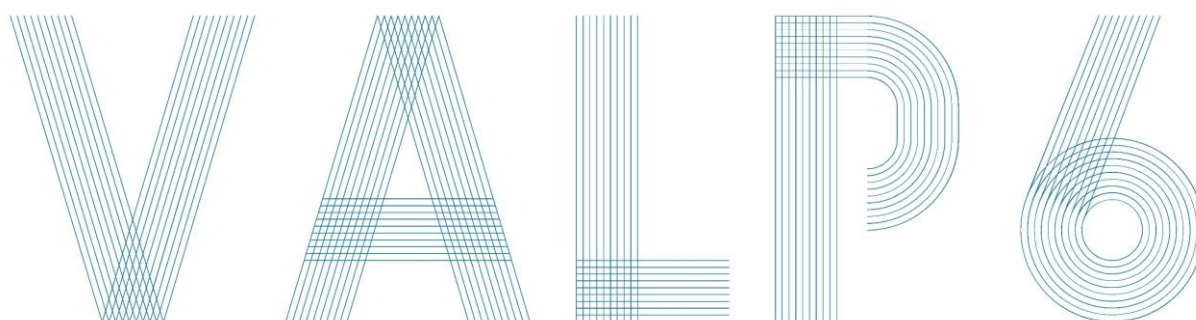


ABSTRACT BOOKLET



Variation and Language Processing 6

26th, 27th and 28th of June 2024

Universidade de Vigo

Departamento de Filoloxía
francesa, inglesa e alemá

Grupo de investigación Language
Variation and Textual Categorisation



Programme Day 1 – Wednesday June 26th

09:00	<i>Registration opens</i>		
09:30	<i>Welcome and practical information</i>		
09:45	Keynote	Hans-Jörg Schmid (LMU München)	Can our understanding of entrenchment explain or even predict the structure and communicative effects of linguistic variation?
11:00	Talk	Alessia Cassarà, Chantal van Dijk, Holger Hopp, Achim Stein (Stuttgart, TU Braunschweig)	Can verb classes be primed? Evidence from unaccusativity in Italian
11:30	Talk	Tamara Bouso, Marianne Hundt, Laetitia Van Driessche (Santiago, Zurich)	A structural priming approach to links among English Objoide Constructions
12:00	<i>Coffee break</i>		
12:30	Talk	Cooper Bedin (California, Santa Barbara)	Variation and perception of queer speech: A hierarchical clustering approach
13:00	Talk	María Muelas Gil (Autónoma Madrid)	Gender stereotypes evolution in language: a comparison of how 'masculine generic' and other inclusive forms are processed in Spanish and English
13:30	Talk	Jakob Horsch (Slovak Academy of Sciences)	Testing a sociolinguistic model for its predictive power: An empirical approach to Schneider's Dynamic Model
14:00	<i>Lunch</i>		
15:30	Talk	Ronan Pereira (Nova de Lisboa)	Third person accusative pronouns in Brazilian Portuguese in a Socio- and Psycholinguistics perspective
16:00	Talk	Esther Rinke, Cristina Flores, Daniel Weingärtner (GU Frankfurt, Minho)	Connecting heritage languages and diachronic change: null objects in different varieties of Portuguese
16:30	Talk	Fahad Alyaqout (Vigo)	The Effect of Informativeness on [[NN]N] compound Prominence: A Speech Production Analysis
17:00	<i>Coffee break</i>		
17:30	Talk	Sara Fernández Santos, Miquel Llopart, Ewa Dąbrowska (FAU Erlangen, Pompeu Fabra)	Cue timing trumps syntactic transparency in sentence processing
18:00	Talk	Giuseppe Dario Benigno, Pedro Guijarro-Fuentes, Estela García Alcaraz, Marta Rivera Zurita (Illes Balears)	Unravelling the processing of missing – object syntactic constructions. A comparative study between Spanish monolinguals and Spanish – Catalan bilinguals
18:30	Talk	Ranya Erramh, Nabila Louriz (Hassan II University)	Variation in the adaptation of Arabic and Spanish liquids into Tarifit
19:45	<i>Reception: Pazo Quiñones de León (-21:15)</i>		

Programme Day 2 – Thursday June 27th

09:30	Talk	Anita Szakay, Ksenia Gnevsheva (Macquarie, Australian National)	Sensitivity to sociophonetic information: The effect of language background and dialect exposure
10:00	Talk	Grant M. Berry, Jake Caselli, Joseph C. Toscano (Villanova Univ.)	Acoustic change detection as a predictor of phonological adaptation
10:30	Talk	Christine Shea, John Muegge (Iowa)	To compete or not compete: Mispronunciation effects on young Spanish-English bilinguals' lexical competition dynamics
11:00	<i>Coffee break</i>		
11:30	Talk	Brechje van Osch, N. Kolb, R. Stadt, A. Luque, M. Anderssen, M. Westergaard (UiT, UvA, Nebrija)	Understanding L3 Acquisition Through the Lens of Cross-Linguistic Influence: Integrating Online and Offline Measures
12:00	Talk	Jiuzhou Hao, A. Luque, M. Kubota, M. Nakamura, E. Rossi, & J. Rothman (UiT, Nebrija, Florida)	Exploring the Role of Language Experience Factors and Morphological Markedness in The Processing of Grammatical Gender Agreement Among Spanish-English Heritage Speakers: An EEG Study
12:30	Keynote	Montserrat Comesaña (Universidade do Minho)	The impact of bilingualism on cognitive development and academic success
13:45	<i>Lunch</i>		
15:30	Talk	Concepción Soto (Northwestern)	Unveiling Bilingual Variability during Spoken Word Recognition: An eye-tracking exploration of within-L1 competition dynamics across the bilingual continuum.
16:00	Talk	Emanuela Todisco, Mikkel Wallentin (Sevilla, Aarhus)	The Good, the Bad and the Ugly. The effect of negative valence in demonstratives' syntactic movement.
16:30	Talk	Ruixue Wu, M. Carmen Parafita Couto, Niels O. Schiller (Leiden, Vigo, Hong Kong)	Gender assignment strategies in mixed Spanish-Chinese noun phrases
17:00	<i>Coffee break</i>		
17:30	Talk	Angela Swain, Melinda Fricke (Penn State Univ.)	When Control Words Lose Control: Social Evaluation and Top-Down Processing Effects in Auditory Word Recognition
18:00	Talk	Simon Todd (California Santa Barbara)	Lexical adoption, exposure, and attitudes: The case of Eh in New Zealand
20:30	<i>Gala dinner: Hotel Ciudad de Vigo (-23:00)</i>		

Programme Day 3 – Friday June 28th

09:30	Talk	Stefan Hartmann (HHU Düsseldorf)	The curious case of wandering case morphemes: A corpus-based study of non-canonical adpositions in German
10:00	Talk	Sergio Rojo, Kathleen McCarthy, Anna Count, Caroline Floccia, Joost van de Weijer, Carita Paradis (Lund, QMU London, Plymouth)	How children make sense of linguistic variation: from perception to evaluation
10:30	Talk	Karolina Rudnicka, Aleš Klégr (Gdańsk, Charles University Prague)	Non-verbal plural number agreement in the cross-linguistic context: Combining corpus findings with two kinds of acceptability rating results for English, German, Czech, and Polish
11:00	Talk	Álvaro Cortés Rodríguez, Sina Bosch, Claudia Felser (Potsdam)	Dependency length minimization in German relative clause extraposition: Evidence from speeded acceptability judgments and production choices
11:30	<i>Coffee break</i>		
12:15	Talk	Lars Hinrichs (Texas Austin)	Modeling in- vs. outgroup indexicality for an improved understanding of social meaning
12:45	Talk	Tianning Zhai (Leiden)	Towards Fairness: Contact-Derived Signs in Japanese Sign Language
13:15	Talk	Ashvini Varatharaj, Simon Todd (California Santa Barbara)	Using variation in language structure to understand implicit language learning in Non-Māori speakers exposed to Māori
13:45	<i>Lunch</i>		
15:30	Talk	Aurora Bel, Rafael Marín, Sílvia Perpiñán (Pompeu Fabra)	The Anticipatory Power of the Spanish Copulas
16:00	Talk	Matti Marttinen Larsson (Stockholm Univ.)	Construction-lexeme accessibility determines variable and changing coding length: Evidence from constructional and syntactic changes in Spanish
16:30	Keynote	Natalia Levshina (Radboud University)	Communicative efficiency, language variation and processing
17:45	<i>Closing</i>		

Day 1 – Wednesday June 26th

Can our understanding of entrenchment explain or even predict the structure and communicative effects of linguistic variation?

Hans-Jörg Schmid

Ludwig-Maximilians-Universität München

According to the usage-based commitment (see, e.g. Langacker 1987, Bybee 2010), grammar and linguistic knowledge emerge from usage. As has been shown in sociolinguistics, “grammar” (here taken to include phonology and the lexicon) is inherently variable on the levels of forms, meanings and functions, depending on contextual, situational and social factors. Therefore, if we take the usage-based commitment seriously, linguistic variation should also emerge from usage via the same processes that transform usage into grammar. Relying on the predictions of the Entrenchment-and-Conventionalization Model (Schmid 2020), I discuss in which way the key cognitive process of entrenchment contributes to shaping the structure and communicative effects of linguistic variation. This discussion brings together hypotheses about the process of entrenchment, on the one hand, and corresponding findings on the structure of linguistic, situational and social variation, on the other.

To test the idea whether entrenchment can explain or even predict the structure of variation I discuss results and insights from a number of recent sociolinguistic studies, including Schmid et al. (2021). In addition, I will discuss the methodological implications of a cognitive usage-based approach for sociolinguistic investigations.

KEYNOTE
9:45

Can verb classes be primed? Evidence from unaccusativity in Italian

Alessia Cassarà¹, Chantal van Dijk^{1,2}, Holger Hopp² & Achim Stein¹

¹University of Stuttgart; ²Technische Universität Braunschweig

Verb classes and their diachronic change are well-studied phenomena (e.g., Legendre & Sorace, 2003; Heidinger, 2010 for unaccusatives). Due to variation - verbs may not share all syntactic and semantic verb class properties - the definition of verb classes is not trivial. Consequently, it is unclear whether verb classes have psychological reality in speakers’ minds. We investigate whether speakers classify variation in the class of unaccusatives according to the same syntactic and semantic criteria as linguists suggest they do. Unaccusatives differ from transitives and unergatives in that they occur intransitively and take an object-like subject (*The vase breaks*; Perlmutter, 1978). Some languages mark unaccusativity morphosyntactically: e.g., in Romance languages, some verbs take a reflexive marker (e.g., *si* in Italian). Here, we present a series of structural priming experiments in Italian testing whether there is evidence for unaccusativity as a verb class, based on the assumption that exposure to a structure primes its subsequent use (e.g., Bock, 1986), asking the following questions: **RQ1**: Can unaccusativity be primed? **RQ2**: Does the unaccusative *si*-marker affect priming?

If unaccusatives constitute a verb class in speakers’ minds, we expect unaccusativity priming to occur and be stronger with the *si*-marker.

In 3 experiments (48 Italian native-speakers per experiment), participants described pictures with verbs that alternated between unaccusative (e.g., *Il vaso si rompe* ‘the vase breaks’) and transitive structures (e.g., *Il vento rompe il vaso* ‘the wind breaks the vase’). Half of these verbs took the reflexive *si*-marker. An unaccusative, transitive or unergative (e.g., *Il bambino gioca* ‘the child plays’) prime sentence preceded each description. In Experiment 1, alternating prime and target verbs overlapped between prime-target pairs. In Experiments 2 and 3, verbs differed within prime-target pairs, and either matched regarding the presence of the *si*-marker (Experiment 2), or not (Experiment 3).

