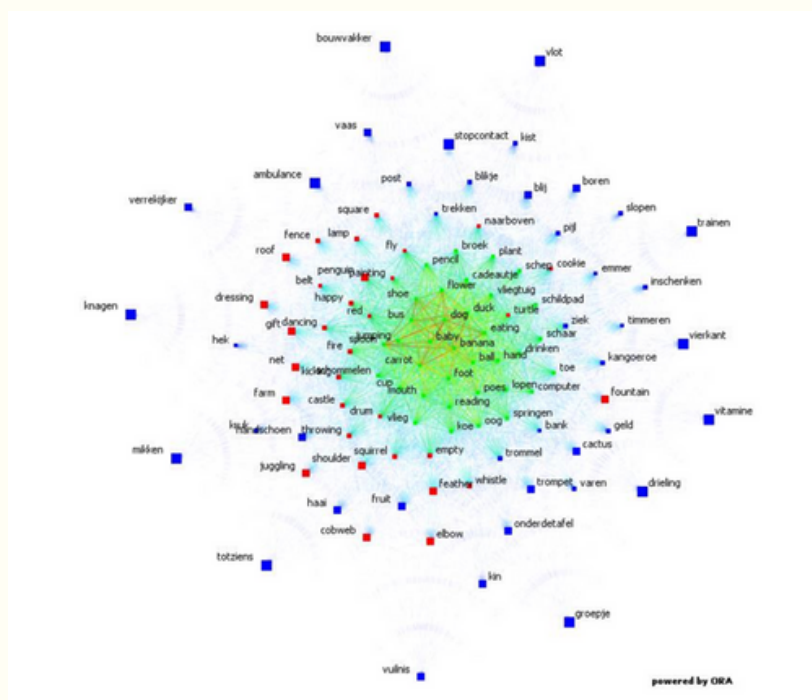


Figure 1. Group A (n=100). Nodes are colored based on connectivity tendency and sized based on their PPVT difficulty (the set they belong to).

# ***Never too old to learn: Employing resting-state EEG to study the effectiveness of language learning in the elderly***

**Louisa Richter (1), Jascha Rüsseler (1), Greg Poarch (2),  
and Merel Keijzer (2)**

[louisarichter@yahoo.de](mailto:louisarichter@yahoo.de) / [jascha.ruesseler@uni-bamberg.de](mailto:jascha.ruesseler@uni-bamberg.de),  
[j.poarch@rug.nl](mailto:j.poarch@rug.nl) / [m.c.j.keijzer@rug.nl](mailto:m.c.j.keijzer@rug.nl)  
(1) University of Bamberg / (2) University of Groningen

Investigating ways of promoting healthy aging has never been more pressing than in our rapidly aging society. Language learning has been proposed as a particularly effective training, as the activated brain regions overlap with areas often affected by age-related cognitive decline (Antoniou et al. 2013; Antoniou & Wright, 2017). Although mixed behavioral results have been found concerning benefits of third-age language courses (Bak et al., 2016; Ramos et al., 2017; Ware et al., 2017), research suggests that language training can, amongst others, enhance cognitive functioning (Klimova, 2018) and executive functions in particular (Pfenninger, & Polz, 2018; Meltzer et al., 2023). Crucially, third-age language learning, and any effects that may ensue, form an emergent field that is in need of replication in larger samples to enhance comparability (for reviews, see Pot et al., 2019; van der Ploeg et al., 2020). Furthermore, research so far has mostly focused on behavioral testing, which calls for studies including neuroimaging methods to gain insights into the neuronal processes at play. Also in terms of unexplored areas, though some studies have started comparing late-life language learning to other interventions to enhance cognition, it remains unclear which type of intervention is most beneficial and feasible for elderly at different stages of cognitive decline.

In this poster, we present the method of a study investigating the effectiveness of different late-life interventions to enhance cognitive functioning for seniors that are either healthy or on the dementia continuum. The study includes two types of interventions (language learning and a combined physical-cognitive course). The pre- and post-intervention measurements include interviews, behavioral tasks, task-based EEG as well as resting-state EEG, a method that has been shown to be susceptible to training-related changes in seniors (Styliadis et al., 2015; Richter et al., in prep.), all of which will be discussed in this poster.

