VALP5 5th Variation and Language Processing Conference

KØBENHAVNS UNIVERSITET
UNIVERSITY OF COPENHAGEN

Book of Abstracts

The 5th Variation and Language Processing Conference

25th – 27th of August 2022
Department for Nordic Studies and Linguistics
University of Copenhagen

INDEPENDENT RESEARCH
FUND DENMARK

Practical information

VALP5 5th Variation and Language Processing Conference

VALP in Danish

It's spelled *hvalp* and pronounced [vælˀp] – meaning 'puppy'!

Conference website

https://nors.ku.dk/english/calendar/2021/5th-variation-and-language-processing-conference/

Department of Nordic Studies and Linguistics (NorS)

VALP5 takes place at NorS, which is placed at "Søndre Campus", the South Campus of University of Copenhagen. NorS is home to 1600 students and 160 members of staff. The department provides the setting for international research and education within language, literature, media, culture and gender studies.

Organizing committee

The conference is organized by five researchers at the Department of Nordic Studies and Linguistics: Aleksandra Culap Lillelund-Holst, Byurakn Ishkhanyan, Katrine Falcon Søby, Line Burholt Kristensen and Nicolai Pharao. Please approach us during the conference if you have any questions!

Line, Katrine and Byurakn are part of the psycholinguistic research group Broken Grammar and Beyond (BGB) and investigate the production and perception of grammar anomalies in written texts using a combination of corpuslinguistic, psycholinguistic and neurolinguistics tools. The project financed VALP5 (via a grant from Independent Research Fund Denmark).

Nicolai and Aleksandra work on experimental approaches to enregisterment. They use methods from sociolinguistics, psycholinguistics and social psychology to study evaluation of phonetic variation in speech as well as effects of variability on speech processing.

Peer reviewers

We are very grateful that the following people reviewed submissions for VALP5:
Lynn Clark, Andy Gibson, Anita Szakay, Philip Tipton, Fabio Trecca, Charlotte Vaughn, Mila Vulchanova and Abby Walker.

Coffee breaks, lunches and wine reception

The conference will take place in room 22.0.11 in the ground floor of building 22 (see the map). Coffee and tea will be served in front of room 22.0.11 in the morning and during breaks. Lunch will be served in the canteen in building 23 (see map). On Wednesday August 25, we have a wine reception, which will also take place near room 22.0.11.

Public transportation to Søndre Campus (South Campus)

Metro: The easiest way to travel to South Campus by public transport is by metro. Take line M1 to Islands Brygge Station. From the station you have a 5-minute walk to the campus area.

Bus: Bus line 33 runs from the town hall square to South Campus.

You can plan your journey around Copenhagen by using the journey planner Rejseplanen.dk, which is also available as an app for Android and iOS.

Registration Desk

The registration desk is outside room 22.0.11 and will be open from Wednesday August 25 from 8.30 am. At registration, you will receive a badge that you must carry in order to attend talks and lunch.

Presentations

Format: Oral presentations should last 20 minutes followed by 5 minutes for questions (and 5 minutes for transition).

Presentation mode: There are two modes of presentation: either onsite presentation at the conference location OR online/virtual presentation through ZOOM. All presentations will be available to both the online audience (livestreaming through ZOOM) and to the audience in Copenhagen (shown on a screen).

On site presentations: You can bring your own laptop or use the Windows laptop provided. Please bring an adapter if you use a MacBook, as we cannot guarantee we have the right adapters.

Online/virtual presentations: For virtual presentations, presenters must log on to ZOOM and have their presentations ready at least 30 minutes prior to the presentation time. You will receive more information.

At registration, presenters have indicated whether they present on site or online. The information is available in the programme. If you wish to change your presentation format from on site to online (e.g. because of travel restrictions or because you have symptoms of COVID-19), please inform the organizers as soon as possible.

Questions and discussion after presentations: The chair for each session will moderate discussions. It will be possible for online participants to ask questions via the chat function after the presentation.

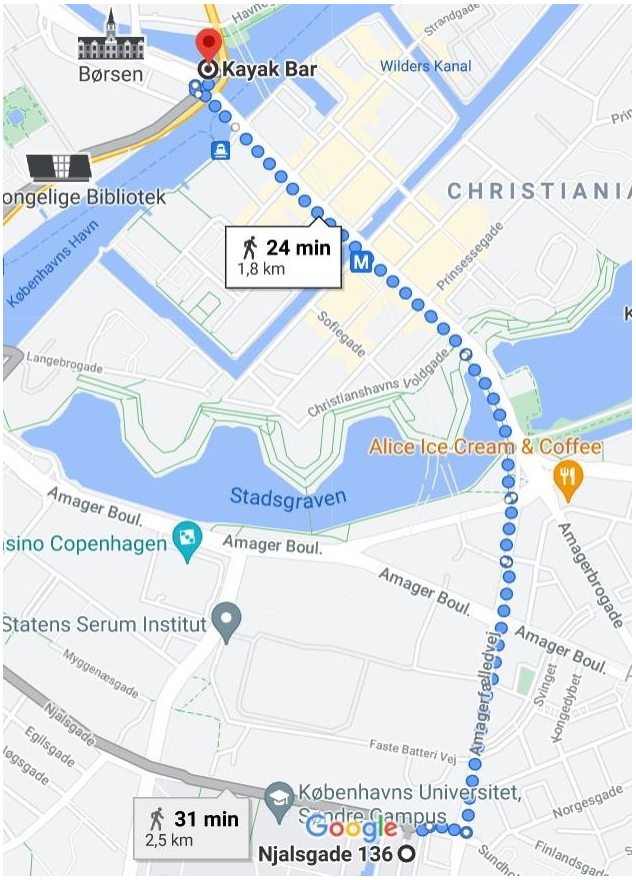
Conference dinner

The conference dinner will take place at Kayak Bar on August 26, from 7 to 10 pm. Kayak Bar is situated at Børskaj 12 (1221 København K), under a bridge and right by the water.

We will walk together from the university to the restaurant at 6.00 pm - a 30 minute walk through a cosy part of the city, Christianshavn.

Alternatively, you can take the metro M1 from Islands Brygge Station to either Christianshavn Station (the M on the route) or Kongens Nytorv Station and walk from there.

kayak bar
- Byens forsamlingshus ved vandet



COVID-19 precautions

For the official Danish guidelines and restrictions, please visit http://en.coronasmitte.dk/
In case of travel restrictions for specific countries, it will be possible to attend the conference virtually.

Safety at the conference site:

- Please take a COVID-19 test before the conference (max. 72 hours old). Public tests are free and offered at multiple test sites, e.g. at Copenhagen airport and at the town hall square. A list of the test sites is available here: https://en.coronasmitte.dk/find-covid-19-test-center
- Keep social distance during the conference.
- Wash hands frequently or use hand sanitizer (which we will provide to you). Wipe tables and other shared equipment with sanitizer.
- Participate online via ZOOM if you show symptoms of COVID-19.
- Face masks are not required on campus. We will, however, distribute face masks with conference logo to all participants, so you can wear them on campus if you want to.
- Lunches will be individually served.

Table of contents

Plenary talks

Where do we keep indexical meaning?

Kathryn Campbell-Kibler

Department of Linguistics, The Ohio State University

Linguistic features at all levels of structure can be used to match, highlight, and shape aspects of the speech context, a semiotic system we call indexicality or indexical meaning (Silverstein 1977, 2003). While somewhat understood at the interactional and cultural levels, indexical meaning is poorly understood at the cognitive level. The most widespread cognitive model of sociolinguistic processing is the sociolinguistic monitor (Labov 1993), which I argue in Campbell-Kibler (2016) is insufficient to capture the patterns of sociolinguistic behavior we witness across different aspects of language and social processing.

In this talk I argue that a model of sociolinguistic behavior and, more specifically, of indexical meaning, must be grounded in realistic models of both language and social cognition. I argue that while sociolinguistic systems of meaning-making are powerful and self-reinforcing at the larger levels (see for example Irvine & Gal's (2000) semiotic processes of language ideology), the evidence suggests that at the cognitive level they are distributed across multiple types of processing, each of which develops and accesses its own indexical links between linguistic and social constructs. I suggest that closer attention to research on memory systems will yield more effective models of sociolinguistic processing and, in turn, improve our understanding of concepts like social meaning, salience, and language attitudes.

Multimodal convergence in multilingual language use

Marianne Gullberg

Lund University Humanities Lab/Centre for Languages and Literature, Lund University

Studies of speakers who learn, know, and use more than one language invariably show that languages do not exist in isolation but rather interact, affect, and change each other. In this talk I will discuss a particular case of such interaction, namely convergence, where two languages in contact in an individual mind change to become more similar to each other than their monolingual versions. Convergence has traditionally been dealt with only in speech and only in longstanding functional bilinguals, but I will illustrate that convergence is bimodal, looking at changes in speech, gesture, and sign language, and that it is not only found in functional bilingualism, but also in second language situations. I discuss the theoretical and methodological implications of such multimodal convergence for our models of language use and processing.

Variations on a Theme in the Neural Infrastructure for Language

Peter Hagoort

Max Planck Institute for Psycholinguistics/Donders Centre for Cognitive Neuroimaging/Radboud University, Nijmegen

Undeniably members of the species homo sapiens produce and understand speech, and many of them are able to read and write. They do this in very different varieties. The sound repertoires of the more than 7000 languages that are still around today vary widely, as do their grammatical structures, and the meanings that their lexical items code for. For instance, some languages have a sound repertoire of only a dozen phonemes, whereas others have more than a hundred; some languages have a very elaborate system of morphological markers, whereas others are very limited in their morphological inventory; some languages make semantic distinctions in one domain, others in another domain. Further, sign languages are expressed by movements of hands and face, whereas spoken languages are expressed by movements of the vocal tract. In addition to the variability in the world's languages, there is individual variation in language skills within the population of any given language community. Some people command only a limited vocabulary and simple sentence structures, whereas others are polyglots speaking multiple languages fluently, or can do simultaneous translation between languages.

Undeniably the human brain provides the neurobiological infrastructure for our human language skills. This infrastructure requires the contribution of multiple neural networks, some more specialized for language than others. In addition, there is substantial neural plasticity that enables the accomodation of language variation and individual variation in language skills. I will provide examples from a tone language and language cortex in the congenitally blind. This variation is, however, not unbounded. Certain basic neural motifs can be identified. These motifs are determined by the connectomic organization of the brain. I will discuss some recent insights into the variations on a theme in the neural infrastructure for language.

Presentations

Sensitivity to anticipatory phonetic cues in code-switching

Faisal Alfadhil[1], Jae-Hyun Kim[1, 2, 3], Andy Gibson[1, 2], Anita Szakay[1, 2]

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[3] Multilingualism Research Centre, Macquarie University

Bilingual speakers have a remarkable ability to juggle their two languages during speech production and speech perception. This is despite the fact that many psycholinguistic studies on code-switching report a *switch cost*, which is an increased processing demand in both speech production and speech perception. However, recent research suggests that there might be anticipatory phonetic cues available in the speech signal leading up to a code-switch to facilitate processing (e.g. Shen, Gahl, & Johnson, 2020).

This study aims to determine whether Arabic-English bilingual listeners are sensitive to these phonetic cues to facilitate auditory comprehension by investigating if the presence or absence of these cues affects the processing speed of the code-switched sentences.