Generalized linear mixed models tested for (i) unaccusativity priming (unaccusative versus unergative primes), and (ii) intransitivity priming (unaccusative and unergative versus transitive primes). Regarding RQ1, unaccusativity priming was significant with verb overlap (Experiment 1). Without verb overlap, only intransitivity priming was significant (Experiments 2-3), suggesting verb-argument-structure priming rather than unaccusativity priming. Regarding RQ2, participants produced more unaccusatives with non-*si*-marked verbs, irrespective of whether *si* was present in the prime (Experiments 1-2-3). Hence, the reflexive marker did not modulate unaccusativity priming. Our results indicate that the unaccusativity verb class - or at least its subset of alternating verbs - cannot be primed, suggesting that (alternating) unaccusatives as a verb class may not have psychological reality in speakers’ minds. Thus, it is not obvious how unaccusatives as a verb class can be subject to individual trajectories in historical change. We discuss how synchronic experimental findings can clarify diachronic phenomena.

TALK
11:00

Keywords: structural priming, unaccusativity, verb class, diachronic change, Italian

A structural priming approach to links among English Objoid Constructions

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¹Universidade de Santiago de Compostela; ²Universität Zürich

One major tenet shared by constructionist approaches to grammar is that linguistic knowledge consists of a large network of constructions (Goldberg 2013). Constructions, originally defined as form-meaning pairings, form the nodes of the network, which are connected via different types of associative links. The best evidence for such constructional links has been claimed to come from priming, “a recency effect of language use that facilitates (or inhibits) the activation of semantically or formally similar items” (Diessel 2019: 201).

In our presentation at VALP6, structural priming will be used to test hypotheses on the relation between three formally and semantically related Objoid Constructions (Bouso and Hundt 2024): the Reaction Objoid (1a), the Cognate Objoid (2a), and the Superlative Objoid (3a) Constructions. The ROC, COC, and SOC inherit features from a transitive and an adverb manner schema, albeit to differing degrees, with the SOC being closer to adverb manner constructions and the ROC to regular transitives. The NP in the ROC only passivizes if the possessive is omitted (1b-c), the passive variant of the COC is odd on semantic grounds (2b), and the SOC is even further removed from the

TALK
11:30

Keywords: modelling network relations, Objoid constructions, structural priming, transitivity

transitive prototype in that it does not passivize at all (3a); the SO itself is akin to a degree adverb manner construction (3b).

- (1) a. She **smiled** her thanks.
 b. Thanks were smiled.
 c. *Her thanks were smiled.
- (2) a. She **smiled** a sweet smile.
 b. ?A sweet smile was smiled.
- (3) a. Kate and I have **worked** (at) our hardest.
 b. Kate and I have worked very hard.

Our aim is to test this transitivity gradient by looking into how speakers' processing of Objoid constructions is affected by previous exposure to instances of an adjacent construction (ROC-COC, COC-SOC) and a more distant construction (ROC-SOC). For the SOC we also test the existence of a more abstract construction by exploring differences in priming effects between the ROC, COC, and the putative allo-structions of the SOC (Bouso and Hundt 2024): the bare and the *at*-SOC (3a).

Following Ungerer (2021), we employed a variant of a self-paced reading experiment where participants build a sentence incrementally from two alternatives they are provided for each syntactic slot. The G-maze task was implemented in Gorilla, using Boyce, Futrell and Levy's (2020) scripts for the automatic generation of distractors.

Results from 300 US participants, which were recruited via Prolific, and fitted to several linear mixed-effect models using *lme4* (Bates et al. 2015) support transitivity as gradient. Our findings also lend additional support to previous research that stipulated an inverse relationship between priming effects and frequency of the constructions involved (Bernolet and Hartsuiker 2010; Jaeger and Snider 2013). The results, however, do not concur with the idea that priming yields "coarse-grained effects" (Ungerer 2023: 8), probably because our study moves beyond classical structural priming analyses of pairings of alternating constructions, allowing us to model differential relations among three members of the sisterhood of English Objoid constructions.

Variation and perception of queer speech: A hierarchical clustering approach

Cooper Bedin

University of California, Santa Barbara

A longstanding thread of inquiry in sociolinguistics has been the relationship between speaker voice characteristics and (perceived) sexuality. For example, several studies have had participants listen to voice recordings and rate which speakers "sound gay" (e.g., Gaudio, 1994; Munson et al., 2006; Tracy & Satariano, 2011). Typically, listeners make distinctions between speakers, which are correlated with speaker sexuality. However, listeners often vary in how they rate a single talker, suggesting they have different mental models of what a "gay voice" is (Jacobs et al., 2000; Tracy et al., 2015). Variation also exists in how different speakers of the same sexuality are rated by listeners, suggesting that listeners' mental models may not always capture the range of sociophonetic variation among real gay speakers. This mismatch is further complicated by studies looking beyond gay vs. heterosexual (cisgender) men, which have found that diverse speakers' productions of key sociophonetic variables (dis)align with gay-associated linguistic styles in complex, heterogeneous ways (Willis, 2021; Zimman, 2013). This study uses clustering as a novel method to interrogate these gaps in current approaches.

This paper analyzes data from a perception experiment with English language users in the United States. 14 speakers, all "male, masculine, masc, male-presenting, or male-coded," were each recorded reading 25 sentences from MOCHA-TIMIT (Wrench, 1999). 23 listeners from Prolific listened to these sentences, and for each provided a 1-7 integer rating of how "gay/queer" the speaker sounded to them (1="not at all," 7="very"). The data was organized into a matrix, with each row representing a listener and each column representing a speaker; each cell contained the average rating that listener gave that speaker across all sentences. Hierarchical clustering algorithms were run both on the row and column vectors of the matrix to generate 2 dendrograms, using a Euclidean distance metric and Ward's linkage (Ward, 1963).

The speaker dendrogram shows a clear correspondence with participants' self-identified sexualities, with a "bi" group, a "queer" group, and a "gay" group. Revisualizing the data matrix makes clear why these emerged—the "gay" group was on average rated relatively high by all listener groups, and the "bi" group low, but the "queer" group created a bifurcation amongst listeners. Two listener groups rated the "queer" group speakers high, but a third rated them low.

This suggests a difference in mental models of "gay/queer voice" between groups of listeners. The speaker group that revealed this difference mainly included sexual identities absent in prior studies: "queer" and "asexual." Ultimately, this study highlights the need to further examine variation in listener processing in queer sociophonetics, where the field is currently largely aimed at variation between speakers. This study further argues that sexually- and gender-diverse participants are crucial to a complete understanding of sexuality and the voice.

Gender stereotypes evolution in language: a comparison of how 'masculine generic' and other inclusive forms are processed in Spanish and English.

Maria Muelas Gil

Universidad Autónoma de Madrid

'Stereotypes' are preconceived mental generalisations humans use to categorize and facilitate the perception of the world, a cognitive process influenced and shaped by context (Schneider, 2004). Institutions have been insisting for decades on the importance of inclusive language to eliminate gender stereotypes (European Commission 2008), and countries whose languages use grammatical gender distinction (such as Spanish) seem to have lower levels of gender equality compared to other countries with naturally gendered (English) or non-gendered (Finnish) languages (Prewitt-Freilino et al. 2012), suggesting that greater visibility of gender asymmetries in language leads to higher social gender inequality.

TALK

12:30

Keywords:

sociophonetics, gay speech, listener processing, clustering, LGBTQ+ linguistics

TALK

13:00

Although studies on stereotypical language processing have been conducted within cognitive linguistics, psycholinguistics and neurolinguistics (Oakhill et al. 2005, Siyanova-Chanturia et al. 2015), the constant social change entails inherent linguistic variation and therefore calls for an ongoing study of the relationship between cognition, language change, language processing and the role these play on the maintenance/elimination of social stereotyping. Thus, this study starts from the look at the effect of gendered language on the audience, its processing and production.

This project presents two studies that account for the evolution and effects of stereotyped language in Spanish and English. The first norming study, comparing stereotypical values of role nouns across languages and with previous studies, shows a tendency for traditionally stereotypical nouns like ‘doctor’ and ‘photographer’ to be more neutral; the second study, consisting in a three-way Likert-scale comparing women-depiction when role nouns are presented in more or less inclusive forms, shows that using feminine plural makes participant process and conceptualize not only a higher proportion of women in “male” jobs but also the other way around. These two studies are part of a larger project of language stereotypes processing in language, aimed at providing further proof for the inclusion of new forms in language as society evolves and claims for equal linguistic evolution.

Testing a sociolinguistic model for its predictive power: An empirical approach to Schneider’s Dynamic Model

Jakob Horsch

Ludovít Štúr Institute of Linguistics of the Slovak Academy of Sciences

Schneider’s (2003, 2007) Dynamic Model (DM) offers a sociolinguistic **approach to World Englishes** according to which **varieties evolve through five stages (I-V) that correlate with linguistic features**. It can thus be tested using empirical data. I present acceptability judgments from 192 speakers of six English varieties (DM stages III-V) that prove the DM’s predictive power. Data were collected using the **Magnitude Estimation method** (Bard et al. 1996; Cowart 1997; Hoffmann 2013), where subjects “decide on their own scale and make as many fine-grained choices as they deem necessary” (Hoffmann 2013: 103). To make results comparable, they are centered by calculating z-scores. Concretely, I tested *that*-complementizers in the English Comparative Correlative (CC) construction. The CC consists of two sub-clauses, C1 and C2; *that*-complementizers are optional in C1 (1).

(1) [The more **[that]**_{optional that-complementizer} you read,]_{C1} [the more things you will know.]_{C2} (Dr. Seuss)

In corpora, *that*-complementizers are “extremely rare” (Hoffmann 2019: 124). Accordingly, they have been deemed historical remnants and “no longer central properties of the English CC construction” (Hoffmann et al. 2020: 213). However, this doesn’t apply to all DM stages equally: Hoffmann’s ICE corpus study revealed “a slight dispreference for C1s without a *that*-complementizer in Stage V varieties” (2019: 210). This is because in situations of intense dialect contact, which is characteristic of DM stages III/IV, “infrequent constructions [...] will often be lost” (Hoffmann 2019: 193). That is, due to their low frequency, *that*-complementizers fall prey to koinéization in ‘younger’ English varieties whereas they are conserved in ‘older’ ones.

These observations led me to the following **research questions**: (i) Can the predictive power of Schneider’s DM be confirmed, such that the acceptability of *that*-complementizers correlates with DM stages? (ii) Do the results confirm claims that missing *that*-complementizers are slightly less preferred in stage V varieties (Hoffmann 2019)? Accordingly, I conducted METs with 192 speakers of American and White South African English (V), Singapore English, Colored and Black South African English (IV) and Kenyan English (III). Subjects rated items with and without *that*-complementizers; **results** were analyzed using mixed-effects models. The fixed effect VARIETY turned out to be significant ($p=0.01287^*$); the interaction THAT_C1:VARIETY was very significant ($p<0.001^{***}$). Specifically, it is revealed that the higher a DM stage, the better *that*-complementizers were rated. The z-score mean of *that* in C1 was subtracted from that of no *that*, illustrating the degree to which participants preferred no *that*-complementizers over the alternative. The superimposed linear model reveals a positive correlation that translates to ‘the lower the DM stage, the higher the preference for no *that*-complementizers’, or, conversely, ‘the higher DM stage, the less sensitivity to *that*-complementizers’. This confirms previous corpus studies (see above) and, more importantly, the predictive power of Schneider’s DM.

Third person accusative pronouns in Brazilian Portuguese in a Socio- and Psycholinguistics perspective

Ronan Pereira

NOVA University Lisbon

The study of linguistic variation, which traditionally relied mostly on spontaneous production data, has recently been focusing on other psycholinguistic methodologies, such as elicited productions, reaction and reading times, and priming effects (cf. Chevrot, Drager, & Foulkes, 2018). For instance, Kaschak & Glenberg (2004) and Squires (2014) found faster reading times when an individual was more familiar with a specific variant; moreover, those times can become faster as individuals have more contact with previously unfamiliar variants, what Clopper (2014) considers a result of an expansion of mental representations in order to accommodate them.