## References:

- Antoniou, M., & Wright, S. (2017). Uncovering the mechanisms responsible for why language learning may promote healthy cognitive aging. *Frontiers in Psychology*, 8, 2217–2217. doi:10.3389/fpsyg.2017.02217
- Antoniou, M., Wong, P., & Gunasekera, G. (2013). Foreign language training as cognitive therapy for age-related cognitive decline: A hypothesis for future research. *Neuroscience and Biobehavioral Reviews*, 37(10), 2689–2698. doi:10.1016/j.neubiorev.2013.09.004
- Bak, T., Long, M., Vega-Mendoza, M., Sorace, A., & Allen, P. (2016). Novelty, challenge, and practice: The impact of intensive language learning on attentional functions. *Plos One*, 11(4), 0153485. doi:10.1371/journal.pone.0153485
- Klimova, B. (2018). Learning a foreign language: A review on recent findings about its effect on the enhancement of cognitive functions among healthy older individuals. *Frontiers in Human Neuroscience*, 12, 305–305. doi:10.3389/fnhum.2018.00305
- Meltzer, J. A., Kates Rose, M., Le, A. Y., Spencer, K. A., Goldstein, L., Gubanov, A., ... & Bialystok, E. (2023). Improvement in executive function for older adults through smartphone apps: A randomized clinical trial comparing language learning and brain training. *Aging, Neuropsychology, and Cognition*, 30(2), 150–171.
- Pfenniger, S., & Polz, S. (2018). Foreign language learning in the third age: A pilot feasibility study on cognitive, socio-affective and linguistic drivers and benefits in relation to previous bilingualism of the learner. *Journal of the European Second Language Association*, 2(1), 1–1. doi:10.22599/jesla.36
- Pot, A., Porkert, J., & Keijzer, M. (2019). The bidirectional in bilingual: Cognitive, social and linguistic effects of and on third-age language learning. *Behavioral Sciences (basel, Switzerland)*, 9(9). doi:10.3390/bs9090098
- Ramos, S., Fernández García, Y., Antón, E., Casaponsa, A., & Duñabeitia, J. (2017). Does learning a language in the elderly enhance switching ability? *Journal of Neurolinguistics*, 43, 39–48. doi:10.1016/j.jneuroling.2016.09.001
- Richter, L., Nijmeijer, S., van Tol, M.-J., Keijzer, M. (in preparation). Cognitive effects of a 3- month language learning or music intervention in functionally monolingual elderly: a resting-state EEG study
- Styliadis, C., Kartsidis, P., Paraskevopoulos, E., Bamidis, P., & Ioannides, A. (2015). Neuroplastic effects of combined computerized physical and cognitive training in elderly individuals at risk for dementia: An eloreta controlled study on resting states. *Neural Plasticity*, 2015. doi:10.1155/2015/172192
- van der Ploeg, M., Keijzer, M., & Lowie, W. (2020). Methodological concerns and their solutions in third-age language learning studies. *Dutch Journal of Applied Linguistics*, 9(1-2), 97–108.
- Ware, C., Damnee, S., Djabelkhir, L., Cristancho, V., Wu, Y., Benovici, J., . . . Rigaud, A. (2017). Maintaining cognitive functioning in healthy seniors with a technology-based foreign language program: A pilot feasibility study. *Frontiers in Aging Neuroscience*, 9, 42–42. doi:10.3389/fnagi.2017.00042

# ***Young children's peer talk in writing practices***

**Jan van Gulik**

j.b.van.gulik@student.rug.nl / University of Groningen

This contribution focuses on peer interactions during writing practices in early childhood education. It will highlight practices of children (4–6 years old) while interacting with each other during activities that involve collaborative writing. Little research has been performed on young children's writing behavior in group work, which has led to an inability to provide adequate educational support (e.g., Deunk et al., 2022). Teachers do not always recognize emergent writing as it becomes apparent in young children's behavior.

Studies show that conversations among children about emergent writing performances may stimulate individual children to reflect on their products and on their identity as literate beings (Coates & Coates, 2006; Kissel et al. 2011). Research on young children's peer talk teaches us how children address and resolve problems that come up during writing practices (Hiddink, 2019). Understanding children's writing behaviour helps teachers to anticipate on when an intervention is necessary.

A data analysis based on Conversation Analysis, as described in Sidnell's Conversation Analysis: An Introduction (2010), shows how young children cope with writing in groups. This analysis provides an insight into the process and the results of young children's writing practices. Different aspects of the writing process, for example discussions on correctness and appropriateness, will be discussed.