An Arabic (L1)-English (L2) bilingual speaker recorded 240 unilingual English sentences ("*The post office sold the white* ***envelope*** *and had a clear window*") and 240 bilingual English-Arabic sentences ("*The post office sold the white* **ظرف** *and had a clear window*"), such that only the sentence frames in the bilingual condition could contain phonetic cues to code-switching. Each sentence contained a target word for a concept monitoring task and the position of the target word varied across the sentences (initial, middle or final). The English and Arabic target words were identity- or cross-spliced to create the following four conditions:

1. English unilingual frame with a switch to Arabic (switch and no phonetic cues)
2. English bilingual frame with a switch to Arabic (switch and phonetic cues)
3. English bilingual frame with English target word (no switch and phonetic cues)
4. English unilingual frame with English target word (no switch and no phonetic cues)

Arabic (L1)-English (L2) bilingual participants residing in Australia completed a concept monitoring task on Gorilla. In each trial, they saw a picture and heard a sentence. They were instructed to press a button as soon as they heard the target word corresponding to the picture and their reaction time was measured. In a cross-subject design four lists were created, such that each list contained 160 *experimental trials* (the picture matches the sentence-medial or the sentence-final target word) counterbalanced across all four conditions. In addition, each list also contained 20 *filler trials* (the picture matches the sentence-initial target word) and 60 *catch trials* (the picture does not match the target word). The log-transformed reaction time data was modelled with a linear mixed effects regression to analyse the effects of sentence condition, target word position and participant language experience.

The presentation will discuss whether Arabic-English bilingual listeners are sensitive to the presence or the absence of anticipatory phonetic cues and how this sensitivity is modulated by their language experiences. The broader implications for bilingual language processing will also be discussed.

Reference
Shen, A., Gahl, S., & Johnson, K. (2020). Didn't hear that coming: Effects of withholding phonetic cues to code-switching. *Bilingualism: Language and Cognition, 23*(5), 1020-1031.

Processing of suprasegmental variants in a non-native standard dialect

Sabine Gosselke Berthelsen[1], Mikael Roll[2]

[1] Centre for Languages and Literature, Lund University
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Spoken language contains ample amounts of linguistic and indexical variation, for instance based on regional differences. In consequence, listeners frequently and inevitably have to adapt their speech perception to accommodate the talker. This has been shown to affect comprehension. Listeners understand speech less successfully when it is spoken in a dialect that is non-native to them (Otake & Cutler, 1999; Kirby, 2010). However, when the non-native dialect has a standard status, it can be understood with native-like accuracy (Warner, 1997), in some cases even better than native regional variant (Clopper & Bradlow, 2008; Evan & Iverson, 2007). While many studies have investigated the effect of dialects on speech comprehension, investigations into the impact of regional variants on online speech processing are still sparse. Contributing to investigations into non-native dialect processing, we conducted an event-related potential (ERP) study to address the question of whether listeners can make use of the predictive function of prosodic cues in a non-native standard dialect.

The prosodic feature we focused on was Swedish word tones. Most Swedish dialects distinguish two tones which are timed to the word stem's stressed vowel and used by native listeners to predict word endings (suffixes or compounds). In this context, neural responses of prediction appear during the word stem and mismatch effects arise when the predictions are not met (Roll, 2015; Roll et al., 2013). While present in most dialects, the tones exhibit large cross-dialectal variation with respect to pitch gestures and/or timing. Investigating how non-standard-Swedish listeners process word tones in the standard dialect (i.e. Central Swedish), we recruited sixteen non-standard-Swedish identifying participants from three tonal dialect areas (i.e., West Swedish, Gothenburg Swedish, and South Swedish). All participants reported being quite familiar with standard Swedish with onset of exposure ranging from birth to 12 years (M = 4; SD = 4). We measured the participants' brain activity while they passively listened to standard-Swedish sentences and found the same neurophysiological responses that were previously observed in native speakers: a pre-activation negativity (PrAN) during the tone, suggestive of ongoing prediction, and a P600 for incorrect or unexpected word endings, indicating the need for revision. Presumably due to overall high familiarity with standard Swedish, no significant interactions with dialect area, exposure onset, or familiarity with standard Swedish emerged. Our results add to previous findings by suggesting that non-native standard dialects are not only understood but also processed very similarly to native dialects. When a listener is tuned in on the talker's dialect and when familiarity and prestige are high, even predictive processing on the basis of dialect-specific prosodic cues is possible.

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Investigating the 'salience' of ongoing sound changes in Dutch

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Salience is a contributing factor to a linguistic feature's ability to change (cf. Kerswill & Williams, 2002; Trudgill, 1986). However, it is difficult to clearly define salience. The concept has many different operationalizations in the literature. One commonality between those definitions is that salience can be used interchangeably with awareness and/or attention. Awareness and attention can be investigated using measures of neurological activity, but such psycholinguistic methodologies have not traditionally been employed to investigate the sociolinguistic questions pertaining to language variation and change.

In this paper we compare results from three different methodologies to investigate responses to ongoing sound changes in Dutch. The first is a traditional sociolinguistic methodology: a subjective rating task. The other two are psycholinguistic methodologies: one measure believed to reflect cognitive effort, namely pupil dilation, and one electrophysiological measure of brain activity, namely Event-Related Potentials (ERPs).

We compare responses to sound changes above and below the level of conscious awareness. An example of the former in Dutch is the retroflex bunched approximant pronunciation of /r/, commonly known as 'Gooise r' (Bezooijen & van den Berg, 2004). This feature is described as 'posh' or 'pompous' and reported to have 'relatively high sociolinguistic salience' (Sebregts, 2015). An example below the level of conscious awareness is the devoicing of word-initial fricatives in Dutch such as the change from /v/ to /f/, of which people generally are unaware (cf. Pinget, 2015).

In the first study, we employed a rating task to investigate attitudes towards various sound changes in Dutch. We used semantic differential scales reflecting multiple operationalizations of salience and thus compared attitudes towards changes above and below the level of conscious awareness. Results indicate that changes above the level of conscious awareness are associated more with salience, contrary to changes below the level of conscious awareness, which were not. In the second study, we used pupil size as an indicator of increased processing load for a range of potentially salient variables. The hypothesis is that pupils dilate more when processing becomes

more demanding. Arguably, this should be the case for salient features, but not for non-salient features. The results showed, however, that this was not the case for all salient features, suggesting that a more fine-grained method of measuring these responses is needed. Accordingly, in the third study, we employed ERPs. Unlike pupil dilation, ERPs allow us to closely map neural activity with a high-temporal resolution. This tells us more about the underlying cognitive processes. Indeed, we found an increased activity in the N400 for salient, but not for non-salient variables. We believe that this increased N400 reflects a larger processing cost for salient relative to non-salient variables, which is a result of the discrepancy between prior knowledge and the actual input.

By comparing the three methodologies, we scrutinize existing definitions of linguistic salience, and the relationship between salience and perception of language variation and change. Moreover, our results facilitate the comparison of the different methodologies, thus answering whether the different measures are equally valid for investigations of salience.

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Frame Accent Affects Perceptual Boundary between English /p/ and /b/

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[2] University of Hawai'i at Mānoa

There are well-known differences between realizations of English and Spanish /p/ as well as analogous differences between English and Spanish speakers' realizations of English plosives. Listeners' perceptual boundaries are sensitive to production differences across languages. For instance, Spanish speakers categorize unaspirated bilabial plosives as /p/ whereas English speakers usually categorize them as /b/ (Elman et al. 1977), and bilingual listeners shift their perception of a /p/-/b/ continuum depending on whether English or Spanish forms are present elsewhere in the word (Casillas & Simonet 2018). Likewise, there is mounting evidence that characteristics attributed to a talker based on cues in the signal can affect perceptual boundaries even within a given language (e.g., Strand & Johnson 1996). Taken together, this work suggests that non-Spanish speaking listeners' perceptual boundaries will be affected by a talker's accent. In the current study we test this hypothesis explicitly.

To test whether – within English – listeners' perceptual boundary is influenced by whether the English frame sentence is produced by a native speaker of English or Spanish, we conducted two perception experiments in which native speakers of American English who did not speak Spanish (n=25 per experiment) completed a binary, forced-choice identification task. All items

contained a token from a single /pa/-/ba/ continuum (10 step, 5-50ms VOT) that was resynthesized from speech produced by a single American English-speaking talker. The tokens from the continuum were played within the frame sentence *Please listen to the syllable____and pick what you heard*. There were two versions of the sentence: one produced by a native speaker of American English (native talker condition) and the other by a native speaker of Mexican Spanish (non-native talker condition). Thus, while the accent of the frame talker differed, the language and words remained constant, and there was no difference between the tokens from the /pa/-/ba/ continuum across condition. In Experiment 1, the VOT of plosives in the frame sentences were unmodified, so that listeners could rely on both perceived talker nativeness and differences in the talkers' VOT. In Experiment 2, the VOT of word initial /p/ in the frame sentences were modified so that they were the same across both talkers.

Mixed effect models fit to responses from both experiments demonstrate an effect of condition; participants were more likely to perceive syllables in the non-native talker condition as /pa/ than those in the native talker condition (Experiment 1: β=1.2534, SE=0.1325, z(4000)=9.458, p=<.0001; Experiment 2: β=1.1148, SE=0.1388, z(4000)=8.034, p=<.0001). The effect of condition was smaller in Experiment 2, providing evidence that Experiment 1 listeners' perception of /p/ and /b/ was affected by both differing VOT and talker accent. The results are consistent with experience-based models of speech perception through which perception is affected or informed by contextual information, including an interlocutor's linguistic background.

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Continuous Speech Segmentation by Native and Fluent Speakers of English: The Role of Syntactic and Prosodic Cues

Aleksandra Dobrego, Alena Konina, Anna Mauranen

Department of Languages, University of Helsinki

Although many studies have shown that language processing is affected by language experience, most of them have typically focused on the processing of unnatural speech – phonemes, sounds or words – that hardly represent the spontaneity of the speech we encounter every day. In this study, we investigated how adult individuals with excellent command of English ("L1 users" and "L2 users") perceive spontaneous speech. Specifically, we looked at how they segment the speech into chunks and to what extent they use lower-order cues, which relate to sound (prosodic) and higher-order cues, which relate to structure (syntactic). As suggested by Cook's (2016) multi-competence perspective, L1 users are not seen as commanding perfect knowledge of English, and L2 users not as lacking perfection. We wanted to step away from testing the performance related to language knowledge and see whether language experience affects higher-level processes.

We chose spontaneous speech extracts of academic spoken English (ca. 30 seconds long) and asked participants (n=56) in our experiment to to divide the speech extracts up into "chunks" in a custom-built tablet application (Vetchinnikova et al., 2017). The app is designed to play the speech extracts through headphones and present the transcripts for them on a tablet screen. The words in the transcripts are separated with an interactive tilde symbol (~) that allows participants to physically mark their segmentation choices only relying on their intuition. No explanation to what 'chunks' mean was provided. After each extract, a comprehension question was asked, which allowed us to assess understanding.