In this regard, schooling may be important for children to have contact with different variants, especially those that are not acquired during early childhood. For example, in Brazilian Portuguese (BP), third person accusative pronouns can be realized either as strong pronouns *ele(s)/ela(s)*, normally acquired by children, or as clitic pronouns *o(s)/a(s)*, acquired via schooling (Kato, Cyrino, & Corrêa, 2009). Production data has shown that clitic pronouns are seldom used orally (Corrêa, 1991; Zanellato et al., 2021), contrasting with their higher use in the written modality (Othero & Schwanke, 2018; Othero et al., 2018; Zanellato, 2017). As argued by Lira (2021), this difference is connected to a higher level of monitoring in written productions, which might be linked to the perception of formality attributed to clitic pronouns in BP (cf. Schwenter et al., 2022). In fact, for Labov ([1972] 2008), the linguistic repertoire must be controlled by a sociolinguistic monitor, which involves more conscious cognitive processes that

TALK
13:30

Keywords: Dynamic Model, World Englishes, Comparative Correlative, *that*-complementizer, Magnitude Estimation

TALK
15:30

Keywords: Brazilian Portuguese, third person accusative pronouns, schooling, sociolinguistics, psycholinguistics

lead to the selection of the most appropriate variant depending on the social context and the speakers' social profile.

Therefore, two productions tasks which allowed different degrees of speech monitoring (spontaneous and elicited) and a sentence-matching task (whose reaction time to decide if two given sentences are the same or not is slower when they are ungrammatical or unfamiliar) were conducted with 24 schooled BP native speakers in order to establish whether the level of monitoring affects the type of pronoun produced, whether there are differences at the processing level when participants read sentences containing each pronoun, and whether any social factors influence their performance. Results showed that, as expected, strong pronouns are prioritized in spontaneous speech (91.8%) and clitic pronouns are prioritized in more monitored situations (88.3%). No difference in reaction time was found during the sentence-matching task (strong pronouns: 1650ms; clitic pronouns: 1638ms; $p = 0,604$), which might be due to their own morphological nature, a by-product caused by the higher use of clitic pronouns during the elicited production task (suggesting either a priming effect of such pronouns or inhibition of the strong pronouns), or that they are equally accessible (and their use depends on specific social contexts). Gender and education were the relevant social factors detected, in the sense that women and more educated speakers tended to prioritize the more formal variant (clitic pronouns), as anticipated by Labov ([1972] 2008).

Connecting heritage languages and diachronic change: null objects in different varieties of Portuguese

¹Esther Rinke, ²Cristina Flores & ¹Daniel Weingärtner
¹Goethe-Universität Frankfurt; ²Universidade do Minho

Heritage languages can exhibit variation absent in monolingual varieties. Previous research argues that this should not be mistaken for inadequate knowledge. Divergence must be differentiated from variation caused by ongoing language change, as heritage speakers (HS) may advance existing tendencies of language evolution (Rinke & Flores, 2014; Flores & Rinke, 2020).

One example concerns the production of null object (NO) structures by European Portuguese (EP) HS in Germany. A corpus study (Rinke et al., 2018) demonstrates that HS extend the use of NOs mirroring a diachronic development attested for Brazilian Portuguese (BP) (Cyrino et al., 2000).

Our investigation reconsiders the conclusions of (Rinke et al., 2018) in a comprehension experiment with monolingually-raised EP and BP speakers and HS of EP. We used a Covered Box Task, a modified Picture-Selection-Task (Huang et al., 2013). Stimuli included verbs allowing transitive and intransitive interpretations (e.g., *parar* 'to stop \emptyset /something'), presented in main and subordinate clauses with a NO or a clitic.

- (1) a. *Parou-o/ø imediatamente.*
 'She stopped (it) immediately.'
 b. *Não aconteceu nada, porque o/ø parou imediatamente.*
 'Nothing happened because she stopped (it) immediately.'

Participants saw a picture showing a transitive action and a covered picture and had to decide whether the sentences with NOs matched the transitive reading in the picture.

BP is considered to be diachronically advanced in comparison to EP since it has extended the use of NOs over time (Cyrino, 1997). Based on Raposo's (1986) analysis of EP NOs as variables emerging from the movement of an empty topic operator, transitive readings with NOs in subordinate clauses (syntactic islands) should not be admitted by monolingual EP speakers but they should be acceptable for speakers of BP (Farrell, 1990). However, this contrast may only be quantitative and not categorical given that more recent proposals have challenged the island restriction of EP (Raposo, 2004; Rinke et al., 2018). Regarding main clauses, we also expect a quantitative contrast between the two monolingual varieties, given that NOs are the default option for inanimate referents in BP but less so in EP where the clitic tends to be the preferred choice.

If HS of EP extend the use of NOs, we expected them to accept more transitive readings with NOs in main and island clauses. The results largely confirm our expectations: although both monolingual groups admit transitive readings with NOs and show no asymmetry regarding clause type, speakers of EP and BP differ significantly regarding their acceptance rates. HS of EP also do not differentiate between main and island clauses. Interestingly, they accept significantly higher rates of transitive readings than monolingual speakers of EP and do not differ from BP speakers, indicating an extended use of null objects similarly to BP.

The Effect of Informativeness on [[NN]N] compound Prominence: A Speech Production Analysis

Fahad Alyaqout
 Universidade de Vigo

This study aims at explaining the variance in prominence assignment in tri-constituent compound nouns, focusing on the third (N3) noun in left-branching compounds, thus the N3 at the IC level. The investigation will test */C-Prominence Hypothesis* (henceforth, ICPH), which argues that factors, like informativeness, leading to rightward stress in Noun+Noun (Thus NN) compounds also apply in three-noun (Thus NNN) compounds. More importantly, this study will test for the first time the production of prominence patterns in NNN compounds at the IC-level in native speakers of American English. The aim is to test the credibility and reliability of the ICPH in predicting prominence at the third noun (N3) in a left-branching compound using informativeness as a factor. Incidentally, I am investigating the role of informativeness (Bell & Plag, 2012), in the form of word frequency, synset count, and semantic specificity, in predicting prominence assignment at the N3 position. The study is an attempt to bridge the gap found in the literature by examining how native English speakers treat more/less informative items in the N3 position in tri-constituent compounds. Data is obtained via a speech production experiment, where subjects have read aloud sentences containing NNN compounds embedded within carrier phrases. The study found that more informative nouns in the N3 position show a significantly higher pitch and intensity scores than less informative

TALK
 16:00

Keywords: diachronic change, heritage language, language varieties, null objects, Portuguese

TALK
 16:30

Keywords: phonology, compound nouns, prominence, informativeness.

items in NNN compounds; moreover, more informative nouns were significantly longer than less informative nouns in the same position. The findings support the finding in (Bell & Plag, 2012). All in all, comprehending how informativeness correlates with prominence assignment helps reduce the rate of mismatch and ambiguity, thus leading to a more comprehensible speech, by both native speakers and learners of English as a second language, by using logical deduction based on the ICPH hypothesis presented.

Cue timing trumps syntactic transparency in sentence processing

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Ambiguity is ubiquitous in natural language (Dąbrowska, 2004). Research has largely supported models of syntactic reanalysis: in the absence of linguistic or contextual evidence to disambiguate syntactic analysis, an initial parse can be constructed in basis of ‘good-enough’ shallow processing heuristics which in some cases (e.g., noncanonical structures) requires a re-interpretation following disambiguating cues (Van Gompel et al., 2005; Ferreira & Lowder, 2016). NP-initial structures have a preferential interpretation as subject-initial, especially when this initial NP is animate. In relative clauses in several languages, this generates a prediction that should be disconfirmed when the NP corresponds to the object in object relatives (ORs) (Betancort et al., 2009; del Río et al., 2012).

In Spanish, ORs can appear with a direct object marker (DOM) composed of the preposition ‘a’ and a determiner (*‘la niña a la que la abuela dibuja’* ‘the girl that the grandma is painting’; henceforth a-variant), or without it (*‘la niña que la abuela dibuja’*; henceforth plain-variant). There are also two possible word orders (OSV, OVS) for both variants. When both NPs of a Spanish relative are animate and specific, subject relatives require DOM in the last NP. The absence of DOM can thus be considered a weak cue to an OR interpretation, and this cue appears earlier in OSV than OVS word orders. In addition, the a-variant could be considered more syntactically transparent, since it presents another, relatively early and arguably more salient cue: direct object marking of the preceding NP.

In the present study, we explore the relative role of timing and transparency of disambiguating cues in the processing of temporal syntactic ambiguity. For this, we compared adult native’s comprehension of a- and plain-variant ORs with OSV and OVS word orders via a picture selection task (PST) in which participants were presented with picture pairs depicting transitive actions and had to choose between subject or object relative interpretations of a spoken relative sentence. Advantages were predicted for the a-variant because of the additional disambiguation cue, and for the OSV word order because of the earlier presentation of the second NP.

The results showed similar accuracies and reaction times (RTs) for the two variants in the OSV order and the a-variant in the OVS order, whereas lower accuracies and longer RTs were observed for OVS-plain sentences. Given the phonetic resemblance of this variant with its corresponding subject relative (e.g., *‘la niña que dibuja (a) la abuela’*), a follow-up perceptual identification task was conducted, which showed that participants largely perceived acoustic differences between the two. This suggests that perceptual information during the PST could have been overridden by canonical word order (i.e., subject relative) predictions. Overall, our results highlight the role of cue timing over transparency.

Unravelling the processing of missing – object syntactic constructions. A comparative study between Spanish monolinguals and Spanish – Catalan bilinguals

Giuseppe Dario Benigno, Pedro Guijarro-Fuentes, Estela García Alcaraz, Marta Rivera Zurita

Universitat de les Illes Balears

This study investigates whether monolingual and bilingual speakers of object-drop languages represent the missing object abstractly in the syntax, and whether in the case of the bilingual that representation is shared among both syntactic systems. Previous research with monolinguals has evidenced a syntactic-represented account (Cai et al., 2015) suggesting that speakers construct a syntactic representation even when the object is not phonologically expressed. Nevertheless, little is known with respect to bilingual speakers. Spanish-Catalan bilinguals were considered a good fit to explore this phenomenon, due to the differential linguistic constructions of the two languages when it comes to the indefinite object-drop. Specifically, whereas Spanish allows for omissions when the object can be retrieved by the context, Catalan employs the partitive clitic “en” whenever the object is not overtly expressed and, thus, does not permit such syntactic constructions (Campos, 1986; Clements, 2006).

This study aims to compare bilingual speakers to Spanish monolinguals to answer the following research questions: (i) Do Spanish monolingual speakers construct a syntactic representation for null objects? (ii) Do Spanish-Catalan bilinguals show comparable null object representations in both their languages despite their differences (iii) Is the syntactic representation of bilinguals modulated by linguistic proficiency/dominance?

Ninety Spanish monolingual speakers and ninety Spanish-Catalan bilingual speakers with different Ages of Onset of Acquisition (AoA) and different language dominance profiles will be recruited for the study.

A structural priming task was designed both in Spanish and Catalan to test whether the syntactic structure of a sentence can prime the structure of a subsequent sentence in missing-argument vs. full-form clitic constructions. Additionally, in the Spanish version of the task, an ungrammatical syntactic condition with the “en” partitive has been included, whereas in the Catalan version an ungrammatical condition with the Spanish mirror situation was included: the omission of the clitic “en”. Spanish-Catalan bilinguals will perform the task in both languages.

The expected results are the following: (i) Monolingual speakers are expected to show a syntactic-represented account as posited by Cai et al. (2015). (ii) Depending on the linguistic dominance and the AoA, bilingual participants would be subjected to differential priming effects. Catalan dominant speakers would show a lower priming effect for object-dropped grammatical condition and a higher priming effect for the ungrammatical

TALK
17:30

TALK
18:00

Keywords: bilingualism, object omission, syntactic processing, structural priming, language dominance.

condition in the Spanish task, whereas a lower effect for the ungrammatical condition in the Catalan task is expected. A mirror-like situation is expected for Spanish dominants.