## References:

- Coates, E. & Coates, A. (2006). Young children talking and drawing, *International Journal of Early Years Education*, 14(3), 221–241.
- Deunk, M., Gosen, M., Hiddink, F. & Berenst, J. (2022). Literacy. In A. Church & A. Bateman (Eds.), *Talking with Children: A Handbook of Interaction in Early Childhood Education* (pp.165–184). Cambridge: Cambridge University Press.
- Hiddink, F (2019). Probleembesprekingen met samenwerkende kleuters. *Tijdschrift voor Taalbeheersing*, 41(2), 89–103.
- Kissel, B., Hansen, J., Tower, H., Larence, J. (2011). The influential interactions of prekindergarten writers. *Journal of Early Childhood Literacy*, 11(4), 425–452.
- Sidnell, J. (2010). *Conversation Analysis: An Introduction*. Amsterdam: Wiley-Blackwell.

# ***Connections between Souls: Morphosyntactic transfers between L3 and L4/Ln***

**Man Tsun Jess Kan**

m.t.j.kan@student.rug.nl / University of Groningen

This research investigates the phenomenon of morphosyntactic transfer between L3 and L4/Ln in bilingual speakers. The study aims to examine the occurrence of morphosyntactic transfer, the factors that trigger it, and the dominant factors that affect the transfer. The research uses a mixed-methods approach, including a grammar test and EEG, to investigate the transfer. Participants are recruited based on specific language combinations, and informed consent is obtained. The results of this study are expected to contribute to the understanding of the linguistic connections between different languages and the factors that influence the transfer. The findings may have implications for language teaching and learning, particularly for bilingual and multilingual individuals. This study is significant because it examines the transfer between languages that are learned at different stages in a person's life, which can provide insight into how language acquisition and language use are interconnected.

# ***The impact of an altered auditory feedback task on articulatory-acoustic vowel space***

**Valentina Ciot (1), Teja Rebernik (2), Thomas Tienkamp (2),  
Katharina Polsterer (2), Hedwig Sekeres (2), Alessia Baque (3),  
Martijn Wieling (2), and Defne Abur (2)**

valentinaciot@gmail.com

(1) University of Groningen/University of Trento (CIMEC) / (2) University  
of Groningen / (3) University of Genoa

**Purpose:** Auditory-motor integration (the process of incorporating auditory feedback into speech production) can be tested using altered auditory feedback perturbations where speech is altered (i.e., shifting the frequencies in vowel). Typical speakers respond by opposing the alteration (changing their vowel frequencies in the opposite direction) [7]. However, it is not known whether these responses to the experimental paradigm persist after the alteration is removed, which is necessary to consider for therapeutic use of this paradigm. This investigation aimed to explore the impact of a vowel perturbation task on vowel articulation. Articulatory-acoustic vowel space (AAVS), which reflects the vowel space area used during speech [8, 9], was chosen to investigate this question. Sex and musical experience were controlled for in the analyses given their previously shown impact on speech motor control [2, 3, 6].

**Methods:** Data were collected at the Festival della Scienza in Genoa, Italy using a mobile sound booth van. Thirteen participants with high self-reported musical experience in singing or playing an instrument ( $\geq 5$  years) and 13 age- and gender-matched participants with no self-declared musical experience were selected. During the sessions, participants read an Italian text passage aloud twice, before and after a perturbation task that shifted the first formant of the vowel /e/ in real time. AAVS was computed with PRAAT [1] and MATLAB R2021a [5].

**Results:** A linear mixed-effects model with random intercepts for subjects performed in RStudio [4] revealed no significant effect of formant perturbation ( $\beta = 1950.81$ ,  $t(46) = 0.47$ ,  $p = 0.639$ ) and musical experience ( $\beta = -8741.99$ ,  $t(46) = -0.56$ ,  $p = 0.576$ ) on AAVS. However, sex was found to significantly affect AAVS ( $\beta = -34849.35$ ,  $t(44) = -2.41$ ,  $p = 0.020$ ), in line with previous studies [8, 9, 10].

**Conclusion:** The current work suggests that a formant perturbation on a single vowel does not benefit global changes to vowel space area.