We then used Fleiss' kappa to examine their agreement in resulting segmentation units and regression analysis to look at the syntactic and prosodic cues they were relying on during this task. For syntactic cues, we annotated each potential boundary between all orthographic words as clausal or non-clausal, drawing on several grammatical models (Biber et al, 1999; Kaltenböck et al, 2011; Lohmann & Koops, 2016; Huddleston & Pullum, 2005). For prosodic cues, we used predicted boundary strength – a variable that predicts prominence of the boundary between two orthographic words. It is determined by wavelet transform method (Suni et al., 2017), which estimates prosodic prominences and boundaries using a scale-space analysis based on continuous wavelet transform.

We found that in chunking authentic speech, prosody is what both groups make the most use of, with L1 users relying slightly more on it. However, native and other fluent speakers did not differ in their segmentation strategies in the light of prosodic and syntactic cues and performed also alike in efficiency and agreement. Results show that in line with the notion of multi-competence, the ultimate product of natural speech comprehension does not depend on language experience, and native speakers do not have an advantage over fluent speakers in higher-level speech processes. We therefore suggest that studies of people speaking more than one language should consider that whilethe degree of language experience between L1 and L2 users may differ, the former do not perform perfectly, and the latter are equally aware of the language and have equally high metalinguistic abilities.

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Dialect variation and language change in Spanish: four experimental studies

Martín Fuchs

Utrecht University

The use of different markers for the expression of *event-in-progress* and *habitual* readings in Spanish partially responds to the Progressive-to-Imperfective diachronic shift, a crosslinguistically attested grammaticalization path (Dahl 1985, Bybee et al. 1994). Accordingly, Spanish had only one imperfective marker (the Simple Present (PRES)) that expressed both *habitual* and *event-in-progress* readings, until it developed a Present Progressive (PROG) to express the *event-in-progress* reading alone (emergence). Over time, these markers became restricted to mutually exclusive readings (categoricalization): PRES for *habituals*; PROG for *events-in-progress*. This stage is expected to last until PROG gets reanalyzed as an imperfectivity marker (generalization), becoming the only device to express both readings (Deo 2015).

However, data from web-based acceptability judgment tasks across different Spanish dialects (Central Peninsular, Mexican Altiplano, Rioplatense; n=232, approx. 80/dialect) show that these stages are not clear-cut: Spanish is between categoricalization and generalization stages**,** and different dialects reflect different substages between these two. Moreover, these substages show specific contextual constraints at play for each reading. Specifically, Study 1 shows that PRES can convey an *event-in-progress* only when speaker and hearer share perceptual access to the event (Rich Contexts). Conversely, PROG can be used for this reading regardless of the kind of contextual information (Rich and Poor Contexts, see examples in Table 1). Study 2, on the other hand, shows that while PRES can convey a *habitual* reading in any contextual situation (Neutral and Supporting Contexts, see examples in Table 2), PROG can only do so when the presupposition associated with its auxiliary verb, *estar* – which requires the construal of alternative situations at which the proposition does not hold (e.g., Sánchez Alonso et al. 2017)– is satisfied by context (Supporting Contexts). In Study 3 and Study 4, in-person self-paced-reading tasks (n=300, 100/dialect) show that these contextual modulations are in fact observable during real-time comprehension**,** following expected patterns: less acceptable context-marker combinations produce longer reading times than more acceptable ones. All data was analyzed with linear mixed-effect models with random intercepts for subject and item, and the effects reported are significant at least at the $p<.05$ level. Additionally, in all studies, the simple past marker (i.e., *pretérito*) was used as a baseline condition, since its use is incompatible both with *event-in-progress* and *habitual* readings.

In summary, these studies show that the relevant constraints are at play in different ways across the different dialectal varieties. In the case of the *event-in-progress* reading, we see that when shared perceptual access is provided by the context, PRES is acceptable in Rioplatense and Central Peninsular Spanish, but in Mexican Altiplano Spanish participants only accept PROG. For the *habitual* reading, when context satisfies the presuppositional component of the auxiliary verb, PROG can be used in Rioplatense and Central Peninsular Spanish, while in Mexican Altiplano Spanish, PROG is no longer dependent on contextual support. This pattern is consistent with a generalization process already underway in the three varieties, with the Mexican variety further along the grammaticalization path from Progressive to Imperfective. Altogether, these cross-dialectal patterns are consistent with a model of variation and change visible through offline and online experimental methods, and subject to identifiable contextual factors.

Sample Stimuli

Table 1: Study 1 and 3 (on the *event-in-progress reading; contexts presented only in English for brevity*)

General Context	***Context Type***	***Sentence with PROG/PRES or Pretérito (PRET) Marker***
'Anna gets home from work and goes to her son's room to see how he is doing. She knocks on the door...'	**Poor**: ...but her son does not answer. ***Before she gets to open the door***, her son tells her:'	**Estoy haciendo** la tarea 'I **am doing** my homework'
	Rich: ...opens it, and ***sees her son sitting at his desk***. Before she says anything, her son tells her:'	**Hago** la tarea '**I do** my homework'
		Hice la tarea '**I did** my homework'

Table 2: Study 2 and 4 (on the *habitual reading; contexts presented only in English for brevity*)

Shared Context	***Context Type***	***Sentence with PROG/PRES or Pretérito (PRET) Marker***
'Anna and John go to high school together...'	**Neutral**: Anna is always late because there is a lot of traffic, but **John always makes it on time.** When Anna asks him how he gets there on time, he tells her:	**Estoy viniendo** en bicicleta 'I **am coming** by bike' **Vengo** en bicicleta 'I **come** here by bike' ***Vine** en bicicleta 'I **came** here by bike'
	Supporting: Both of them are always late because there is a lot of traffic, **but lately John makes it on time**. When Anna asks him how he gets there on time, he tells her:'	

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Decoding in Interscandinavian communication: Extraordinary circumstances requiring extraordinary measures?

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Speakers of the Continental Scandinavian languages Danish, Norwegian and Swedish sometimes engage in a mode of communication that tends to surprise those unfamiliar with it: The speakers each use their own L1 in the conversation, thus producing a multilingual discourse in which the output language and the input language do not match. What is surprising about this is that the speakers can (in principle) partake in this form of intercommunication without explicitly having learned their neighbouring languages. This is possible because the Continental Scandinavian languages are closely related and share an extensive pool of cognates, which allows the speakers to draw on much structural overlap between their L1 and the neighbouring languages. However, while the similarities are quite obvious in written form, they are often obscured by pronunciation differences in spoken communication, which can lead to (sometimes severe) comprehension problems in Interscandinavian communication (Delsing & Lundin-Åkesson 2005).

Many contributions, accordingly, are dedicated to the assessment of Interscandinavian comprehension skills in the Nordics and they often take a practical – problem- and/or solution-oriented – perspective. A cognitive perspective on intercommunicative decoding, in contrast, has scarcely been adopted so far, although the subject is relevant also beyond the Interscandinavian context. After all, speakers are regularly confronted with more or less variability also in less exceptional communicative scenarios, e.g., in interdialectal communication, when dealing with L2 speech and even in 'monolingual' communication (Höder 2016).

While some few theoretical contributions have discussed possible processes in the decoding of spoken intercommunicative input (Braunmüller 1995, Bannert 1981), hardly any experimental research has been conducted in the field. The talk presents an ongoing project that addresses this research gap. The project presented explores in a series of psycholinguistic experiments how the accumulation of receptive knowledge in Danish-Swedish intercommunicative contexts gives rise to the acquisition of phonological correspondence rules, which are thought to play a central role in intercommunication (Braunmüller 1995). The talk focusses on the theoretical considerations forming the point of departure for the project as well as on the study's experimental design. It argues that the processes at work in intercommunicative decoding in spoken contexts do not in essence differ from those involved in 'monolingual' spoken communication and that categorization, interlingual identification (Weinreich 1964, Höder 2018) and schematization are the driving forces behind the acquisition of phonological correspondence rules.

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Predictability effects on variability in fricative production

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Speeches are filled with variation. The word *bus* is sometimes produced with longer duration, but it is produced with shorter duration at other times. The final alveolar fricative may be produced with a lower spectral peak value, or even deleted on some occasions. The production of an identical linguistic unit always changes. One of the well-known factors that determine the variation is predictability. When a linguistic unit is predictable, it is produced with lower phonetic redundancy. For example, Jurafsky et al. (2001) demonstrate that words with higher frequency are produced with shorter duration, and Cohen-Priva (2015) shows that a segment is produced with shorter duration when the occurrence is predictable given the preceding segments within a word. The aim of the current study is to provide a comprehensive analysis of fricative sounds, and how the seven acoustic features (i.e., duration, intensity, spectral peak frequency, spectral centre of gravity, diffuseness, skewness, and kurtosis) are influenced by the four types of probabilistic measures (i.e., morpheme frequency, forward morpheme predictability, backward morpheme predictability, and segmental predictability).

In order to address this question, we employ the Corpus of Spontaneous Japanese, from which 51,010 fricative tokens were retrieved: bilabial fricatives [ɸ] (1,564), voiceless alveolar fricatives [s] (14,988), voiced alveolar fricatives [z] (2,810), voiceless palato-alveolar fricatives [ʃ] (16,152), voiced palato-alveolar fricative [ʒ] (5,734), palatal fricatives [ç] (3,141), and glottal fricatives [h] (6,621). The seven acoustic features were systematically measured, and the four types of probabilistic measures were also measured on the basis of the natural speech stored in the corpus. The acoustic features of fricative sounds may be influenced by other factors such as adjacent segments, speech rate, and prosodic boundaries (Tabain 2001; Turk 2012). Hence, these confounding variables were also measured, and fitted into statistical models as control variables along with the key probabilistic factors.

Since the seven response variables are all numeric, multiple mixed-effects linear regression models were constructed in order to address the research question. The statistical analyses proceed by two steps: interactional analyses and individual analyses. The interactional analyses test whether the seven

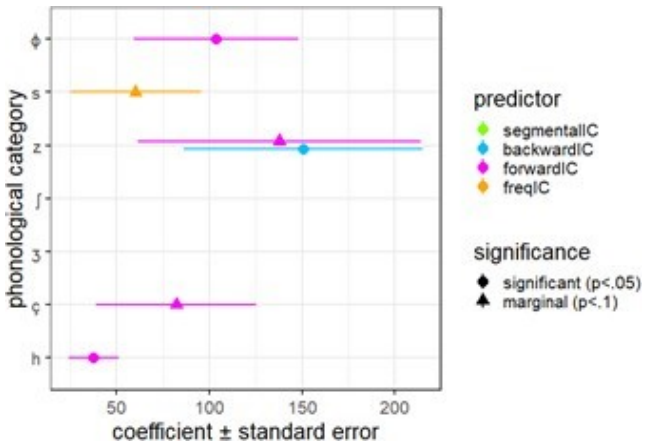

Figure. Probabilistic effects on spectral peak values

fricative categories are influenced by the key variables in a different fashion, and the statistical results demonstrate that the effects of the probabilistic factors on the response variables vary depending on the fricative category. The individual analyses explore how the acoustic features of each fricative category are influenced by the key variables. The general tendency is that fricatives with higher predictability are produced with shorter duration, higher intensity, lower spectral peak values, lower centre of gravity, higher skewness, and higher kurtosis. However, this tendency was not observed with respect to every single fricative category and every single probabilistic factor. For example, the spectral peak values of palato-alveolar fricatives [ʃ] and [ʒ] are not influenced by any probabilistic factors, and no fricative is influenced by segmental predictability in relation to spectral peak values (see figure). These results suggest that the variation in fricative production is influenced by their frequency and predictability, but the probabilistic effects are not constant.