This study is particularly relevant in the current psycholinguistics scenario, as it specifically targets, through a cognitive point of view, the potential cross-linguistic transfer in bilingual speakers with both grammatical and ungrammatical syntactic constructions.

Variation in the adaptation of Arabic and Spanish liquids into Tarifit

Ranya Erramh & Nabila Louriz

Hassan II University

The aim of this paper is to investigate the phonological variation manifested in the adaptation of liquids in Moroccan Arabic (MA) and Spanish words into Tarifit. The latter is a Berber variety known for rhotacization of lateral liquids, inter-liquid harmony, and fortition –unlike the donor languages. Loanword data show that MA and Spanish loanwords with /l/ are adapted into Tarifit with a rhotic, fortified liquid, or a harmonized rhotic. Consider the following examples:

A (MA)	Tarifit	Gloss	B (Spanish)	Tarifit	Gloss
1.ədʕlam	tʕram	“darkness”	4.pelikula	perikura	“movie”
2.səllum	sədʒum	“ladder”	5.lefʃo	rəʃtu	“bed”
3.l-flus	r-frus	“money”			

These examples (n=300) reveal that MA input /l/ undergoes delateralization in both single roots such as [tʕram] and affixed roots such as [r-frus], and Spanish input /l/ undergoes rhotacization too in [perikura] and [rəʃtu]. Thence, the rhotacization of input /l/ occurs in both instances in loan Tarifit. As for fortition, it only targets the MA input geminated /l/ that occurs in a syllabic margin.

Loanword literature shows that liquids behave uniquely in native and loan phonologies as the feature [+lateral] is predicted not to spread across other segments, while the opposite applies for the non-lateral rhotic /r/ (Hansson; 2001, 2010). Typologically, liquid harmony in general represents a rare case of harmony, while fortition is universally marked and weakly attested for (Hansson; 2001, 2010; Rose & Walker, 2011; Proctor, 2009). We will examine these findings against our data. By adopting the Optimality framework (OT, Prince & Smolensky, 1993), we will provide a unified account of the variation manifested in the loanword data.

A careful analysis of the data reveals that phonological variation in /l/ adaptation is morphologically driven. In other words, adaptation by rhotacization or delateralization occurs in single roots, rhotic inter-liquid harmony occurs in affixed roots, and, finally, adaptation by fortition occurs in strong margins containing the input geminated lateral. We show how markedness and faithfulness constraints are ranked in a way to generate all adaptations of /l/ in Tarifit. We propose the following constraint ranking:

*[+lat], Strong Margins (SM), *GEM [+lat], CORR-C1↔C3 [-lat] >> MAX [+lat] >> DEP [-lat]

Accordingly, the only dominant markedness constraint that is positional is involved in the fortition of the lateral segment into /dʒ/, -Strong Margins-, while the processes involving delateralization are not governed by a positional constraint, given the unmarked status of the rhotic in native and loan Tarifit, and which is syllable-independent, therefore resulting in the banning of the lateral in the phonemic inventory of the language. Four markedness constraints are equally ranked and result in the three studied phonological processes of adaptation. These concomitant constraint rankings are also active in the native phonology of Tarifit.

TALK

18:30

Keywords: Optimality Theory, Tarifit, Spanish, lateral adaptation, loan phonology

Day 2 – Thursday June 27th

Sensitivity to sociophonetic information: The effect of language background and dialect exposure

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Sociophonetic studies have shown that the processing of linguistic and social information is integrated during speech perception, however, most of the research in this area is based on monolingual, monodialectal speakers (e.g., Hay et al. 2006, Drager 2011). This study investigates how auditory lexical processing and sensitivity to sociophonetic information differs between monolingual and bilingual listeners with different levels of exposure to English dialects by using an auditory lexical decision paradigm with in/congruent word dialect and speaker accent lexical items as stimuli.

121 participants were recruited into eight groups based on their previous linguistic experience, as combinations of monodialectal, bidialectal, monolingual, and bilingual: (1) two groups of L1 English speakers residing in their home country: Australians in Australia; Americans in the USA; (2) two groups of L1 English speakers residing in their second dialect country: Australians in the USA; Americans in Australia; (3) two groups of L1 Russian L2 English speakers residing in their L2 country: Russians in Australia; Russians in the USA; (4) one group of L1 Russian L2 English speakers residing in their L2 second dialect country: Russians in Australia who had previously lived in the USA; (5) one group of L1 Russian L2 English learners residing in their home country: Russians in Russia.

Participants completed an auditory lexical decision task in English, with 76 real words and 76 pseudo-words as stimuli. The real words consisted of 38 pairs, such that one item in each pair is generally considered an Australian word and the other an American word (e.g. American *cooler* / Australian *esky*). These 152 items were pronounced in an Australian accent as well as an American accent, resulting in a total of 304 stimuli, such that half the real words had *congruent* speaker accent and word dialect (e.g. Australian *esky* in Australian accent), while half had *incongruent* speaker accent and word dialect (e.g. American *cooler* in Australian accent). *Accuracy* and *RT* data was analysed by fitting two mixed-effect regression models for each participant group.

Overall, both accuracy and RT results suggest that native speakers are more sensitive to sociophonetic information during lexical access than L2 speakers. L1 English speakers were both faster and more accurate on congruent *word dialect* and *speaker accent* items than on incongruent ones, while the L2 speakers were overall less affected by the mismatch. However, these results are mediated by previous dialect exposure, familiarity, and whether the mismatch affects the local *word dialect* or the local *speaker accent*. We explain these results within an exemplar theoretic framework, where listeners are unlikely to have exemplar representations of incongruent *word dialect* and *speaker accent* items, and native language access is facilitated when the incoming acoustic signal resembles the existing mental representation of the listeners.

TALK
9:30

Acoustic change detection as a predictor of phonological adaptation

Grant M. Berry, Jake Caselli & Joseph C. Toscano

Villanova University

Perceptual flexibility cuts both ways. In listening, flexible phonological representations afford resistance to idiosyncratic variation (Clopper, 2014), facilitating arrival at the intended percept—but fuzzier category boundaries may also render one susceptible recently encountered variation in their own speech (phonetic drift/adaptation) (Berry & Ernestus, 2018). We report on research investigating the interplay of acoustic change detection and adaptation to simulated sound change in a laboratory setting. Participants ($n=22$) completed an auditory oddball paradigm while undergoing EEG to measure the mean amplitude difference of the mismatch negativity (MMN) event-related potential across standard and deviant (i.e., ‘oddball’) stimuli (Emmendorfer et al., 2020; Diaz et al., 2016). Then, participants read a list of 100 words aloud as a baseline. Next, they completed several alternating blocks where they either listened to a model talker read those words aloud or produced those words themselves. Embedded in the listening blocks was a systematic change: the vowel /ɪ/ (e.g., “pitch”, Traditional Variant) was gradually lowered to /ɛ/ (e.g., “beg”, Novel Variant) in a predetermined phonetic context (preceding voiceless codas, i.e., the “Favorable” context) by 25% per listening block. Importantly, (1) /ɛ/-/ɪ/ is a phonemic contrast in English, so participants could reliably hear the distinction; (2) no stimulus had a neighbor with the lowered vowel in English; and (3) participants still heard the original vowel in other contexts.

We extracted Labov-normalized formant values (Kendall, 2018) from participants’ production blocks to evaluate how the height of their /ɪ/ vowels changed in response to increasing input of the novel, lowered variant. We conducted a principal component analysis on differences across electrodes Fz, Cz, F3, and F4 and used PC1 (86.5% of total variance) as a composite index of mean amplitude difference. Then, we conducted a linear mixed regression under a Bayesian framework to investigate how the height of participants’ /ɪ/ vowel (measured as F1 difference from baseline) was influenced by relative input of the novel variant (Block Number), mean amplitude difference (PC1), and phonetic context (Goodrich et al., 2023).

We find limited evidence that attenuated mean amplitude differences are associated with greater integration of the novel variant: participants with weaker MMN responses tended to integrate the novel variant into their /ɪ/ general category while participants with stronger MMN responses showed a tendency to hypercorrect, raising the vowel above unmodified targets. We interpret these findings as evidence that perceptual flexibility facilitates susceptibility to global variation in category production while more rigid category boundaries may lead to systematic hypercorrection and comment on potential implications for identifying leaders of sound changes in-progress.

TALK
10:00

Keywords: Phonetic Drift, Adaptation, Laboratory Phonology, ERP Technique, Speech Processing

To compete or not compete: Mispronunciation effects on young Spanish-English bilinguals' lexical competition dynamics

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University of Iowa

Speech is a complex and ambiguous acoustic signal that varies within and across speakers. Nonetheless, humans adapt to systematic variations in pronunciation rapidly. In this study we ask how bilingual (Spanish-English) listeners between 12-15 years old adapt to unpredictable, or non-canonical variability. When listeners expect non-canonical inputs, they may keep options open in case later information helps them recover from the ambiguity. For bilingual listeners, these options potentially include items from each lexicon. We examine the competition dynamics in young bilingual listeners and ask i) whether they prefer to commit early or prefer to keep their options open when processing incorrectly pronounced words and ii) how competitors from each language engage with correctly/incorrectly pronounced words and affect the speed of commitment to the target word.

Participants completed a cross-linguistic visual world paradigm (VWP) task in which auditory input was in Spanish. One quarter of incorrect pronunciations occurred in onset, one quarter in medial position and consisted of a one-feature difference: 1. noche *night* → [motʃe]; 2. abuelo *grandfather* → [apwelo].

Competitors competed with the correctly (Conditions 1,3) and incorrectly pronounced forms (Conditions 2,4), within, and across languages.

VWP Conditions (distractors in italics)	Target	Competitor		
1: correct pronunciation	ruido	(i)ruinas	árbol	calle
(i) within-language, correct pronunciation	'noise'	'ruins'	'tree'	'street'
2: incorrect pronunciation (medial)	cadena	(i)cadera	(ii)calor	oreja
(i) within-language, correct pronunciation	(cadena)	'hips'	'heat'	'ear'
(ii) within-language, incorrect pronunciation	'chain'			
3: correct pronunciation	leche	(i)leña	(ii)leg	cuchara
(i) within-language, correct pronunciation	'milk'	'wood'		'spoon'
(ii) cross-language				
4: incorrect pronunciation (onset)	balcón	(i)bala	(ii)ball	(iii)paint
(i) cross-language, correct pronunciation	(balcón)	'bullet'		
(ii) cross-language, correct pronunciation	'balcony'			
(iii) cross-language, incorrect pronunciation				

Participants completed the English PPV, the Spanish LexTale and to control for possible individual differences in responding to the VWP, participants completed a visual VWP, in which the input consisted of images only. Preliminary results suggest larger English and Spanish vocabularies lead to faster resolution of competition but greater competition overall.

Understanding L3 Acquisition Through the Lens of Cross-Linguistic Influence: Integrating Online and Offline Measures to Assess the Processing of Adverb Placement Across Beginner L3 Learners of French and German in the Netherlands.

Brechje van Osch¹, Nadine Kolb², Rosalinde Stadt³, Alicia Luque⁴, Merete Anderssen¹ & Marit Westergaard¹

¹UiT Arctic University of Norway; ²University of Stavanger; ³University of Amsterdam; ⁴Nebrija University

In today's world, as students navigate the complexities of multilingual language acquisition, understanding the dynamics of the learning process is paramount. Our study addresses this question in the context of a Dutch-English bilingual secondary school setting by investigating how students leverage their first (L1 - Dutch) and second languages (L2 - English) while acquiring French and German as third languages (L3s). We specifically examine the impact of cross-linguistic influence (CLI) from L2 English on adverb placement in L3 acquisition. This research considers four conditions of adverb placement in main and subordinate clauses, encompassing both lexical and copular verbs, and how these intersect with L1 and L2. Existing L3 acquisition models predict cross-linguistic influence (CLI) based on: (i) the L1 (Herms 2014), (ii) the L2 (Bardel & Falk, 2007), (iii) the typologically closest language (Rothman, 2010), or (iv) structural similarity (Westergaard, 2021; Slabakova, 2017). Our study aims to elucidate which of these models best explains the influence of L2 English in the context of Dutch students learning French and German.