## References:

- [1] Boersma, P., & Weenink, D. (2023). Praat: doing phonetics by computer [Computer program]. Version 6.3.05, retrieved 27 January 2023 from <http://www.praat.org/>
- [2] Jones, J. A., & Keough, D. (2008). Auditory-motor mapping for pitch control in singers and nonsingers. *Experimental brain research*, 190(3), 279-287. <https://doi.org/10.1007/s00221-008-1473-y>
- [3] Micheyl, C., Delhommeau, K., Perrot, X., & Oxenham, A. J. (2006). Influence of musical and psychoacoustical training on pitch discrimination. *Hearing research*, 219(1-2), 36-47. <https://doi.org/10.1016/j.heares.2006.05.004>
- [4] RStudio Team (2020). RStudio: Integrated Development for R. RStudio, PBC, Boston, MA URL <http://www.rstudio.com/>.
- [5] The Math Works, Inc. (2021). MATLAB (Version 2021a) [Computer software]. <https://www.mathworks.com/> [6] Wang, W., Wei, L., Chen, N., Jones, J. A., Gong, G., & Liu, H. (2019). Decreased Gray-Matter Volume in Insular Cortex as a Correlate of Singers' Enhanced Sensorimotor Control of Vocal Production. *Frontiers in neuroscience*, 13, 815. <https://doi.org/10.3389/fnins.2019.00815>
- [7] Weerathunge, H., Tomassi, N., & Stepp, C. (2022). What Can Altered Auditory Feedback Paradigms Tell Us About Vocal Motor Control in Individuals With Voice Disorders?. *Perspectives of the ASHA Special Interest Groups*. 7. 1-18. 10.1044/2022\_PERSP-21-00195.
- [8] Whitfield, J. A., & Goberman, A. M. (2014). Articulatory-acoustic vowel space: application to clear speech in individuals with Parkinson's disease. *Journal of communication disorders*, 51, 19-28. <https://doi.org/10.1016/j.jcomdis.2014.06.005>
- [9] Whitfield, J. A., & Goberman, A. M. (2017). Articulatory-acoustic vowel space: Associations between acoustic and perceptual measures of clear speech. *International journal of speech-language pathology*, 19(2), 184-194. <https://doi.org/10.1080/17549507.2016.1193897>
- [10] Whitfield, J. A., Dromey, C., & Palmer, P. (2018). Examining Acoustic and Kinematic Measures of Articulatory Working Space: Effects of Speech Intensity. *Journal of speech, language, and hearing research : JSLHR*, 61(5), 1104-1117. [https://doi.org/10.1044/2018\\_JSLHR-S-17-0388](https://doi.org/10.1044/2018_JSLHR-S-17-0388)



## ***CREAMT: cognitive effort and creativity in literary texts translated using different modalities***

**Tongyao Diao (1) and Ana Guerberof Arenas (1)**

t.diao.1@student.rug.nl / a.guerberof.arenas@rug.nl

(1) University of Groningen

The pilot study presented here is part of a larger EU funded project, CREAMT, (Guerberof-Arenas & Toral, 2022), which examined levels of creativity and reader's narrative engagement of translated literary of a fictional story, 2BR02B, written by Kurt Vonnegut. The texts were human translated (HT), machine-translated (MT), and post-edited (PE) from English into Catalan and Dutch by professional literary translators.

The results showed that the highest creativity scores were for the HT version followed by PE and then MT according to experts. Further, the reading experience of 223 Catalan and Dutch readers was measured using three scales: Narrative Engagement, Enjoyment and Translation Reception. The results show that Catalan readers were more engaged, enjoyed more and rated translation the highest in the HT version than in the PE and MT versions, while the Dutch readers rated the original English the highest followed by the PE, then HT and lastly MT (Guerberof-Arenas & Toral, forthcoming).

In this pilot study, we have adopted the same setup using an eye-tracker. Eight Dutch participants will be distributed evenly to the four conditions and they will read the story. Then, they will fill in a questionnaire about their reading experience. Lastly, the participants' gaze data will be replayed to them so they can explain their reading experience in a retrospective think aloud interview (Guerberof et al., 2019). Different measures, including fixation duration, fixation count, and regressions, will be analysed according to different areas of interest.

Our aim is to understand how translated texts in different modalities are received by readers, with an emphasis on the possible alterations to cognitive processes caused by using technology. By uncovering the creative process and the linkage between translators' production and readers' reception, the project seeks to provide more data to explain the relationship between creativity and translation and its effect on readers. Keywords Eye-tracking, literary translation, machine translation, post-editing, narrative engagement, translation reception

### References:

- Guerberof, A., Moorkens, J., & O'Brien, S. (2019). What is the impact of raw MT on Japanese users of Word: Preliminary results of a usability study using eye-tracking. Proceedings of XVII Machine Translation Summit, 11.
- Guerberof-Arenas, A., & Toral, A. (2022). Creativity in translation: Machine translation as a constraint for literary texts. Translation Spaces. <https://doi.org/10.1075/ts.21025.gue>