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Regional Primes can affect Vowel Categorization: An improved study of Kangaroo/Kiwi priming in New Zealand English

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Previous work shows that listeners' perceptual boundaries can be shifted by regionally associated primes [1-3]. For example, when compared to stuffed kiwi toys, Hay & Drager (2010) showed that stuffed kangaroos in the environment led female participants to hear vowels as more Australian-like [1]. However this has not straightforwardly replicated elsewhere [4], and the task leaves open room for interpretation. It involves not only listening to a stimulus, but also holding it in memory, and then matching the memory to a continuum. Across two experiments, we replicate the kangaroo/kiwi effect with a task that is more directly a speech perception task.

The Australian KIT vowel is high and front, in a similar position to NZ DRESS. Our analysis of raw data from Shaw [5] shows that when listening to Australian KIT, NZers only have 19% accuracy, with the most common mishearing being DRESS. Our study uses target words containing ambiguous vowels, created by synthesizing continua between Australians and New Zealanders producing the vowel KIT. Our stimuli are thus more like DRESS if produced by a NZer, but KIT if produced by an Australian. We created word/not-word contrasts driven by dialect. For example, in 'chXckens', where 'X' represents the ambiguous vowel: a yes response in a lexical decision task

indicates a perceived KIT, whereas a no indicates DRESS. Conversely, a 'yes' response to dXbit, would reveal the ambiguous vowel was heard as DRESS. We tested the influence of three visual primes (horse, kangaroo and kiwi) during two lexical decision tasks. We predicted the Australian prime would facilitate KIT perception, while the NZ prime would facilitate DRESS.

The first task was a within-participant blocked design (142 participants), using a stimulus midway between the two KITs (and thus actually resembling KIT in several other dialects more than the NZ or Aus vowels themselves – cf [5]). This led to a strong KIT ceiling effect. Exposure to the kangaroo did not increase KIT responses (already close to ceiling for the control), but - as predicted, participants exposed to the kiwi showed significant reduction of KIT and facilitation of DRESS. This was a strong effect in block 1, which then persisted through the other blocks in the task.

The second task (204 participants) improved the design by moving to a single block across-participant design and a more ambiguous vowel, a step closer to Australian KIT / NZ DRESS– more likely to be heard as DRESS by our NZ listeners. In this task, we found the Kiwi resembled the Horse control, and the Kangaroo significantly increased KIT responses in both of our target word conditions.

In both tasks, it did not matter whether the animal was 'speaking' on the screen or incidentally present. Priming occurred to the same degree. Together, the results confirm that NZers are sensitive to regionally coded primes, and that these can implicitly shift categorization of vowels. They also show that the effect is sensitive to methodological issues such as experimental design, and the details of the stimulus acoustics.

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Playing the game of telephone with nonsense words and sentences: A Danish and Norwegian cross-linguistic study

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Danish has unusual sound structure. Compared to other Scandinavian languages, Danish has a higher vocoid-contoid ratio and pervasive syllabic reductions (Grønnum, 2009). Consequently, word forms in Danish have large phonetic variability (Basbøll, 2005). These characteristics may explain why Danish is challenging for both L1 and L2 learners, and adult Danes rely on contextual information to a larger extent than their Norwegian counterparts (Trecca et al., 2021). It is also likely that due to the ambiguity of Danish speech, adult Danes have developed either over- or underspecified phonological representations.

We conducted two iterated learning experiments, using non-word and nonsensical sentence repetition, to explore the phonological representations of Danish and Norwegian adult speakers. In iterated learning paradigms, one participant's output becomes an input for the next participant like in a game of telephone (Scott-Phillips & Kirby, 2010). We predicted that if Danish speakers have underspecified phonological representations, there should be more variability in the output between participants compared to their Norwegian counterparts. If Danish speakers instead have over-specified representations, they should be more precise at repeating non-words or nonsense sentences and thus we would expect less variability between generations, compared to Norwegian speakers.

The ability to form new representations can be measured by the performance in a non-word repetition task (Coady & Evans, 2008). In Experiment 1, the participants listened to non-words and repeated them back. Their responses were recorded and served as non-words to be repeated by the next participants. The original non-words consisted of a "Danish" and a "Norwegian" set of non-words. Orthographically, the two sets were identical and differed only in terms of the phonology of respective languages. For instance, the non-word *bal.slaks.stok* would be /bæl.slɑk.stɔk/ in "Danish" and /bɑl.ʃlɑk.ʃtok/ in "Norwegian". In Experiment 2, the participants had to repeat nonsensical sentences that were created following the syntactical rules of Danish and Norwegian. Phonologically, the sentences were created to sound half-way between Danish and Norwegian. We inserted target non-words more prone to variation in the sentences (e.g. "En *sutid* har kusfatet min brel"). For both experiments, we tested the same set of 80 Danish and 80 Norwegian native speakers in ten chains (i.e., the original stimuli were heard by 10 participants) and eight generations (i.e., each chain continued until the eighth learner produced their output).

Danish and Norwegian native speakers transcribed the data. Levenshtein edit distance between generations was calculated. Preliminary analysis showed that in Experiment 1, Danish speakers were more precise in repeating "Danish" non-words than "Norwegian" ones. Norwegian speakers, although equally precise in both "Danish" and "Norwegian", were less precise repeating "Danish", and more precise repeating "Norwegian", compared to Danish speakers. In Experiment 2, there were no differences between the Danish and Norwegian speakers. These findings suggest that Danish speakers have over-specified phonological representations for their native language (Danish) and underspecified representations for the non-native language, compared to Norwegian speakers. A fine-grained acoustic analysis may shed further light on the nature of our findings.

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Modeling the Distributional Dynamics of Attention and Semantic Interference in Word Production

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Cumulative evidence suggests that attention plays an important role in spoken word production tasks, such as picture naming and picture-word interference. Some of this evidence comes from distributional analyses of reaction time (RT). Here, we present a computational account of how the properties of RT distributions come to reflect attentional processes and how these processes may in turn modulate the amount of conflict between lexical representations. In our model, lapses of attention allow for conflict to build up unsupervised on a subset of trials, which modulates the shape of the resulting RT distribution. Our model resolves discrepancies between outcomes of previous studies on semantic interference. Moreover, the model's predictions were confirmed in a new experiment where we manipulated participants' attentional engagement by offering them different monetary rewards. The reward manipulation determined the size and distributional locus of semantic interference in picture naming, in line with the model's prediction. Our model therefore improves our understanding of the interplay between attention and conflict in word production.

Prosody and Variation. Flatness in expression in schizophrenia

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Purpose
Health personnel as well as others conversing with patients with schizophrenia notice that they have a flat and monotonous intonation compared to healthy people and that this alone or together with other language difficulties give them problems in their social interaction with other people. Even though this symptom has long been recognized as a central manifestation of schizophrenia, it has been deemphasized in criterion-based diagnostic systems because it has been difficult to evaluate. The question for us is whether this symptom may be measured objectively and whether the language problem might be remedied if the cognitive or other reasons behind were revealed.

Why in terms of language processing, people with schizophrenia speak the way they do hasn`t ben explained, but it is a fact that this group of people have many both language problems and general cognitive difficulties. Of language problems, we see alogia and unorganized discourse, as well as incoherent speech, clanging, word salad, idiosyncratic word use, and neologisms.

If we look at the cognitive deficits, it is widely confirmed that patients with schizophrenia have problems in performing almost all conventional neuropsychological tests. The most widely affected functions are executive tasks. So attention, executive functions, working memory, planning, speed of processing and psychomotor functioning (slow down), as well as the Theory of mind, contextualization and expression of affect may be mentioned as impaired in schizophrenia and all that may in our view affect the speech prosody of these patients.

Method
In this study we compared drug naive schizophrenic patients 4 men and 13 women and 18 controls aged 18-35 years that have all grown up in Copenhagen, speaking modern Danish standard (Rigsdansk).

We used two elicitation tasks for spontaneous speech. Task one: participants were asked to watch a film clip from Jurassic Park and then retell it to the researcher. Task two: the participant is given a book with pictures (Frog where are you?) and then asked to tell a story from the pictures

Results
We have some preliminary results and do find significant quantitative differences between groups. We found different results for the two different elicitation tasks. We expected higher pitch variation in the control group, but found it in stresses in the patient group in task one. Higher intensity variation was found for the control group in task two and in stresses in task one, but only with a marginal significance of 0,063 in stresses. Overall pitch and intensity variation were greater in the control group, but not significantly. We also found higher F1 variation in both tasks with highest variation in the patient group. On what concerns number of stresses, we found that the patients had significantly fewer main stresses than the control group.

Conclusion
We find that it is possible to separate Danish patients from controls. We believe that it is possible for the patients to learn to speak less flatly and less blurred. Some form of cognitive training in combination with language training could make a difference.

Prepositions that index proficiency – a comparison of native speakers and L2 learners

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For the weekend? *On the weekend*? *At the weekend*? *In the weekend?* Prepositions in a second language are notoriously difficult to master (Jarvis & Odlin 2000, Jarvis & Pavlenko 2008). Nonconventional use of prepositions may indicate disfluency and transfer from the learner's native language. However, texts by native speakers also show variation in the use of prepositions, as conventions are subject to regional, group-based and individual differences (Brøndal 1940, Ojanen 1985). Non-normative use of Danish prepositions, especially in the language of Danish youth, is also frequently interpreted as crosslinguistic influence from English (e.g. Sørensen 2010). Here, we examine whether the two groups show distinct patterns, i.e. whether certain types of preposition anomalies are specific to language learners and can be used as an index of low proficiency.

Our study compares variation in the use of Danish prepositions in two types of naturally occurring texts: Danish L1 texts and Danish L2 texts. The L1 texts are 27 essays (a total of 42.132 words) written by Danish high school students for a final exam in 2016. The L2 texts (5.685 words) were authored by 28 students with English as L1 who studied Danish at a language school in Copenhagen in 2017-2018.

The analysis compares the two text types with respect to the frequency and types of preposition anomalies. We focus specifically on the prepositions *til, i, på* and *for* which are frequent in written Danish and have a semantic and distributional overlap with the English prepositions *to, in, on* and *for*. The results show that preposition anomalies are 10 times more frequent in the L2 texts. Both L1 texts and L2 texts exhibit cases of

- omitted prepositions, e.g. omitted *på* in *tvivler **[på]** om* (English translation: 'doubt **[on]** whether'),
- superfluous prepositions, e.g. anomalous use of *til* in *besøge **til**,* (English translation: 'visit **to**'),
- confusion of two prepositions, e.g. anomalous use of *fra* instead of *af* in *glemt **fra [-> af]** deres familie* (English translation: 'forgotten **from [->by]** their family').

In both L1 and L2 texts, there are anomalies that may be caused by crosslinguistic influence from English (especially when it comes to the Danish-English homograph *for*). Some anomalies are characteristic of L2 texts, e.g. overgeneralized use of *til* and *i*. Other anomalies seem exclusive to L1 texts, e.g. omitted preposition in parallel preposition phrases. We discuss the similarities and differences in conventional use of prepositions on the basis of syntactic and semantic analyses and outline how these results can be used as a basis for future experimental studies on the processing of language anomalies.