A total of 137 participants, aged 12 through 14, completed three digital gap-filling tasks to assess word order in English, French, and German, and a self-paced reading task with similar sentences in German. Participants had no prior knowledge of French and German, besides a vocabulary list distributed to them before the study. This allowed us to distinguish CLI from learning effects, thus uniquely positioning our research in the field. English proficiency was evaluated via a modified Peabody Picture Vocabulary Task. In the offline task, participants displayed target-like patterns in L2 English. Their preferences in the L3s indicated predominantly English influence, but also Dutch. Notably, in the main clauses of both L3s, Verb-Adverb sequences, aligning with Dutch structure, were preferred. However, this preference was weakened in lexical verbs, suggesting CLI from English. In subordinate clauses for both L3s, Adverb-Verb sequences are favored for lexical verbs and Verb-Adverb for copular verbs, resembling

TALK
10:30

Keywords: Visual Word Paradigm, lexical competition, bilingualism, Spanish, mispronunciations

TALK
11:30

Keywords: Third Language Acquisition, Multilingualism, Language Processing, Syntax, Crosslinguistic Influence

English patterns. The reading times for the German self-paced reading task mirrored the offline results in that participants responded faster for those orders they preferred in the gap-filling task.

These preliminary findings suggest enhanced CLI from the L2 in early L3 stages among this population. Additional planned analyses will explore how L2 exposure and proficiency modulate these effects. Moreover, ongoing data analyses participant groups (i.e., L1 Norwegian – L2 English – L3 French, German, and Spanish) using the same tasks and linguistic constructions. The combined results from these studies will be able to shed more light on the importance of the specific language combination(s) for L3 acquisition across beginner learners.

Exploring the Role of Language Experience Factors and Morphological Markedness in The Processing of Grammatical Gender Agreement Among Spanish-English Heritage Speakers: An EEG Study.

Jiuzhou Hao¹, Alicia Luque², Maki Kubota¹, Megan Nakamura³, Eleonora Rossi³ & Jason Rothman^{1,2}

¹UIT Arctic University of Norway; ²Nebrija University; ³University of Florida

Spanish has a two-way gender system where nouns are either assigned the masculine (*dietético_{masc}* “dessert_{masc}”) or feminine (*entreteneda_{fem}* “class_{fem}”) feature. Linguistic theories hold that the masculine feature is unmarked (default) while feminine is marked (fully specified). Empirical studies suggest that this asymmetry of markedness/feature specification affects L1-dominant users’ acquisition and processing of Spanish gender agreement—an element carrying agreement features, e.g., postnominal adjectives, need to agree with an element that is already structurally available (a controller), e.g., nouns and determiners. How does markedness modulate gender agreement processing among heritage speakers (HSs) of Spanish is not yet well-understood. The current study aims to fill this gap by taking an individual difference approach.

We adopted a grammaticality judgement task with electroencephalography (EEG)—a non-invasive method that records brain activity—to examine the processing of grammatical gender agreement. To collect individual language background information, we administered LexTALE (for proficiency) and the Language History Questionnaire (LHQ3). In the EEG task, (un)grammaticality was established by manipulating the agreement between the nouns and the adjacent post-nominal adjectives. All nouns were inanimate. Half of the nouns (for each gender) had opaque morpho-phonological endings (e) while the other half transparent (a/o). A gender assignment task was included to make sure the participants knew the gender of the nouns. Four experimental conditions were included with 40 items for each condition, i.e., Grammatical Unmarked, Ungrammatical Unmarked, Grammatical Marked, and Ungrammatical Unmarked to examine the role of markedness.

Data from 41 Spanish-English HSs were analyzed. The results showed that the magnitude of both N400 and P600 (EEG signatures) effect was modulated by individuals’ experience with Spanish, including Formal Instruction, Proficiency and Exposure and Use, differentially depending on markedness. Starting with the effect of Formal Instruction, compared to participants without such experiences, participants with formal instructions showed larger N400 negativity. P600 positivity was only identified for participants who did not have formal Spanish trainings for the Unmarked conditions. For the effect of proficiency, larger P600 positivity was found for participants with higher proficiency. Its effect in the N400 window was also significant. However, it modulated the overall amplitude rather than N400 negativity itself, i.e., amplitude increased for Marked conditions, especially when the sentences were grammatical. Lastly for the effect of exposure and use of Spanish, more exposure and use indexed larger N400 negativity, especially in the Marked condition, and smaller P600 driven by an increased amplitude in the Grammatical conditions. Following previous research interpreting N400 in processing Spanish gender agreement to indicate their increased sensitivity to morphology, the findings suggest that formal instruction and exposure and use of Spanish enhanced such sensitivity. The more proficient a HS is, the more likely they engage in syntactic processing of gender agreement.

The impact of bilingualism on cognitive development and academic success

Montserrat Comesaña

Universidade do Minho

Over the last decades, research on bilingualism has attracted the interest of numerous political entities, business leaders, and academic experts. This interest is fuelled not only because more than half the world’s population is bilingual (Grosjean, 2022), but also because increased language competence fosters employability and economic growth (COM, 2008). In fact, the European Union defines multilingualism as a key objective of its language policy and the “Education and Training 2020” strategic framework, leading most member states to strengthen the acquisition of a second language (L2) as part of their educational curricula. In this talk I will be discussing about the impact of the percentage of hours dedicated to second language (L2) learning (often made operative as the number of academic subjects whose vehicular language is the L2) on the first language (L1-Portuguese) skills at the sublexical, lexical and morphosyntactic levels and in psychoeducational factors such as attitude and mental openness. Note that there is no systematic study in the Iberian Peninsula, and more specifically in Portugal, thus far, that has examined this issue. This is of special relevance because empirical data regarding the effect of L2 learning in L1 skills are inconsistent, probably because similarities between languages affect language transfer, and also because of methodological differences across studies (see Pavlenko, 2000). Indeed, although there is evidence sustaining a beneficial effect of L2 immersion programs in L1 skills (e.g., Bournot-Trites & Tellowicz, 2002; Vender et al., 2021), to the best of my knowledge there are no studies which have examined this issue across schools that differ in the number of subjects that are taught in an L2 (schools including CLIL [Content and Language Integrated Learning] practices). In this regard, objectives are set at three levels: Methodological (developing the first large-scale study on sociolinguistic data and lexical decision latencies in L1 and L2 with children who are learning a L2 in the type of schools above mentioned), empirical (establishing experimental benchmark effects on sublexical and lexical processing and examining their interaction with individual variables such as age, language balance

TALK
12:00

Keywords: heritage bilingualism, grammatical processing, gender agreement, individual differences, EEG

KEYNOTE
12:30

[operationalized in terms of the difference in participants' daily use of L1 and L2], and age of language acquisition), and theoretical (refining qualitative and quantitative approaches to bilingual research, e.g., Cummins, 2000; Peeters & Dijkstra, 2023).

Unveiling Bilingual Variability during Spoken Word Recognition: An eye-tracking exploration of within-L1 competition dynamics across the bilingual continuum

Concepción Soto
Northwestern University

Spoken word recognition (SWR), involves the activation of multiple candidate words that compete for recognition as speech unfolds (e.g., Marsten-Wilson, 1987; McClelland & Elman, 1986). Cohort competitors, partially matching the onset of the auditory signal (*beaker, beetle*), compete more strongly than rhyme competitors, matching the ending (*beaker, speaker*) (e.g., Allopenna, Magnuson and Tanenhaus, 1998).

While the competition dynamics used to disambiguate spoken words in the native language have been extensively researched in the monolingual domain, bilingual research has mainly centred its efforts on investigating between-language competition with a focus on cohort competitors (e.g., Blumenfeld and Marian, 2007; Canseco-Gonzalez et al., 2010). To date, very few studies have attempted to investigate the bilinguals' within-language competition process from a cohort/rhyme phonological overlap (e.g., Bruggeman & Cutler, 2019) or have explored what role diverse bilingual experiences (e.g., first language attriters, heritage speakers, sequential bilinguals) might play in this disambiguation process.

This study investigates within-L1 competition across three bilingual groups: Spanish-English attriters in the UK (N = 63), a group of Spanish-English sequential bilinguals in Spain (N = 40) and Spanish heritage speakers in the UK (N = 20). To study the time-course of spoken word recognition in real time, participants completed a Visual World Paradigm task with manipulation of onset/rhyme phonological overlap in a noisy context. Proficiency, language use, length of exposure, and other external factors were considered in exploring how bilingual variability modulates L1 spoken word recognition.

The central question addresses the extent to which different bilingual experiences influence how diverse bilingual groups disambiguate spoken words in their first language. Preliminary results indicate consistent cohort effects across groups, revealing a stronger and earlier tendency to attend to cohort competitors than rhyme competitors before selecting the target item. However, discrepancies emerged in the duration of rhyme effects during L1 auditory disambiguation. Spanish sequential bilinguals retained the information from the rhyme competitor for longer, followed by intermittent rhyme effects in Spanish heritage speakers, and a delayed rhyme activation in Spanish attriters.

These differences in resolving lexical competition across bilingual populations could be related to the specific properties of the languages under investigation. Spanish's grammatical gender system, encoded in the noun's rhyme, aids lexical disambiguation, a feature absent in English (Corbett, 1991; Harris, 1991; Hernández et al., 2004). Given the above, Spanish grammatical gender might impact the L1-Spanish native speakers' competition dynamics to different degrees depending on the bilinguals' levels of proficiency, language use, age of acquisition, the linguistic environment in which they are immersed or their linguistic experience. We argue that the bilingual variability found among the bilingual groups under investigation during the within-L1 competition process might contribute to a better understanding of the fine-grained changes that take place during spoken word recognition in the bilingual development spectrum.

The Good, the Bad and the Ugly. The effect of negative valence in demonstratives' syntactic movement.

Emanuela Todisco¹ & Mikkel Wallentin²
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Demonstratives (*this/that* in English) are deictic expressions used to establish reference and direct the interlocutor's focus of attention during conversation (Diessel, 1999). Based on recent cross-linguistic research, the use of demonstratives seems to be strongly determined by the physical distance from the speaker during the interaction (Coventry et al., 2023).

Nevertheless, psychological parameters have also been shown to play a strong role in determining *which* demonstratives are used, especially outside an interactive context (Todisco et al., 2021, 2022). Using an online questionnaire paradigm – the DCT (Demonstrative Choice Task, Rocca & Wallentin, 2020) – we have shown that when speakers are asked to choose between two (or three) forms, semantic features of the referent come into play to promote demonstrative choice. In the languages analysed so far (i.e., English, European Spanish and Catalan), we have found that highly manipulable referents (i.e., *pen*) or referring to the *self/body* (i.e., *foot*), elicit proximal demonstratives (i.e., *this* in English, *este* in European Spanish). On the other hand, referents highly related to time (i.e., *day*), bad valence or bad social connotation (i.e., *terrorist*), elicit medial and distal demonstratives (*that* in English, *ese/aquel* in European Spanish; Todisco & Wallentin, 2022).

In the present work, we go one step further. We hypothesize that semantic features not only determine *which* demonstrative to use, but also *where* to use it in the Noun Phrase: before or after the referent/noun. It is known that in European Spanish, sentences such as “*este hombre*” (this man) and “*el hombre este*” (this bad/annoying/boring... man) differ in meaning because the latter seems to reveal derogatory information. Given this, we aimed to address two questions: (a) which semantic feature promotes the postnominal choice; (b) whether the movement of the demonstrative in the NP is higher for referents characterised by bad valence with respect to other semantic factors. To this end, we tested 106 native European Spanish speakers (mean age 23.61) using the DCT. Each participant was asked to match 150 nouns to one of the 6 demonstrative options provided (i.e., 3 prenominal and 3 postnominal).