# ***Impact of age on acoustic and perceptual measures of voice quality in Italian speakers***

**Rachel D'Cruz (1) and Defne Abur (1)**

r.a.dacruz@student.rug.nl / (1) University of Groningen

It is essential to understand the influence of typical aging on speech to be able to differentially diagnose it from pathological speech changes. One way this can be investigated is using acoustic and perceptual measures of speech, which are sensitive to these changes in voice quality with age. Cepstral peak prominence-smoothened (CPPS), one such acoustic measure, has been associated with age-related changes to voice quality, but the results are variable. Garrett (2013) found that CPPS can differentiate old and young (20-50yrs) speakers without voice complaints, yet Taylor et al. (2020) did not find any age effect (17-87yrs) on CPPS. This discrepancy may be due to the fact that CPPS can increase with vocal strain (Anand et al., 2019) and decrease with breathiness (Awan et al., 2009), but both vocal strain and breathiness increase with older age. Thus, this thesis examines both CPPS and perceptual voice quality ratings across the lifespan to clarify the impact of breathiness and vocal strain on age-related changes to CPPS.

Seventy-four Italian speaking individuals (33M, 41W) aged 16-82 completed a reading passage in a sound-attenuated booth. Three outcome measures will be calculated from this dataset: CPPS (via PRAAT), auditory-perceptual ratings of breathiness, and auditory-perceptual ratings of vocal strain. Two speech-language pathologists will compute the perceptual ratings for all speakers. To calculate perceptual reliability, 10% of the ratings will be repeated to assess intraclass correlation coefficients. Finally, the impact of age on the outcome measures will be assessed, as well as associations between perceptual ratings and acoustics (CPPS). Given the differing changes to the laryngeal system by gender, this will be added as a variable in our analyses. These findings will further inform us about the relationship between CPPS and perceptual voice features, as well as determine age-related changes to perceptual and acoustic measures of voice.

## References:

- Awan, S. N., Roy, N., & Dromey, C. (2009). Estimating dysphonia severity in continuous speech: Application of a multi-parameter spectral/CEPSTRAL model. *Clinical Linguistics & Phonetics*, 23(11), 825-841. <https://doi.org/10.3109/02699200903242988>
- Anand, S., Kopf, L. M., Shrivastav, R., & Eddins, D. A. (2019). Objective indices of perceived vocal strain. *Journal of Voice*, 33(6), 838-845.
- Garrett, Rachel, "Cepstral- and Spectral-Based Acoustic Measures of Normal Voices" (2013). Theses and Dissertations. 217. <https://dc.uwm.edu/etd/217>
- Taylor, S., Dromey, C., Nissen, S. L., Tanner, K., Eggett, D., & Corbin-Lewis, K. (2020). Age-related changes in speech and voice: Spectral and Cepstral measures. *Journal of Speech, Language, and Hearing Research*, 63(3), 647-660. [https://doi.org/10.1044/2019\\_jslhr-19-00028](https://doi.org/10.1044/2019_jslhr-19-00028)

# ***Emotions and Multilingualism in Transnational Migration: Egyptian immigrants in the Netherlands***

**Ghazal Hamdi**

ghazal.hamdy@gmail.com/ University of Amsterdam

**Objective:** Emotions experienced by Egyptian immigrants in the Netherlands towards their language use (i.e., Arabic, Dutch, and/or English) in different social contexts (i.e., in public, with native speakers, with family) can be found to be negative (i.e., 'anxiety') or positive (i.e., 'pride').

**Method:** A questionnaire was administered to 40 first-generation Egyptian participants living in the Netherlands. The questionnaire consisted of both open-ended and close-ended questions about the participants' emotional reactions when speaking Arabic – the heritage language – , Dutch – the majority language – , or English – the neutral language – in different situations, and what reasons they attributed to those emotional reactions.

**Conclusion:** Findings suggest that the negative emotion of 'anxiety' was reported by Egyptian participants to be experienced when respondents had to speak Dutch and Arabic to native Dutch speakers. Accounting for different social settings, emotions towards the use of English were described positively as 'confidence', and emotions towards the use of Arabic were described positively as 'pride'. The feeling of 'anxiety' being experienced in situations with Dutch natives may be explained through the speakers' fear of being alienated by the majority language users, while the feeling of 'pride' when using Arabic might be linked to a strong emotional appreciation to the speaker's own heritage language within the diaspora.

**Implications:** It is crucial to explore the range of emotions (both positive and negative) experienced by immigrants in different social contexts to understand and value the complexity on their daily experiences. Previous studies have failed to extend the range of emotions studied past the negative feelings surrounding language use in the immigrant context. Further research should combine a mixed-methods approach by including questionnaires and interviews to have a clear understanding of the experiences that immigrants go through in their daily social interactions and the attitudes and motivation factors surrounding them.