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Blind Auditions: Measuring Implicit Accent Stereotypes at the Neural Level

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We all categorize people based on their ethnic background, regional membership, or social class. Even a blind audition would not prevent this from happening: Someone's accent, i.e. their manner of pronunciation, provides more than enough information to infer implicit stereotypical associations concerning, for example, the speaker's status (e.g. wealth, intelligence) and their perceived solidarity or social skills (e.g. kindness, trustworthiness; Zahn & Hopper, 1985). As opposed to explicit associations, of which we are aware, implicit associations may lead to prejudiced behaviour without us even noticing it. Although it is a frequent phenomenon, little is still known about the influence of implicit stereotypical associations on the processing of language.

Instead of using the more traditional measures for explicit and implicit bias, the present study measured the real-time interplay between perception and belief at the neural level by using Event-Related Potentials (ERPs). Of particular interest to the present study is the N400, a jump in negativity around 400 milliseconds after seeing or hearing a semantic violation or unexpected word. The amplitude of the N400 has generally been interpreted to reflect the relative ease of retrieving and/or integrating word meanings. Interestingly, semantically correct utterances of which the content does not match the stereotypical ideas about the speaker, such as a woman with an upper-class accent referring to her tattoo, have also been found to elicit an N400 (Van Berkum et al., 2008). The current ERP experiment aimed to extend these findings by investigating the strengths of implicit accent stereotypes related to both status and solidarity and assess their predictive power during sentence processing. Based on the existing literature, four Dutch accents were selected with clearly defined and separable associations with respect to the well-established dimensions of perceived status and solidarity. The four accents and the matching status and solidarity ratings are outlined in the table below.

Accent	***Status rating***	***Solidarity rating***
Upper-class 'Randstad' Dutch	high	low
Regional Frisian-Dutch	low	high
Foreign British-Dutch	high	high
Foreign Polish-Dutch	low	low

ERPs were recorded while native Dutch participants (n=32) listened to Dutch sentences spoken by female speakers with the four accents outlined above. The sentence content either fully matched or violated expectations of the speaker's perceived status and/or solidarity. Example sentences in English would be (with target words printed in bold):

Status: I have been working as a **lawyer/nanny** for 20 years now.
Solidarity: I generally arrive at work too **early/late**, but I like it that way.

Results revealed that a mismatch between the listener's associations and the speaker's message, such as hearing someone with a low-status accent speak about their job as a lawyer, elicited an N400-like effect. These results confirm the idea that ERPs are well suited to investigate the different dimensions and strengths of implicit associations. Furthermore, they shed new light on the rapid integration of linguistic and social context and reveal that speaker-related associations appear to be activated and used at very early stages of language processing to predict message content.
(499 words)

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Incipient grammaticalization and synchronic variation – a study of epistemic adverbials in English

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In grammaticalization, processes such as functional reanalysis and formal reduction tend to co-occur and have therefore been claimed to be elements of a unified process (e.g. Heine 2003, Lehmann 2004). This is usually observed in historical retrospect, though with the assumption that it is rooted in general communicative and cognitive preferences. The present study tests these claims in synchronic language use by investigating potential cases of grammaticalization, in corpora and experimentally.

Epistemic phrases of the type *it could/might be (that)* in English are potential candidates for forming adverbials (*could be*, *might be*). Precedent cases are *maybe*, but also French *peut-être*, Norwegian *kanske/kanhende*, or Estonian *võib-olla*.

The use of *(it) could/might be* with various complementation patterns is analyzed in spoken corpora of English (Spoken BNC1994, Spoken BNC2014) and in informal, unedited writing (the British English 'Blog' section of GloWbE, Davies 2013). As with the adverbialization of *maybe* (López-Couso & Méndez-Naya 2016), critical contexts for grammaticalization (cf. Diewald 2006) are uses with a dummy subject *it* (which can be omitted) and with scope over a proposition (1,2), as a postmodifying parenthetical (3), or as an isolated phrase (4) – in these contexts *(it) could/might be* can be reanalyzed as an epistemic adverbial.

(1) *Could be Frankie and Johnny were lovers.* (Spoken BNC2014, ST8H)
(2) *... might be there's a knack to this* (Spoken BNC2014, SUAB95)

(3) *oh unless it's on the <anon type="place"/> it's the other side of the cars could be* (Spoken BNC2014, S73U)
(4) – *... it would be a good idea if I had some tests some lessons in the dark.*
– *Might be* (Spoken BNC1994, KE3)

If the supposed connection between formal and functional/structural aspects of grammaticalization holds, 'critical contexts' will show frequent omission of expletive *it*. The results partially confirm this, especially in high omission rates on isolated *(it) could/might be*, which is the most frequent pattern in the spoken data, but also when comparing the pattern of example (1)/(2) to *that*-clause complements (where *(it) could/might be* is the main clause, as in (5)).

(5) *... it might be that the muscles and ligaments are weak* (Spoken BNC1994, F8L)

These findings suggest that *it*-omission is connected to incipient/potential grammaticalization, but other factors (such as 'pure' frequency) seem to play a role; moreover, the results rest on rather small data sets.

To test these tentative results more directly, a sentence shadowing experiment has been carried out using structures like (1)/(2) and (5) above. Data analysis of 60 participants (providing 8 target sentences each) is currently underway. When repeating input sentences, shadowers may 'restore' missing elements (cf. Caines 2012), in this case returning an input *Ø could be* as *it could be*. The hypothesis is that this 'fluent restoration' is less likely in a critical context (bare clause complement, as in (1-2)) than otherwise (*that*-complement, as in (5)). If this is found, it would provide evidence that formal reduction is tied to grammaticalizing contexts even before the respective item becomes frequent. This would lend support to the 'unified' notion of grammaticalization.

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Learning to predict - second language perception of reduced multi-word sequences

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The cognitive entrenchment of frequently occurring sequences comes in the form of 'chunking' (accessing the sequence as a single unit) and of 'procedure strengthening' (predicting the next step in a sequence). Existing research attests to the effects of frequency and entrenchment of multi-word sequences in the native language, which we learn and shape continuously and intuitively (cf. Blumenthal-Dramé 2018; Arnon & Snider 2010; Sosa & Macfarlane 2002). But how do they affect L2 speakers, whose acquisition of linguistic structures is top-down (through language teaching) but who might nonetheless also learn through usage? (cf. Ellis 2013; Ellis et al. 2016; Supasiraprapa 2019).

The present study addresses the issue of receptive processing of multi-word sequences by means of a word-monitoring experiment with advanced learners of English. Recognition (response time and accuracy) of the element *to* in the construction V-*to*-V_{inf} was tested for full and reduced renderings ([tʊ] vs [ɾə]), conditioned by the general frequency of the V-*to* sequence and the transitional probability (TP) of *to* given the verb (V > *to*). The experiment has previously been carried out with native speakers (Lorenz & Tizón-Couto 2019), so the results can be compared directly.

Results show that recognition is slower and less accurate with reduced items. This is mitigated when the sequence has a high surface frequency. TP has no such effect. Thus, advanced learners seem to profit from frequency-based expectations in speech perception, but not from relative probabilities in a sequence. Native speakers show a different pattern when reduction is present, most notably a chunking effect of high-frequency strings and a facilitating effect of TP.

We conclude that, firstly, advanced learners' access to linguistic structures is more compositional than native speakers', with weaker entrenchment of holistic representations of frequent sequences. Secondly, they do take recourse to general frequency information to recover reduced input forms, but do not seem to derive expectations from transitional probabilities; as TP is more complex than surface frequency, it probably requires more and richer usage experience to become part of a language user's intuitive perception strategies. Overall, reduction implies a greater setback for learners, who do not (yet) rely as heavily on the statistical information and compensation strategies generally available to native speakers (cf. Ernestus et al. 2002; Pickering and Garrod 2007).

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Reversed crosslinguistic transfer of masculine generics in Dutch/German Bilinguals

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Gender equal language usage is a topical subject as the representation of gender in language has proven to have an impact on general perception. A widely discussed subject is, for example, the usage of masculine generics (i.e. the gender-neutral usage of personal nouns in masculine form) as they reduce the presence of female referents in language. A survey study by De Backer and De Cuypere (2012) demonstrated that there is crosslinguistic variation with respect to masculine generics and that even related languages can show differences in how masculine occupational and non-occupational personal nouns (e.g., *the teacher* or *the reader*) are interpreted. German native speakers rated these words as referring only to male persons, while Dutch native speakers rated them as including referents from both sexes.

The aim of the current study was to confirm the findings by De Backer and De Cuypere (2012) with an on-line method and, furthermore, to investigate whether there is a crosslinguistic transfer from the second language (L2) to the first language (L1) in Dutch learners of German and in German learners of Dutch with different proficiency levels.

Therefore, a self-paced reading task in Dutch and in German was performed. According to Jegerski (2014), the premise of a self-paced reading task is that it takes readers longer to read a sentence part which is unexpected to the reader (e.g., *The king ..., **she**...*) in comparison to a sentence part which is not (e.g., *The king …, **he**…*). The sentences in this study had an occupational or a non-occupational noun in masculine form, which was rated as gender-neutral with respect to gender stereotyping, as head and a personal pronoun (*he*, *she*, or *they*) as anaphor referring to the noun. To date, 72 subjects (54 f., 18 m.) were tested in their L1 while living in the country of their L1. The participants were subdivided in four groups: Dutch learners of German (n = 20), German learners of Dutch (n = 23), and two L1 control groups (n = 15 each).

The results indicate that German L1 speakers, for both occupational and non-occupational personal nouns in masculine form, prefer a gendered interpretation, while for Dutch L1 speakers there was no significant difference in reading times between the masculine and the feminine condition. Furthermore, the data suggests that highly proficient learners of both L2 learner groups might experience a reversed transfer from the L2 when reading sentences in their L1, similarly as in a study

by Athansopoulos et al. (2015). Especially highly proficient Dutch learners of German show significantly longer reading times in the female condition in Dutch, similarly to German L1 speakers in German. These preliminary findings support that German and Dutch differ considerably with respect to the interpretation of personal nouns in masculine form (De Backer & De Cuypere, 2012). Furthermore, the findings suggest that language-specific gender typology is subject to a reversed crosslinguistic transfer which impacts the language processing in the L1.

Keywords: masculine generic – gender – L2 acquisition – reversed crosslinguistic transfer

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L2 learners' processing of syntactic variation in the L1

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The present study examines (a) whether systematic patterns found in naturalistic production of syntactic variation have correlates in Spanish monolingual processing during comprehension and (b) whether learning a L2 (English), which overlaps structurally with only one of the L1 syntactic variants, impacts processing in Spanish speakers who are English (L2) learners.

Spanish clitics may variably appear before or after [finite verb + nonfinite verb] constructions, as in (1). Proclisis (1a) is more frequent than enclisis and the finite verb is the main factor constraining Spanish Variable Clitic Placement (VCP) and some verbs have stronger likelihoods for clitics to be used in proclisis, whereas other verbs favor enclisis (see Davies, 1995; Schwenter & Torres Cacoullos, 2014). Little is known, however, about the processing of VCP during comprehension.