TALK
15:30

Keywords: spoken word recognition, bilingual development, grammatical gender, eye-tracking, competition dynamics.

TALK
16:00

Keywords: deixis, psycholinguistics, pre/postnominal demonstratives, cognitive distance

Although we replicated the main effect of semantic features with respect to proximal and medial/distal demonstrative choices, the results showed only a small significant effect for demonstrative choice in prenominal vs. postnominal position. Against our expectation, when used, the postnominal use did not depend on the negative valence of the referent. Our interpretation of the results strongly reflects what our participants produced and reported: the lack of interactive context may have inhibited their postnominal production to express derogatory connotations, even in cases where they would choose the postnominal option in everyday life. Although further research is needed, the overall analysis of our findings led us to a broader picture of how demonstratives are used and how they help us to conceptualise referents within and outside interaction.

Gender assignment strategies in mixed Spanish-Chinese noun phrases

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This study presents empirical evidence from both comprehension and production tasks to further explore how bilinguals adopt gender assignment strategies in mixed noun phrases (NPs) with an unstudied bilingual group, early Spanish-Chinese bilinguals. Spanish has a binary masculine-feminine gender system (Harris, 1991), while Chinese lacks gender. Specifically, we examined how early Spanish-Chinese bilinguals assign gender to Chinese nouns inserted into otherwise Spanish utterances. Notably, Chinese is characterized by a logographic writing system, distinct from Spanish, which utilizes an alphabetic writing system. Consequently, Chinese lacks both orthographic and morpho-phonological similarities with Spanish, meaning it cannot offer any gender cues for gender assignment in Spanish-Chinese mixed noun phrases (NPs). Thus the question is whether Spanish-Chinese bilinguals will prefer a masculine default such as *el 桌子* ‘*the_{Mas} table_{Fem}*’ or a translation equivalent strategy like *la 桌子* ‘*the_{Fem} table_{Fem}*’. The default strategy has been documented in numerous Spanish-English bilingual communities, particularly in those where code-switching occurs frequently (Balam, 2016; Balam et al., 2021; Bellamy & Parafita Couto, 2022; Licerias et al., 2006; Clegg & Waltermire, 2009; Valdés Kroff, 2016) while the translation equivalence strategy has been observed in bilinguals who have learned the gendered language first (Munarriz Ibarrola et al. 2022).

We designed two types of tasks: First, early Spanish-Chinese bilinguals (n = 42), all heritage speakers of Chinese who learned Chinese at home and Spanish in the broader community (Barcelona, Spain), performed an elicitation task (i.e., a forced-switch director-matcher task) in which mixed NPs were elicited. Then, they were asked to complete two experimental tasks (i.e., a sentence repetition task and a two-alternative forced-choice acceptability judgment task). In all cases, the mixed NPs under consideration take the form of a Spanish determiner paired with a Chinese noun and/or an adjective.

Firstly, data from the production tasks were transcribed, and the target mixed NPs were extracted. The data from the three tasks were then analyzed descriptively and statistically using one-way repeated measures ANOVA.

The results revealed a diverse use of strategies in assigning gender in mixed NPs across three tasks. In the production tasks, participants adopted both default masculine and translation equivalent strategies. This was evident in the relatively equal frequency of pairing a Chinese noun whose Spanish translation equivalent is feminine, with both a masculine determiner (*el/un*), and with a feminine determiner (*la/una*). In the comprehension task, early Spanish-Chinese bilinguals showed a preference for feminine agreement by matching a feminine determiner with a feminine noun in mixed NPs, indicating a preference for the translation equivalent strategy.

Our study uncovered a diverse use of default masculine and translation equivalent strategies in different tasks in an unexplored language pair and an unstudied bilingual group. These results contrast with those of several code-switching studies conducted among Spanish-English bilinguals. As such, our study contributes to the discussion of how task type and community norms combine with linguistic properties to modulate gender assignment patterns (Bellamy & Parafita Couto, 2022).

When Control Words Lose Control: Social Evaluation and Top-Down Processing Effects in Auditory Word Recognition

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Contemporary models of speech perception posit that social and linguistic information are processed in tandem, and that there is interaction between them (Clopper, 2021; Sumner et al., 2014). Recent findings have established a bi-directional relationship between social and linguistic information, in which salient dialectal variants can affect social perception (e.g., Chappell, 2019; Walker et al., 2014), and contextual information can lead to differential processing of linguistic variants (e.g., Hay & Drager, 2010). However, numerous gaps persist in this literature: most work has focused on English, raising questions about generalizability, and the relationship between social evaluation and word recognition generally remains underspecified (Clapp et al., 2023).

To address these gaps, the current study implemented sociophonetic and psycholinguistic research methodologies (i.e., Verbal Guise and long-term form priming tasks, respectively) to examine cross-dialectal speech perception in Peninsular Spanish. Participants (N = 42) were born and raised in Seville capital. Materials in each task contained words with three variant pronunciations of /s/, each associated with different levels of perceived prestige: Madrid (national standard, [s]), Seville capital (regional standard, [s̺]), Seville outskirts (nonstandard, [s̺^h]) (Penny, 2004). Talkers (N = 6; one man and one woman per variety) were native to the regions they represented. The following research questions guided our study: 1.) How successful are listeners at recognizing words with each of the three /s/ variants?; 2.) To what extent do the social categories activated in the Verbal Guise influence word recognition for the same talkers?

Results demonstrated equivalent recognition of /s/ words for all three variants in immediate processing ($p > 0.05$). However, after a 20-minute delay, a processing benefit was observed for Seville capital and Madrid varieties ($ps < 0.001$); Seville outskirts /s/ words were recognized more slowly and less accurately.

TALK

16:30

Keywords: Code-switching; mixed noun phrases; grammatical gender; gender assignment strategies; Chinese; Spanish; bilingualism

TALK

17:30

Keywords: speech perception, dialectal variation, Peninsular Spanish, sociophonetics, psycholinguistics

Results also reflected a processing benefit for *control* words produced by the Seville capital woman, despite the controls being maximally constrained, disyllabic words devoid of salient phonetic variants (e.g., *pila*, ‘battery’). The Verbal Guise data help interpret this finding, as the Sevillian woman’s voice was easily identifiable to participants and yielded the highest ratings for solidarity adjectives such as ‘pretty.’ On the other hand, the Seville capital man was harder to classify, and his voice was associated with qualitative comments of ‘forced neutrality,’ a topic of conversation that mirrors discussion of Andalusian news anchors neutralizing their southern variants (Santana Marrero, 2022).

We hypothesize that different processing strategies affected the recognition of control and /s/ words (i.e., top-down and bottom-up processing, respectively), results that may have been enhanced by the prior completion of an explicit evaluation task. These results support the impact of social features in processing and demonstrate the utility of combining psycholinguistic and sociolinguistic tasks within the same experimental sequence.

Lexical adoption, exposure, and attitudes: The case of *Eh* in New Zealand

Simon Todd

University of California Santa Barbara; University of Canterbury

Exposure to varied patterns of language usage builds and updates cognitive representations of language in memory, which underpin perception and production (Pierrehumbert, 2003; Todd et al., 2019). Thus, someone may come to use linguistic features they are exposed to, without intention or awareness (Giles et al., 1991). This interplay between perception, memory, and production is mediated by social attitudes (Babel, 2010; Yu et al., 2013; Sumner & Kataoka, 2013; Nguyen et al., 2015; Todd et al., 2023), with negative attitudes inhibiting exposure-based incorporation of linguistic features into cognitive representations and production behaviors.

Building on these insights, I ask how *changes* in attitudes may affect lexical adoption across social groups. I focus on the context of New Zealand, where attitudes of (White) Pākehā toward (Indigenous) Māori have improved in recent decades (Liu et al., 1999; Sibley & Liu, 2007; Cormack & Robson, 2010). Specifically, I look at Pākehā adoption of the discourse particle *eh*, which has historically been strongly associated with Māori (Meyerhoff, 1994; Stubbe & Holmes, 1995). I use a mixed-methods approach in the ONZE corpus (Gordon et al., 2007), based on sociolinguistic interviews with 394 speakers (~50 per age×class×gender cell). I ask whether there is quantitative evidence that Pākehā usage of *eh* has increased over (apparent) time and qualitative evidence that this relates to changes in attitudes.

For the quantitative analysis, I utilize zero-inflated negative binomial regression (Zeileis et al., 2008; Winter & Bürkner, 2021) to disentangle change-in-progress (Stubbe & Holmes, 1995) from age-grading (Meyerhoff, 1994). This method separately estimates the probability that *eh* is in a speaker’s repertoire and the frequency with which it is used by those who have it in their repertoire. The results show support for change-in-progress: young speakers are significantly more likely to have *eh* in their repertoire, but do not use it significantly more often once it is in the repertoire.

For the qualitative analysis, I draw on metalinguistic commentaries of *eh*. An older speaker reports being bullied at school in the 1940s for “talking like a Māori” by saying *eh*, while younger speakers state that *eh* is still associated with Māori in the 1990s but not negatively evaluated, suggesting a change in attitudes directly evoked by *eh*. There are also linguistic signs of related changes in attitudes toward Māori language broadly; for example, the older speaker uses the anglicized “Māoris” [mæ:.ɪz], featuring plural inflection and vowel and rhotic qualities that are not found in Māori, whereas the younger speaker uses the more faithful “Māori” [mɑ:ɔɪ].

These results suggest that Pākehā have increasingly adopted *eh* from Māori over time, in connection with improvements in social attitudes. The existence of change is consistent with an exemplar-based model (Pierrehumbert, 2003; Todd et al., 2019) in which consistent passive exposure to *eh* builds the strength of its representation in the Pākehā repertoire. The dependence on social attitudes suggests that exposures in this process may be socially weighted, as has been noted in linguistic perception and memory (Sumner & Kataoka, 2013; Nguyen et al., 2015; Todd et al., 2023). Together, this supports claims of a dual-route language processing system that integrates cognitive and social factors (Sumner et al., 2014).

TALK
18:00

Keywords: lexical adoption; social attitudes; cognitive representations; exposure; corpus

Day 3 – Friday June 28th

The curious case of wandering case morphemes: A corpus-based study of non-canonical adpositions in German

Stefan Hartmann

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This paper investigates non-canonical uses of the German circumposition *um ... willen* as well as the postposition *wegen*. Both adpositions usually govern genitive case, although there is quite some variation especially in the case of *wegen*. (1) illustrates typical uses of both adpositions. However, in non-standard data, we also find numerous cases like (2), where the genitive morpheme *-s* is "relocated" to the postposition.

(1)	<i>um</i>	<i>des</i>	<i>Frieden-s</i>	<i>willen</i>	/	<i>des</i>	<i>Frieden-s</i>	<i>wegen</i>
	for	the	peace-GEN	sake		for	peace-GEN	sake
(2)	<i>um</i>	<i>des</i>	<i>Frieden</i>	<i>willen-s</i>	/	<i>des</i>	<i>Frieden</i>	<i>wegen-s</i>
	for	the	peace	sake		for	peace	sake

This paper investigates these non-canonical uses of *um ... willen(s)* and *wegen(s)* based on data from the 20-billion-word webcorpus DECOV16B (Schäfer & Bildhauer, 2012; Schäfer, 2015), testing the hypothesis that the drive towards cleft-formation, which Nübling et al. (2017, 117) see as the most important syntax-typological feature of German, is the main motivation for the displacement of the *s*-morpheme. If the hypothesis is correct, we would expect (a) that we find significantly more masculine and neuter nouns in the *wegens-* and *um ... willens* data than in comparison datasets with the canonical variants, as the genitive-*s* only occurs in the genitive singular of strong masculines and neuters; (b) that we find a significantly higher proportion of non-canonical *s*-less genitives in the *wegens-* and *um ... willens*-data than in the comparison datasets: while *s*-omission is quite common especially in the case of low-frequency words, loan words, and proper nouns (Zimmer 2018), we can predict that it occurs more frequently in combination with the non-canonically *s*-suffixed postpositions. Drawing on an exhaustive search for *wegens* and *um ... willens* and samples of 5,000 attestations each for the canonical forms, binomial regression models as well as CART trees and random forests (Tagliamonte & Baayen 2012) were used to test the above-mentioned predictions. In line with prediction (a), the proportion of feminine nouns is much lower in the case of the non-canonical forms. In simple binomial mixed regression models with "Gender" as binary response variable, "Variant" as predictor variable, and "lemma" as random variable, "Variant" emerges as a highly significant predictor both for *um ... willen(s)* and for *wegen(s)*. Turning to prediction (b), the random forest models show that for both constructions, the variant makes a clear difference for the presence or absence of *s*-less genitives. In the case of *um ... willen(s)*, the variables that proved most influential in Zimmer (2018) emerge as significant predictors of *s*-lessness in the canonical variant. For the non-canonical variant, by contrast, only frequency makes a difference. This is reflected in the measure of conditional permutation variable importance (Strobl et al., 2008): here, "Variant" emerges as the most significant predictor by far. In sum, then, the results lend support to the hypothesis that the principle of cleft formation plays a major role in the relocation of the genitive *-s*.

TALK
9:30

How children make sense of linguistic variation: from perception to evaluation

Sergio Rojo¹, Kathleen McCarthy², Anna Caunt³, Caroline Floccia³, Joost van de Weijer¹ & Carita Paradis¹

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Sociolinguistic research shows that adult speakers have attitudes towards different accents. For example, speakers of Standard British English are considered more 'competent' than speakers with a London accent (Sharma et al., 2022). These associations were thought to appear during middle/late adolescence. Nevertheless, recent research shows that children's sociolinguistic competence appears during childhood (Dossey et al., 2020). Moreover, we know that both children and adults process their own native accent faster and more accurately than other accents (Cristia et al., 2012). However, we know very little about (i) how children develop attitudes towards accents, (ii) whether this development is influenced by their processing of accented speech and (iii) how linguistic exposure during development affects this process. The experiment presented here investigates the development of attitudes towards native and foreign accents from 7 to 11 years old. Moreover, it explores whether exposure to linguistic diversity during a child's upbringing affects these developmental trajectories.

We collected data from 249 children. Of these, 136 were born and raised in Plymouth (South West England, 74 girls). The other 113 were born and raised in London (51 girls). All participants were native speakers of English. For those participants that spoke more than one language, English was the language they used/heard the most. The stimuli included Southern Standard British English, the accent from South West England, a London accent and French-accented and Chinese-accented English. The children's caregivers completed a survey. Its aim was to gauge children's exposure to accents/languages and gather general demographic information. Children completed a battery of tests that included four tasks: (1) an intelligibility task (speech-in-noise), (2) a verbal-guise task (e.g. how smart they think a speaker of a given accent is), (3) an accent classification task, where they group multiple speakers of each accent, (4) the British Picture Vocabulary Scale, a receptive vocabulary task.

Results from the intelligibility task show that task performance improved with age across sites, but the percentage of correct answers each accent received varied. In Plymouth, the local and standard accents received the highest scores, while the London and Chinese-accented English scored lowest. In London, French-accented English and the Plymouth accent scored highest. In contrast, the London accent and Chinese-accented English scored lowest. In the verbal-guise task, the *smart* and *hardworking* variables show an age and accent interaction. However, their specific trajectories vary by location. In Plymouth, children's ratings between the ages of 7 and 9.5 years do not differ across accents. After the age of 9.5 years, they start rating Southern Standard British English and French-accented English higher than the Plymouth and London accents. In London, Southern Standard British English and

TALK
10:00

Keywords: language attitudes, developmental sociolinguistics, social cognition, language acquisition, accents

the Plymouth accent are rated highest from the age of 7 till the age of 9. In contrast, older children rated French-accented English highest and the London accent lowest.

In the classification task, scores in Plymouth improved with age. French-accented English and Southern Standard British English obtained the highest scores while Chinese-accented English and London English the lowest. In London, performance did not vary with age, with younger children performing better than the corresponding age group in Plymouth. Regardless of age, French-accented English received the highest scores while London English the lowest among children from London.

Overall, there does not seem to be a relationship between intelligibility and the development of attitudes towards accents. In contrast, the results from the categorization and verbal-guise tasks suggest that there is a relationship between being able to categorize accents and showing attitudes towards them. Younger children from London perform better at the categorization task than children from Plymouth. Furthermore, young children from London show biases towards accents, while younger children from Plymouth did not. The age at which Plymouth children show accent biases matches the age at which their performance on the categorization task is equal to that of London children. Therefore, categorization could be argued to be a pre-requisite for accent biases.

Non-verbal plural number agreement in the cross-linguistic context: Combining corpus findings with two kinds of acceptability rating results for English, German, Czech, and Polish

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Non-verbal plural number agreement is, especially in the cross-linguistic context, an under-researched topic. English, German, Polish, and Czech seem to differ regarding number preference in objects and adverbials following plural subjects. While English prefers the distributive plural – the agreement in number between the (formally or notionally) plural subject of a clause and a nominal clause element in the predicate part of this clause (e.g. Quirk, 1985), the other abovementioned languages seem to be much more open to variation and may even appear to prefer the distributive singular (cf. Duden for German). If we compare the examples (1) – (4), which illustrate the typical number of the noun *life* after a plural subject – for English, it has the plural number (*lives*); in contrast, the number is singular for German, Polish, and Czech (*Leben, życie, život*).

- (1) *Some people lost their lives, and I'm still alive, so I'm happy.* (COCA)
- (2) *13 Personen kamen ums Leben.* (DWDS)
'13 people(plural) lost(plural marking Past Tense) their life(singular).'
- (3) *Dwaj młodzi ludzie stracili życie.* (NKJP)
'Two young people(plural) lost(plural marking Past Tense) their life(singular).'
- (4) *Na vysočinských silnicích přišli o život čtyři lidé.* (SYN2020)
'Four people(plural) lost(plural m. Past Tense) their life(singular) on the roads in the Highland region.'

The paper is a comprehensive study of the phenomenon in question, which has potential implications for language teaching, translation, and research on language typology. In our comparison, we combine evidence from literature and corpus-based studies with results obtained from acceptability ratings – Likert-scale questionnaires and forced-choice questionnaires. Thus, in addition to its main topic, our paper offers insights regarding methodology – it showcases how the results of two kinds of acceptability ratings differ and complement each other.

We analysed (in R) five hundred and twenty responses (one hundred and thirty per language) collected on the Prolific platform. Our results confirm that English, German, Polish, and Czech have different preferences concerning non-verbal number agreement. These differences appear to be context- and noun-related. To sum up, we conclude that: (1) The cross-linguistic differences can be seen as a language-related rhetoric strategy. In German, Polish, and Czech, using the singular when discussing abstract topics or making generalisations is common; (2) There certainly is some degree of free variation (in the understanding of Cappelle, 2009) in the abovementioned contexts; (3) Despite very specific preferences being visible in the forced-choice data, the presence or lack of non-verbal plural number agreement is rarely seen as a mistake that makes the sentence look ill-formed for English, German, Polish, and Czech speakers, as our Likert-scale ratings show.

Dependency length minimization in German relative clause extraposition: Evidence from speeded acceptability judgments and production choices

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University of Potsdam

The acceptability and likelihood of relative clause extraposition (RCE) are affected by a preference for Dependency Length Minimization (DLM) (e.g., Francis, 2010; Konieczny, 2000; Strunk, 2014). It is still unclear whether the DLM preference is primarily a constraint on production (e.g., Wasow, 1997), comprehension (e.g., Gibson, 1998), or both (e.g., Hawkins, 2004, 2014), however. Our study innovates on previous work by using a design that varies extraposition distance (VP-length, 3-9 words) and RC-length (5-12 words) on a continuous scale across two parallel experiments. Through a written production choice experiment and a timed acceptability judgment task, we examine the best predictors for RCE production and acceptability in German.

Experiment 1 was a written production task in which 41 German speakers were asked to order randomly arranged sentence fragments (n=56) to create grammatically correct sentences. Each item was a unique combination of one of the above-mentioned VP-lengths and RC-lengths. Participants favored integrated (94.5%) over extraposed (5.5%) RCs. The results from our generalized linear mixed-effects models specified for word-order as modulated by RC-length, VP-length, or VP-to-RC-length ratio revealed that extraposition likelihood was significantly influenced by both VP-length and VP-to-RC-length ratio, with no impact from RC-length. The effect for VP-to-RC-length ratio materializes for ratios less than 0.4 compared to those higher than 1, i.e., RC-length must be at least 2.5 times longer than VP-length (compare Francis & Michaelis, 2014, for English).

TALK
10:30

Keywords: acceptability ratings, non-verbal number agreement, free variation, distributive plural, distributive singular

TALK
11:00

Keywords: relative clause extraposition, dependency length minimization, German, speeded acceptability judgment, sentence arrangement task, written production choice task

Experiment 2 was a speeded binary-choice acceptability judgment task, with stimuli presented visually word-by-word, in which 53 German speakers participated. All experimental sentences contained subject-modifying, extraposed RCs. Participants judged the experimental sentences as acceptable 80.2% of the time. The statistical analyses showed significant effects for VP-length and VP-to-RC-length ratio on RCE acceptability, but not for RC-length.

Our results highlight differences and similarities between acceptability ratings and production likelihood. Experiment 1 showed a strong dispreference for RCE, while Experiment 2 indicated that sentences with RCE were mostly deemed acceptable. Participants' overwhelming preference for integrated RCs in written production contrasts with corpus findings showing ~25% of RCE (e.g., Strunk, 2014). VP-length and VP-to-RC-length ratio consistently modulated the acceptability and likelihood of production of RCEs, while RC-length alone did not.

To conclude, our results support previous findings that RCE is affected by DLM-related biases in a similar way in both judgment and production data. Yet they also suggest that even configurations that render RCE highly acceptable will not necessarily make speakers choose RCE in production tasks. These findings are potentially challenging for the assumption that constraints imposed by the language production system are primarily responsible for biasing speakers towards minimizing dependency length and placing long constituents after shorter ones (e.g., MacDonald, 2013).

Modeling in- vs. outgroup indexicality for an improved understanding of social meaning

Lars Hinrichs

University of Texas at Austin

At the center of the sociolinguistic interest in language processing lies the issue of the social meaning of variation (Eckert 2016). The notion of social meaning is bound up in Labov's (1971) typology of indicator, marker and stereotype as differently enregistered kinds of social variables, as well as the more abstract descriptive tool of indexical orders (Silverstein 2003). As we continue to theorize indexical meaning and how it is processed (Campbell-Kibler 2011, Squires 2014), descriptions of how "indexical fields" (Eckert 2008) are organized in social context must also evolve. In recent work on variation in the speech of Jamaicans in Toronto (Hinrichs under contract), I describe the link between the social meaning of variables in a "feature pool" (Mufwene 2001) and their eventual (non-)adoption into an emerging contact dialect. Through qualitative analysis of instances of metalinguistic discourse and quantitative analysis of vocalic variation in recorded interviews with Toronto Jamaican English speakers, I show that (1.) our study of social meaning must account for systematic differences between the ingroup and outgroup indexicality of variation, and (2.) the social meanings of variables influence whether they will be adopted in the contact dialect of English spoken in the Toronto Jamaican community in ways that parallels feature selection in the emerging multiethnolect, Multicultural Toronto English (MTE, Denis et al. 2023).