(1) a. *En la charla **lo** va a escuchar con atención* (Proclisis)
at the talk **him.ACC.3MSG** go.PRS.3SG to listen.INF with attention
At the talk [she] is going to listen to him carefully.
b. *En la charla va a escuchar=**lo** con atención* (Enclisis)
at the talk go.PRS.3SG to listen.INF= **him.ACC.3MSG** with attention
At the talk [she] is going to listen to him carefully.

Over the last decade, research has begun to bridge variationist sociolinguistics and cognitive science (Chevrot, Drager, & Foulkes, 2018, p. 687) to gain insight into the cognitive mechanisms involved in processing sociolinguistic variation (Campbell-Kibler, 2010, p. 37; Loudermilk, 2013). An empirical question in this line of research is whether the probabilistic constraints that condition

variation in language production also facilitate processing during comprehension (Squires, 2014, p. 179). Similarly, if experience with language use during production impacts processing during comprehension (e.g., Gennari & MacDonald, 2009), it is also possible that acquisition and use of a second language (L2) may impact processing of the first language (L1), especially in structures that are parallel across both languages. Therefore, this study examines monolingual processing of syntactic variation as well as cross-linguistic influence.

Twenty Spanish monolinguals (M_{age}=21.2 years, *SD*=1.9) and 22 English (L2) learners (M_{age}=24.1 years, *SD*=4.58) were administered a self-paced reading task in Spanish testing processing of clitics with three verbs. All participants were recruited from a university in southern Spain. The word following the verbal complex was the ROI in the self-paced reading task. Participants were also administered a language background questionnaire, a Spanish proficiency test, and a Spanish lexical decision task to make sure that dominance in Spanish was consistent across groups. Additionally, bilinguals were administered an English proficiency test. The results of a Bayesian mixed effects regression on reaction times to stimuli suggest that preferences in production are echoed in comprehension—but only for the monolingual group. We find support for facilitation in the bilingual group precisely where both languages overlap, as well as evidence that bilinguals may not use clitic position as a reliable cue at all. We interpret the results as evidence that learning a L2 that lacks variation for a particular feature may lead to reduced sensitivity to that feature as a cue in an analogous L1 structure.

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On flirbs and snasters: a neologism task to explore Belgian Dutch children's processing of the social meaning of English

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Background: The emerging field of developmental sociolinguistics (De Vogelaer & Katerbow 2017), which investigates how children acquire socially meaningful linguistic variation, has so far mainly studied the production of standard/vernacular phonetic variation in acquisition (e.g. Holmes-Elliott 2020; Chevrot et al. 2011; Docherty et al. 2013). This study aims to complement this focus with a perceptual approach studying how children develop the ability to process indexical meaning of language variation. Since individuals in the globalized Western European context belong to inherently heterogeneous speech communities (Weinreich 1970), we investigate the acquisition of the social meaning of contact-induced variation between English lexical items and heritage alternatives.

Aim: This study experimentally explores Belgian Dutch children's preferences for English lexical items over heritage alternatives in order to gain insight into (1) how children learn to attach social meaning to lexical variation and (2) to what extent collective patterns emerge from individual preferences, indicative of similar processing of indexical values of English used in Dutch.

Respondents: 120 Belgian Dutch-speaking children will be recruited in a sample balanced for gender and age (8-9, 10-11 and 12-13-year-olds). Studying the preferences of children from this age range serves as a window on the evolution of children's social evaluations as they transition from caregiver-oriented models of sociolinguistic variation towards peer-oriented models in adolescence (cf. Holmes-Elliott 2016).

Design: The experiment addresses the question of whether Belgian Dutch children find English-sounding names more appropriate for "new inventions" from certain semantic fields than Dutch-sounding names. Children are introduced to novel objects belonging to four different semantic fields that index social meanings expected to be associated with English and Dutch words (English-prone fields: IT, sports; Dutch-prone fields: home & family, public life). Each trial introduces a "new invention" that has a particular function (e.g. sports equipment) and/or is intended for a particular user (e.g. young people). Respondents are asked to choose which of two alternative names is the best fit for the proposed object. The name pairs consist of graphemically identical neologisms (cf. Samara et al. 2017) which are pronounced in a Dutch or English way. Neologism stimuli are phonotactically plausible in both languages (e.g. "snaster", Dutch [snɑstər] vs. English [snæstəɹ]) and have been developed according to a pre-determined set of consonant-vowel structures. Pre- and post-tests are included to verify that the neologisms are recognisable as English and Dutch. To check the stability of responses across tasks, the neologism phase of the experiment is followed by a second phase where respondents are directly asked whether an English name or a Dutch name is the best fit for the proposed object. After each phase of the experiment, a qualitative question probes children's awareness of the linguistic phenomenon under study. Multifactorial analysis will uncover theinterplay between lexical preference (dependent variable) and semantic field, age, gender and language awareness (independent variables).

Implications: Results will allow us to track the evolution in how and when children form indexical links between bilingual lexical resources in different contexts within a setting of language contact.

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SUB-CATEGORICAL GENDER EXPECTATIONS INFLUENCE SPEECH PROCESSING

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Listeners use social information about talkers to make predictions about their speech (Koops et al., 2008; Staum Casasanto, 2010). Speech processing outcomes, like intelligibility, can be harmed by mismatches in social expectation between the speech signal and non-linguistic social information, such as presenting an Asian-accented voice accompanied by a Caucasian face (Babel & Russell, 2015; McGowan, 2015; Rubin, 1993). Prior work has focused on mismatches that cross social category boundaries, pairing faces and voices from members of different social categories, like race (Babel & Russell, 2015; McGowan, 2015; although see Strand & Johnson, 1996). This study investigated whether listeners are also sensitive to within-category mismatches, such as seeing a highly feminine female face while hearing a low-femininity female voice, when mapping the acoustics of speech onto phonemes.

Face-voice pairs were constructed of male and female faces and voices for a lexical classification task. Faces and voices were separately evaluated on their prototypicality for their gender and labeled as prototypical, e.g. a high-masculinity male face, or ambiguous-leaning, e.g. a low-masculinity male face. Face-voice pairs matched in both prototypicality and perceived gender, mismatched only in prototypicality, mismatched only in gender, or mismatched in both dimensions. In the lexical classification task, participants were presented with a face and heard one of two minimal pair target words. Participants selected the word they heard as quickly as possible without sacrificing accuracy. Control trials provided no face information, instead showing an abstract icon of a person without cues to the talker's gender. Participants then evaluated the quality of fit of the stimuli, assessing each face-voice pair for how likely it was that the face and voice could belong to the same person.

Results indicated that listeners responded more slowly on trials with face-voice pairs mismatching in gender than on trials with no face information, consistent with prior work that predicts a processing penalty for cross-category mismatches (e.g. McGowan, 2015). Listeners did

not respond differently to trials that differed only in the prototypicality of the stimuli. This finding suggests that within-category mismatches in social information did not affect processing. However, significant interactions between voice gender and voice prototypicality revealed that, even while controlling for stimulus duration, listeners responded faster to male prototypical voices than all others but were slower for male ambiguous voices than all others. Listeners responded to female prototypical and ambiguous voices similarly to one another, both falling between male voices. These results suggest that listeners are sensitive to within-category social variation in speech. However, they may not integrate within-category social information, like differences in prototypicality, across modalities of perception. That is, listeners do not appear to be sensitive to within-category mismatches in social information from the pairing of faces and voices to the same extent that they exhibit cross-category sensitivity. Differing performance for male and female voices based on prototypicality further indicates that speech processing is influenced not only by whether face-voice pairs match but also by prior expectations about how members of a particular gender can vary.

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Hearing and memorizing novel compounds and phrases

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The formal, functional, and semantic demarcation between compounds and phrases has been hotly debated. Much less is known, however, about the cognitive distinction between the two categories. This study aims at investigating the cognitive characteristics of German adjective-noun (AN) compounds and phrases (see Schlechtweg 2019). While the adjective of a phrase such as *schwerer Strumpf* 'heavy sock' is inflected for certain grammatical properties, the adjective in a compound such as *Schwersocke* 'heavy_sock' attaches to the noun without any inflectional suffix. Native speakers of German were exposed to invented and spoken compounds and phrases. Both compounds and phrases were examined with both initial and non-initial prosodic prominence. Compounds usually have initial but phrases favor non-initial prominence. Using the variables CONSTRUCTION TYPE (within-subject/item; levels: compound, phrase) and PROSODIC PROMINENCE (within-subject/item, levels: initial versus non-initial), 24 quadruplets were created and compared across the four conditions

in a reaction-time/accuracy experiment (DAY was the third independent variable, see below). The same adjectives occurred in compounds and phrases. Since the adjectives are disyllabic in phrases (monosyllabic stem + inflectional suffix) but monosyllabic in compounds, the nouns of the phrases were monosyllabic but those of the compounds were disyllabic, creating both trisyllabic phrases and trisyllabic compounds. The nouns appearing in the phrases (e.g., *Strumpf* 'sock', *Schwamm* 'sponge') were semantically comparable to the compound heads (e.g., *Socke* 'sock', *Bürste* 'brush'). The items and sound files were controlled for several potentially confounding variables (e.g., construction and constituent frequencies, number of syllables and phones, duration, nominal semantics). 24 German subjects participated on three days (days 1, 4, and 8) and, on each day, were asked to memorize AN compounds and phrases that they heard (the same constructions on each day), before being asked to react to constructions that they heard with the buttons "Yes" if they heard a memorized item and "No" if they heard a non-memorized one. Compounds were responded to more efficiently than phrases and items with non-initial prominence more efficiently than constructions with initial prominence. While the second effect is interpreted as a mere frequency effect (non-initial prominence is overall more frequent than initial prominence in German AN constructions), the first is considered to support the idea that compounds are processed and stored more efficiently than phrases. Not only compounds with typical compound prosody (initial prominence) were memorized more efficiently than phrases with untypical prosody (initial prominence), but also compounds with untypical prosody (non-initial prominence) were memorized more efficiently than phrases with typical prosody (non-initial prominence). Overall, the paper shows that the variation between compounds and phrases on the morpho-syntactic level has an impact on the way these constructions are memorized. This gives us further insights into the structure of the mental lexicon and strengthens the distinction between the two categories compound and phrase. We will discuss the findings against the background of typical formal, functional, and semantic characteristics of compounds and phrases and their connection to the memorization of the two.

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Perceptions of and attitudes towards contact-induced variation: The case of societal roles using English in Dutch

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In the past decade, anglicism research has shifted towards a more socio-pragmatic perspective centering on the social meaning and pragmatic aspects of English insertions in receptor languages (Peterson & Beers Fägersten 2018). Particular attention has been given to identifying semantic fields and societal roles more prone to the use of English than others (Winter-Froemel et al. 2012): compare *IT* and *gamer* (more English-prone) to *education* and *teacher* (less English-prone). Research on this topic has mainly taken production perspectives (though see Peterson & Vaattovaara 2014), whereas this paper foregrounds "language regard" (Preston 2010) by adopting a perceptual-attitudinal approach to the matter.