TALK

12:15

Contact-derived signs and their integration in Japanese Sign Language

Tianing Zhai

Leiden University

Sign languages often incorporate lexicon from dominant spoken languages in society, likely through the form of finger-spelling, which links to the sound-based alphabets. For this reason, it is tempting for speakers as well as linguists to see contact-derived signs as hearing-minded compromises. This study proposes a clearer perspective by analyzing the Japanese Sign Language (JSL) lexicon and its contact-derived signs from the spoken language's syllabary and logograms. Through closer examination, we can see with less distraction that contact-derived signs and their further integration in JSL showcase high recipient language agentivity and minimal reliance on sounds. The present study collects lexical data from NHK Shuwa, an official, public JSL source that utilizes CG animation to illustrate signs in motion and paired with Japanese translations. Through attempts to connect related signs and their origins, we see that some contact-derived signs have evolved into productive morphemes, serving the formation of compounds under solid morphology and semantics. The findings underscore the borrowing as a natural language change process and highlight the crucial role of morphemes in their written forms over represented sounds.

TALK

12:45

Keywords: sign linguistics, language contact, Japanese orthography, contact signs, lexical borrowing

Using variation in language structure to understand implicit language learning in Non-Māori speakers exposed to Māori

Ashvini Varatharaj¹ & Simon Todd^{1,2}

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Humans learn a lot about a language simply through being exposed to it (Oh et al., 2020; Panther et al., 2023a; 2023b; Todd et al. 2023). This learning is implicit, supported by the identification and extraction of statistically recurrent patterns (Saffran et al., 1996; Frank et al., 2013; Johnson, 2016; Aslin, 2017). For example, Non-Māori-Speaking New Zealanders (NMS) have a large memory-store of morphs that recur regularly in ambient Māori (Oh et al., 2020; Panther et al., 2023a), enabling them to morphologically segment Māori words (Panther et al., 2023b). The statistical recurrence underpinning this learning depends on morphological structure, which varies both within languages (e.g., words formed by concatenative vs. templatic processes) and across languages (e.g., agglutinative vs. fusional).

We explore how much NMS' Māori segmentation ability (Panther et al., 2023b) may be due to simple statistical learning processes, and how it may be facilitated by language structure. To do so, we model segmentation learning with Morfessor (Creutz & Lagus, 2007; Virpioja et al., 2013; 2018), an unsupervised Bayesian segmentation model that identifies statistically recurrent morphs across words under the assumption of morphological concatenativity. First, we compare the segmentation performance of Morfessor and NMS across Māori words formed by concatenative and templatic morphological processes, to examine how much of NMS' knowledge might draw on

TALK

13:15

Keywords: statistical learning; language structure; morphological segmentation; computational modeling; implicit knowledge

statistical learning under the assumption of morphological concatenativity. Then, zooming in on words formed by concatenative processes, we ask whether there are other cues to morphological structure that NMS may be picking up on, by comparing the performance of Morfessor across real Māori words that may contain such cues and constructed words that have the same statistical properties but do not contain any such cues.

Results of the first analysis show that Morfessor and NMS perform segmentation differently across different word categories. Morfessor tends to over-segment, performs poorly on words formed by templatic processes, and performs best – but not amazingly – on words formed by concatenative processes. By comparison, NMS do not over-segment, perform well on templatic words, and perform better than Morfessor on some concatenative words. This suggests that NMS not only track statistical recurrence like Morfessor, but also form higher-level cognitive templates that provide additional cues to segmentation. Results of the second analysis corroborate this suggestion: Morfessor’s precision of identifying morph boundaries increases from 0.71 in real Māori to 0.84 in constructed Māori, showing that real Māori contains cues to segmentation above and beyond statistical recurrence even in words formed by concatenative processes. Such cues may include phonological features such as long vowels and foot binarity, which both NMS and fluent Māori speakers are sensitive to (Panther et al., 2023b).

Zooming out, these results imply that statistical learning may vary with language structure, both within and across languages (Todd et al., 2023). They also imply that human implicit learning of language is not limited to the identification and extraction of statistically recurrent surface patterns, but may also involve abstract templates and cues across multiple levels of linguistic structure.

The Anticipatory Power of the Spanish Copulas

Aurora Bel, Rafael Marín & Sílvia Perpiñán

Universitat Pompeu Fabra

The present study investigates anticipation with linguistic cues of the Spanish copulas. Spanish, which has a double copulative system, employs the copula *estar* to locate any type of non-dynamic nominals (objects, individuals, places, abstract nouns) whereas *ser* can only locate events. When not employed with a locative meaning, *estar* is only used to predicate stage level (SL) states, which are always [+temporally bounded], whereas *ser* is used with any state that is not specified temporally, creating individual level (IL) states. All locations, both with *ser* and with *estar*, are [+temporally bounded]. Recently, Fábregas et al., (2023) have proposed that *ser* is the default copula with unmarked predication structures, that is, with not temporally bounded predicates (IL states), or with events, because time and place combine directly with events. *Estar*, on the other hand, surfaces where there is an extra predication structure, as the marked copula. Considering these theoretical issues, we question whether we could find a psycholinguistic connection of the (un)markedness of *ser* and *estar* in locative constructions in an anticipatory visual paradigm. If previous theoretical approaches are on the right track, we would expect that Spanish *ser* would not block any possible reading except for that of the location of objects.

In an anticipation Visual World Paradigm setting, we measured the preferences (calculated in eye fixations while hearing the region of interest) of 29 native speakers of Spanish when hearing sentences whose subject was an object or an event followed by *ser* or *estar* (2x2x6, in a Latin Square Design, two lists), while watching two printed words on screen: a word that expressed a location, or word that expressed a state (IL or SL reading).

Results indicated that the combination event + *ser* activated a locative meaning, whereas object + *ser* blocked a locative reading, as expected. However, no combination with *estar* had the power to predict any interpretation, and remained undetermined between a locative and a non-locative reading, a finding that could explain the attested spread and variation of *estar* in current Spanish (Silva-Corvalán, 1986). The combination event + *estar* did not block a locative reading despite its ungrammaticality, as previously found in processing studies (Dussias et al., 2014; Leone-Fernández et al., 2012). Following Perpiñán et al., (2020), we explain these results with a feature approach, as all predicates with *estar* result in temporally bounded states, regardless of its meaning (locative or nonlocative). On the other hand, *ser* in combination with non-locative phrases results in IL states (not temporally bounded), whereas when locating events, the predicate is outside the realm of states and processed differently. This study deepens our understanding of the relationship between syntacticsemantic analysis of the Spanish copulas with their psycholinguistic reality, and ultimately contributes to a comprehensive view of language.

Construction-lexeme accessibility determines variable and changing coding length: Evidence from constructional and syntactic changes in Spanish

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Levshina (2022, p. 230) introduces the Hypothesis of Construction–Lexeme Accessibility and Formal Length, positing that the accessibility of a lexeme is negatively correlated with the coding length of a construction (i.e., low accessibility renders longer coding, and vice versa). Analyzing morphosyntactic variation in contemporary English, Levshina (2022, p. 244) lends support to the hypothesis and suggests that this tendency may account for the evolution of existing constructions and the emergence of new ones. However, empirical testing on non-English languages and diachronic verifications are lacking. The present talk addresses this gap by examining two ongoing processes of language change in Spanish: one involving constructional complexification/lengthening (the conventionalization of a definite article in oblique relative clauses, illustrated in [1]), and one involving constructional reduction through conventionalized omission (the constructionalization of the exclamative construction *la de* <Noun> *que*, emerged as a reduced variant of *la cantidad de* <Noun> *que*, presented in [2]).

- (1) a. *la casa en que nac-í*
 DET.F.SG house in REL born-1SG-PRET
 b. *la casa en la que nac-í*
 DET.F.SG house in DET.F.SG REL born-1SG-PRET
 ‘The house in which I was born’

TALK
15:30

Keywords: Spanish copulas, events, Individual Level States, Stage Level States, markedness, anticipation, visual world paradigm.

TALK
16:00

Keywords: syntax, cognitive linguistics, frequency, corpus linguistics, language change

(2)	a.	la	cantidad	de	vec-es	que
		DET.F.SG	amount	of	time.PL	REL
	b.	la		de	vec-es	que
		DET.F.SG		of	time.PL	REL
		'The number of times that'				

The study analyzes constructional *attraction* (Schmid, 2000, 2010; see also Levshina, 2018; Schmid & Küchenhoff, 2013), focusing on the predictability of a lexeme given a construction. The predictions that the study tests are: (I) The less accessible (predictable) an antecedent given an oblique relative clause, the greater the chances of the definite article; (II) The more accessible (predictable) the lexeme given the *la* [*cantidad* / \emptyset] *de* <Noun> *que* construction, the greater the chances of the shorter variant (*la* \emptyset *de* <Noun> *que*).

The first case study (1) analyzes data from Peruvian, Colombian, and Argentinian Spanish extracted from the historical CORDE (1850-1974) and CREA (1975-2000) corpora. The second study (2) compiles European Spanish data from the CORDE, CREA, and CORPES XXI (2001-2023) corpora. Using mixed-effects logistic regression analyses, the influence of the constructional predictability is analyzed in interaction with real time.

Results consistently show a significant influence of constructional predictability on synchronic variation and diachronic change. As predicted in (I), the definite article emerges in oblique relative clauses with inaccessible antecedents, spreading over time to high-accessibility contexts. Regarding (II), the study reveals the initial omission of *cantidad* in highly accessible contexts, with the shorter variant spreading to increasingly inaccessible contexts over time.

This study provides diachronic support for the Hypothesis of Construction–Lexeme Accessibility and Formal Length, offering a unified account of the influence of accessibility constraints on efficient coding and the relationship between efficiency and the actualization of language change.

Communicative efficiency, language variation and processing

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Communicative efficiency has been a prominent theme in linguistics and cognitive science in the recent decades (Hawkins, 2004; Gibson et al., 2019; Levshina & Moran, 2021; Levshina, 2022). There is plenty of evidence showing that language users try to communicate efficiently, saving time and effort while making sure that they transfer the intended message successfully. In this talk I will discuss how language users save processing costs, in particular, memory costs and the processing costs related to surprisal (e.g., Yngve 1960; Gibson 1998; Hale 2001; Levy 2008), and how this explains grammatical variation in different languages.

One of the ways of saving processing costs is minimization of syntactic dependencies (Ferrer-i-Cancho, 2006; Liu, 2008; Gildea & Temperley, 2010; Futrell et al., 2015) and the domains necessary for recognition of constituents (Hawkins, 2004). These tendencies can be explained by the information locality principle (Futrell & Levy 2017), which predicts that language users prefer orders of words and morphemes that contribute to an efficient trade-off between memory and surprisal costs (Hahn et al. 2021). In my talk I will show how these principles account for many instances of word order variation in languages of the world.

In addition, I will discuss arguments for and against the popular idea that language users tend to keep information density uniform in a sentence, avoiding peaks and troughs in information content. This idea has been known under different names, such as the Constancy Rate Principle, the Smooth Signal Redundancy Hypothesis or the Uniform Information Density Hypothesis (Fenk & Fenk, 1980; Genzel & Charniak 2002; Aylett & Turk 2004; Levy & Jaeger, 2007). Although the tendency to keep information content uniform may be true for transmission of acoustic information, I will argue that the evidence is less convincing when we speak about lexical or grammatical variation, and that the choice of linguistic variants is more naturally explained by the overall tendency to reduce forms that convey highly accessible content (Levshina 2022).

After laying the theoretical foundations, I will use the general principles discussed above to interpret a few well-known grammatical alternations (the Dative and Genitive alternations in English, the particle placement alternation, and some others) from the point of view of communicative efficiency. I will also discuss the forces that constrain and compete with the pressure for efficiency, such as learnability (analogy) and the Principle of No Synonymy (Goldberg 1995).

KEYNOTE

16:30