This study's aim is to investigate whether the indexical link between certain societal roles and the use of English is reflected in the minds of individuals and to what extent this indexical knowledge is shared on the community-level. Furthermore, we are interested in the – potentially shared – evaluation of the use of English by speakers with these societal roles. Focusing on the Dutch-English contact situation in the Low Countries, this paper addresses the following research questions:

RQ1. What perceptions are held towards the use of English in Dutch in the broader speech community for different societal roles?
RQ2. What attitudes are adopted towards the use of English in Dutch by speakers with these societal roles: are some roles judged to be more entitled to use English in Dutch than others?
RQ3. Do we find community shared indexical and attitudinal patterns for RQ1-2?

The research questions are addressed through an online survey containing open questions and 7-point Likert scales, measuring the extent to which a societal role is perceived to be English-prone and assessing how speakers with these societal roles, when drawing on English lexical resources, are evaluated. We included a sample of 19 roles, relying on previously identified English- and Dutch-prone semantic fields for which we selected possible roles based on an inventory of English and Dutch person reference nouns (cf. Zenner et al. 2012). Per semantic field, up to 4 roles were selected.The survey was completed by 407 Dutch-speaking respondents with ages varying from 15 to 79 yearsold (M=36.9, SD=15.0).

Our results clearly indicate shared indexical knowledge about roles that are perceived to be English-prone (e.g. gamer, vlogger, film star) and Dutch-prone (e.g. grandparents, farmer, teacher). The overall evaluation of the use of English in these roles turned out to be predominately neutral. However, slightly elevated negative attitudes were found for all public functions (e.g. newsreader, teacher, prime minister). Delving into these individual and shared perceptions and evaluations on the use of English, this paper sets the scene for further research efforts prioritizing perceptual-attitudinal dimensions of contact-induced language variation.

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In the L1 speaker's eye: Online processing of V2 anomalies in Norwegian

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Similar to other Germanic languages, Norwegian has V2 (Verb-second) word order. In V2 languages, the finite verb is typically placed in the second position of a matrix declarative clause, preceded by a single first constituent. V2 order is notoriously difficult for L2 speakers whose L1 does not feature V2, and V2 anomalies are common (Lund 1997; Bohnacker 2006). Due to a variety of spoken dialects and two distinct written forms, Norwegian speakers are often described as being more receptive to linguistic variation (Torp, 2004). Yet, little is known about how native speakers respond to V2 anomalies.

The present study employed eye tracking to explore the processing of V2 anomalies in real time. The main aim was to investigate 1) *how native Norwegian speakers respond online to misplaced finite verbs after sentence-initial adverbials* and 2) *whether the length of the sentence-initial adverbial (short vs long) affects the processing of the V2 anomaly*. The stimuli included grammatical sentences, as in (a) and (c) where the finite verb *tilbyr* is preceded by a single adverbial phrase – a short in (a), and a longer in (c). In contrast, the ungrammatical versions (b) and (d) have both an adverbial phrase and the subject *biblioteket* before the finite verb.

a.	*På tirsdager* 'On Tuesdays'	*tilbyr* 'offers'	*biblioteket* 'the library'	*høytlesning* 'a read-aloud'	*for barn og unge.* 'for children and adolescents.'
b.	**På tirsdager* 'On Tuesdays'	*biblioteket* 'the library'	*tilbyr* 'offers'	*høytlesning* 'a read-aloud'	*for barn og unge.* 'for children and adolescents.'
c.	*Klokken halv sju på tirsdager* 'Half past six on Tuesdays'	*tilbyr* 'offers'	*biblioteket* 'the library'	*høytlesning* 'a read-aloud'	*for barn og unge.* 'for children and adolescents.'
d.	**Klokken halv sju på tirsdager* 'Half past six on Tuesdays'	*biblioteket* 'the library'	*tilbyr* 'offers'	*høytlesning* 'a read-aloud'	*for barn og unge.* 'for children and adolescents.'

Semantically, there is no difference between (a) and (b). Thus, from the point of view of a 'good enough' approach (Ferreira & Patson 2007), the processing may remain unaffected by the V2 anomalies. However, syntax and morphology violations have been shown to elicit a number of ERP components (N400, P600) (Coulson, King & Kutas, 1998; Osterhout & Holcomb, 1992), suggestive of problems in the parsing. It is then natural to expect such violations to be reflected in the native speakers' gaze behavior.

Forty-eight native speakers of Norwegian (18 males, 30 females; aged 19-36 years) read sentences, while being eye-tracked. Stimuli included four conditions in a 2(V2 vs. no V2)x2(short vs. long adverbial phrase) design. Linear mixed models analyses revealed a main effect of V2 violation, such that sentences without V2 elicited longer fixations and more regressions in critical regions (subject and verb), regardless of adverbial length. In addition, total sentence reading times were significantly longer in the ungrammatical conditions ($SE = 34.15$, $t = 5.62$, $p < 0.001$). These results suggest that violations in finite verb placement are disruptive, regardless of the length of the preceding constituents.

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Internal constraints and the sociolinguistic monitor

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Both the individual use of a sociolinguistic variant and patterns of a variant's usage can affect how a speaker is evaluated socially (Bender, 2007). The sociolinguistic monitor has been proposed as a mechanism that tracks one such pattern, rates of variant usage (Labov et al., 2011). Prior work using this paradigm (Levon & Buchstaller, 2015; Levon & Fox, 2014; Wagner & Hesson, 2014) often tests the English variable (ING), and demonstrates that differing rates of -in use affect social evaluations of speakers, though have not considered (ING)'s internal constraints.

Meanwhile, Vaughn and Kendall (2018) found that, when judging what form was produced, listeners are indeed sensitive to (ING)'s internal constraints, namely the grammatical category effect that (ING) words used in verb-like forms are more likely realized as *-in* than noun-like forms. Further, usage-based approaches suggest that in production a variant's use is not only conditioned by such grammatical category constraints, but can also be influenced by the word's typical status in the lexicon, or its frequency in favorable contexts (FFC, e.g., Brown & Raymond, 2012; Bybee, 2002), e.g., its typical grammatical category. For (ING) specifically, Forrest (2017) showed that in addition to a word's grammatical category, its FFC (e.g., whether it is typically a noun vs. a verb) had a smaller but still measurable influence on a model predicting (ING) realization.

Given these patterns, this paper asks what kind of knowledge about internal constraints listeners use in social evaluation. Does a word's grammatical category, and/or FFC, exert an influence on social judgments? To examine this question, newscast-like sentences were created, each containing one (ING) word. Four conditions manipulated the FFC of the (ING) word (TypicallyNoun vs. TypicallyVerb, as measured in SUBTLEX), and the grammatical category of the (ING) word in the sentence (UsedAsNoun vs. UsedAsVerb). Stimuli were recorded by a professional voice actor, a young white male from Texas, once with each (ING) word realized as *-ing* and once as *-in*.

Closely following Labov et al. (2011), listeners (N=116) were told that they would hear an aspiring radio newscaster produce multiple versions of a passage of news headlines, and rated each version's level of professionalism on a 1-7 scale. Listeners heard one of the four grammatical conditions, and heard the same passage of 10 sentences five times, with increasing rates of -in (0%, 30%, 50%, 70%, and 100%).

Linear mixed effects modeling revealed an interaction between -in rate and FFC, such that the differences in professionalism ratings between -in rates was bigger for sentences with (ING) words that were TypicallyNouns than TypicallyVerbs (χ^2=10.98, p=.027). That is, in the TypicalNoun conditions the speaker received a larger social penalty at lower -in rates than in the TypicalVerb conditions. The grammatical category of the word in the sentence was not significant. These results suggest that the context in which a variant is typically heard contributes to listeners'

social judgments, and that the sociolinguistic monitor (or a more general perceptual mechanism), must use not only local, but also lexicon-wide information, in tracking sociolinguistic variation.

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The implicit affective processing of swearwords in Belgian multilingual speakers: An experimental study

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Previous studies on language processing in multilingual settings have demonstrated that speakers show reduced emotional activation in response to emotional words in general and swearwords in particular in an L2 compared to an L1 (e.g. Dewaele 2004). This suggests that the emotional impact of swearwords in a non-native language may be weaker than the emotional impact of the same words in a native language. So far, most perceptual work on swearwords has respondents directly report the frequency, arousal, or offensiveness of swearwords in questionnaires and interviews (e.g. Beers Fägersten 2012, Dewaele 2016, 2017). This leaves us largely in the dark concerning the more automatic implicit affective associations with swearwords (though see Harris et al. 2003 and Eilola & Havelka 2011 for two psychophysiological studies that monitor arousal through skin conductance and Vattovvaara & Peterson 2019 for the study of one alternation pair). Moving forward with these indirect methods can help address standing issues on processing, variation and change in swearwords use, such as the interaction between contact-induced change in swearwords and the euphemism treadmill.

Targeting the more automatic processing of swearwords in multilingual settings, we studied the implicit affective value attached to borrowed and heritage swearwords by multilingual speakers of Dutch, English and French in Belgium through an affective priming experiment (cf. Degner et al. 2012).

- **Participants:** 60 Belgian language professionals who have either Dutch or French as L1 and a high proficiency in English and French or Dutch respectively. The sample is controlled for gender, age, education, and personality (Dewaele 2017).
- **Task:** Respondents are presented with valence-benchmarked visual target stimuli and are instructed to categorize the stimuli as positive or negative. Each target stimulus is preceded by a prime (cf. Fig.1). The primes consist of 36 neutral, positive and taboo words balanced for gender, familiarity, source domain (Zenner et al. 2017), language (English, French, Dutch) and word length (Barton et al. 2014).
- **Dependent variable:** Participants categorize target stimuli faster if the valence of the target is congruent with the valence of the prime it is preceded by. Hence, reaction times are indicative of the affective value of the prime stimuli, in this case our swearwords.

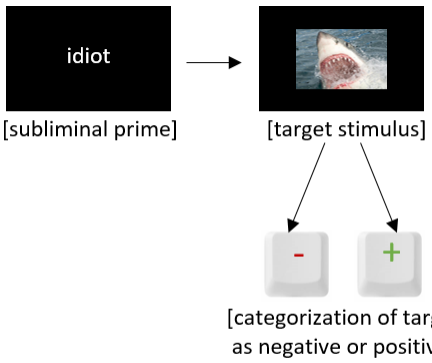

Figure 1 – Schematic presentation of experimental task

- **Predictors:** Inferential statistics assess the relation between reaction times, the language of the swearword, the respondent's L1 and their reported L2 and L3 proficiency. Respondents' self-reported familiarity with the swearwords is taken into account as moderators.
- **Expected results:** It is expected that data analysis will reveal euphemistic effects for L2/L3 swearwords, with interactions between language of the swearword and L1 of the speaker. Results will be interpreted against the global position of English, the local positions of French and Dutch, and the overall euphemistic potential of Lx words (cf. Dewaele 2004, Woumans et al. in press).

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Norwegian native speaker responses to non-native linguistic variation: effects of finiteness and tense violations on written language processing

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Anecdotal evidence[3,5] suggests that native speakers respond differently to non-standard variation in their native language when produced by non-native, rather than native speakers. It is unclear however, what types of variation or "errors" seem more disruptive to the native ear. The Norwegian language context provides a useful ground for studying this. It is rich in variation, with two distinct written forms, no official spoken norm, and a variety of dialects. This unique multilingual environment confers cognitive and linguistic benefits such as faster word processing[7] and being more receptive to linguistic variation.[6] For example, Norwegians typically have better understanding of other Scandinavian languages compared to speakers of Swedish and Danish,[4] whose native languages are more homogenous and standardized.

We conducted an eye-tracking study in which 64 native Norwegian speakers read sentences containing common verb conjugation errors made by Norwegian L2 speakers. Each sentence contained a non-finite verb form (infinitive) appearing either in a grammatical (a) or an ungrammatical context, violating either the finiteness (b) or the tense distinction (c), or both (d):

(a) *Eva får ikke lov til å* ***gjøre*** *lekser foran TV-en.*
Eva get:PRES.FIN NEG permission to to:INF do:INF.NFIN homework in.front.of TV-DEF
'Eva is not allowed to **do** homework in front of the TV.'

(b) *Hver kveld sitter Eva og* ***gjøre*** *lekser foran TV-en.*
every evening sit:PRES.FIN Eva and do:INF.NFIN homework in.front.of TV-DEF
'Every evening Eva **do** homework in front of the TV.'

(c) *Eva har alltid* ***gjøre*** *lekser foran TV-en.*
Eva have[AUX]:PRES.FIN always do:INF.NFIN homework in.front.of TV-DEF
'Eva has always **do** homework in front of the TV.'

(d) *Forrige helg satt Eva og* ***gjøre*** *lekser foran TV-en.*
previous weekend sit:PRET.FIN Eva and do:INF.NFIN homework in.front.of TV-DEF
'Last weekend Eva **do** homework in front of the TV.'

It has been suggested that finiteness is harder to conceptualise than tense,[8] which may explain why finiteness violations (b) are far more common in L2 Norwegian than tense violations (c). Entertaining

the idea that the mental representation of finiteness is less robust than the representation of tense not only in L2, but also in native Norwegian speakers, we hypothesized that the finiteness violation (b) would be less discernible than the tense violation (c), and that the combination of two violations (d) would be the most cognitively taxing.

Results from the preliminary analysis of variance partially support our prediction: in several eye-tracking measures, finiteness violations elicited significantly shorter reading times than tense violations. However, the combined condition did not differ significantly from either of the pure violation conditions. Among potential explanations for this unexpected result is the 'syntax-before-semantics' theory,[2] which suggests that encountering a morphosyntactic (finiteness) error prevents further integration of semantic information, causing the semantic (tense) violation to go "unnoticed". Although further research is necessary to identify the exact reason behind the absence of additive effect in the combined condition, the implication of this study is that native Norwegian speakers perceive tense violations as more disruptive than finiteness violations. This difference in responses also suggests that these two functional features are distinct, contradicting traditional theories about the nature of finiteness.[1]

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Allophonic representations as the main carriers of social meaning

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Sociolinguistic research on the cognitive processing of language variation has provided evidence in support of exemplar theory (e.g. Walker & Hay 2011, Hay et al. 2019). This phonological theory posits that speech is processed by matching linguistic input to detailed memories of words, or 'exemplars', which include contextual and social information. Walker and Hay (2011), for example, find that words that are typically used by older speakers are recognised quicker when they are pronounced by old sounding voices. This implies social and contextual detail influences language processing, and therefore that sociolinguistic processing is integral to linguistic processing more broadly. However, much less is known about how exemplar models work in the processing of social meaning itself (i.e. what social information – region, social class, persona, stance, etc. – is signalled or evoked by linguistic variants). This is particularly true in the context of so-called 'hybrid exemplar models'. In these models, listeners are posited to not just use highly specific exemplars in language processing, but to also abstract over patterns in these exemplars and use these for speech processing as well (as found for example by Ernestus 2014). Which of these are used when we process social meaning?

The current paper investigates this through a large-scale accent recognition task which compared accent recognition accuracy for high-frequency and low-frequency lexical stimuli, as well one accent recognition task with non-word stimuli. If there are differences between performance in high and low lexical frequency stimuli, that would suggest that lexical exemplars or other lexical representations are central to accent processing. Recognition on the basis of non-word stimuli would suggest sublexical representations such as allophones (can) carry accent information.

In the experiments, British listeners were asked to recognise three different groups of English accents: Yorkshire, General American, and Standard English. They heard isolated words, pronounced by 42 different speakers. In the first experiment the critical items fell into two conditions: high-frequency lexical items and low-frequency lexical items. And in the second experiment all stimuli were non-words. It was possible to control for speaker voice, word-length, intonation, and distinctive accent features by playing respondents two closely matched stimuli at separate points in the experiment, and a closely matched non-word in the second experiment. For example, they would hear the high-frequency word *ask* and low-frequency *flask* pronounced by the same speaker of SSBE, with the same intonation and voice quality, each at a different point in the experiment. In the non-word experiment the stimulus *nask* was used.

The two experiments found that recognition was the same between high-frequency and low-frequency stimuli, weakening the idea that lexical exemplars are the driving force behind accent recognition. Accent recognition was distinctly above chance in the non-word stimulus task, suggesting sublexical representations such as allophones are able to carry accent information. Still, recognition was lower in the non-word stimuli, suggesting that having an abstract phonological word form as an 'anchor point' for sublexical information is helpful to the recognition and processing of social meaning.

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Variation in first generation L1 deictic systems: Language attrition or interface effects?

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Aims and Objectives: This study explored the extent to which bilingual language exposure and practice might alter the way in which bilingual first generation speakers use deictic demonstratives in their first language (Spanish) after immersion in a new language environment (Norwegian). Fully developed L1 systems are expected to be stable and less susceptible to change or restructuring than child systems. In addition, core domains of a language, such as, e.g., deictic demonstrative reference are hypothesized to be more robust.
Design: Participants were tested with the Spanish version of the Memory game. They completed an ethnolinguistic background questionnaire with questions targeting demographic data, experience with language, and daily routines in language use.
Data and analyses: Demonstrative use was analysed using binomial multilevel modelling, allowing residual variance to be partitioned into a between-participant component and a within-participant component.
Findings: Results demonstrate a shift in the demonstrative system of Spanish native speakers who have resided in Norway for a median of 6.5 years. This shift is reflected in extensive use of the semantically underspecified item *ese* at the expense of the form *aquel*. The latter form is less frequent and highly context-dependent in corpora of the modern language. It can be hypothesized that first generation speakers are faster in converging on a simplified system of deictic reference than the native speaker group tested in Spain, but this development parallels tendencies observed in the monolingual variety of the language. This faster shift may well be influenced by bilingual language practice.
Originality: This paper addresses a gap in research on deictic terms under conditions of language attrition. It documents a restructuring of the deictic system in first generation speakers of Spanish residing in another country. The results suggest that marking peri-personal space is a core feature of deictic systems across languages, also preserved under deictic system shift.

Keywords: language attrition, interface effects, deictic systems, Spanish, Norwegian

Reference

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The Role of Dialect Expectation on Lexical Processing: EEG Evidence

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Lexical access is typically easier with more familiar vs. less familiar accents (Adank et al. 2009). At the same time, expectations about a dialect have also been shown to shift listeners perceptual boundaries towards that dialect (Hay & Drager 2010), suggesting that dialect expectation mediates lexical processing. In this paper, we investigate brain responses to real and pseudowords spoken in two different dialects of US English: Mainstream US English (MUSE) and Southern US English (SUSE). Previous work suggests that relative to real words, nonsense words elicit a (late) N400 effect (Martin et al. 2016). In this study, we wanted to see whether the N400 effect was impacted by the trial dialect, and expectations about a specific talker's dialect.

Building on a study by Martin et al. (2016) looking at the role of context in bilingual processing, we audio- and video-recorded 6 actresses producing two scripted monologues to camera about their character's lives, and 300 real and 120 nonsense monosyllabic words (phonotactically legal pseudowords). The real words contained the vowels KIT, DRESS, THOUGHT, STRUT, FACE, or PRIZE. These materials were recorded by the actresses in two guises: a MUSE guise and a SUSE guise.

Participants in the study first watched two monologues per speaker (12 minutes total). For a given experimental list, two of the speakers were presented in their SUSE guise, two were presented in their MUSE guise, and two were presented in an unpredictable guise, switching between the two dialects. This was followed by a lexical decision task, where 50% of words from Unpredictable speakers were in their SUSE guise, and 50% were in their MUSE guise. For SUSE and MUSE speakers, 25% of their real words were incongruent with their dominant dialect, allowing us to investigate the effect of dialect incongruencies (i.e. expectation violations) while maintaining the established association between a talker and a dialect. We recorded EEG data from 23 non-Southern speakers while they completed the lexical decision task.

The ERP signal was analyzed over central-parietal electrodes in the (late) N400 500-800ms time window (following Martin et al. 2016). There was a significant lexicality effect for the MUSE speakers, a marginally significant lexicality effect for the SUSE speakers, and no lexicality effect for the Unpredictable speakers. Follow-up analyses confirmed that the lexicality effect was significant for both congruent (MUSE) and incongruent (SUSE) tokens from MUSE speakers.

Our results suggest that the N400 lexicality effect can be attenuated by expectations that listeners have about a speaker's dialect. Participants' neural responses show less distinction between real and pseudowords when they expect the speaker to have a less familiar accent, or when they cannot predict what accent the speaker will have. Interestingly, the N400 seems to be more affected by dialect expectations than the actual dialect of a given trial, and we observe an N400 for "MUSE speakers" even when the trial token was actually a SUSE token. Differences in processing familiar and less familiar dialects then cannot simply be about matching a signal to an activated representation, but also about different strategies being used when listening to speakers of a predictable, familiar dialect, as opposed to speakers with a less familiar, or unpredictable dialect.

Demonstratives spill the beans of their referents' semantics: English and Spanish demonstrative systems compared

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Deictic expressions, demonstratives like *this* and *that* in English, are pivotal referring strategies while communicating. Demonstratives always have a referent, which, although underspecified, becomes clear thanks to nonverbal and contextual additional cues (Kita, 2003; Todisco et al., 2020). The choice of one demonstrative over another furthermore discloses the semantic connotations speakers have of that specific referent (Rocca et al. 2019; Rocca & Wallentin, 2020).

In this study, we contribute to the existing literature on demonstratives and semantics, by providing a fine-grained picture of factors driving demonstrative choices and replicating that semantic features of the referent systematically influence speakers' choices for specific demonstrative forms, when no additional contextual cue is provided. Moreover, we show that this influence is cross-linguistic and not affected by the number of terms characterizing demonstrative systems. To this end, 1639 native Spanish speakers were presented with 480 nouns rated along 76 semantic features and were asked to match each noun with a demonstrative in an online experiment based on the Demonstrative Choice Task paradigm (DCT, Rocca & Wallentin, 2020). This paradigm has already been used with two-term demonstratives system languages (Danish, English and Italian), and here it is applied to the Spanish three-term demonstrative system (*este/ese/aquel*).

We replicated that demonstrative choices are influenced by invariant cross-linguistic semantic factors such as manipulability, valence and self, as in the English two-term demonstrative system. These semantic factors link up with a binary distinction between the proximal *este* and the combination of medial and distal forms *ese* and *aquel*. Additional semantic factors, such as visuality and time, are connected with the distinction between *ese* and *aquel*. We conclude that many of the semantic attractors influencing choice of demonstratives seem to be constant across languages, even though they do not have the same number of terms.

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