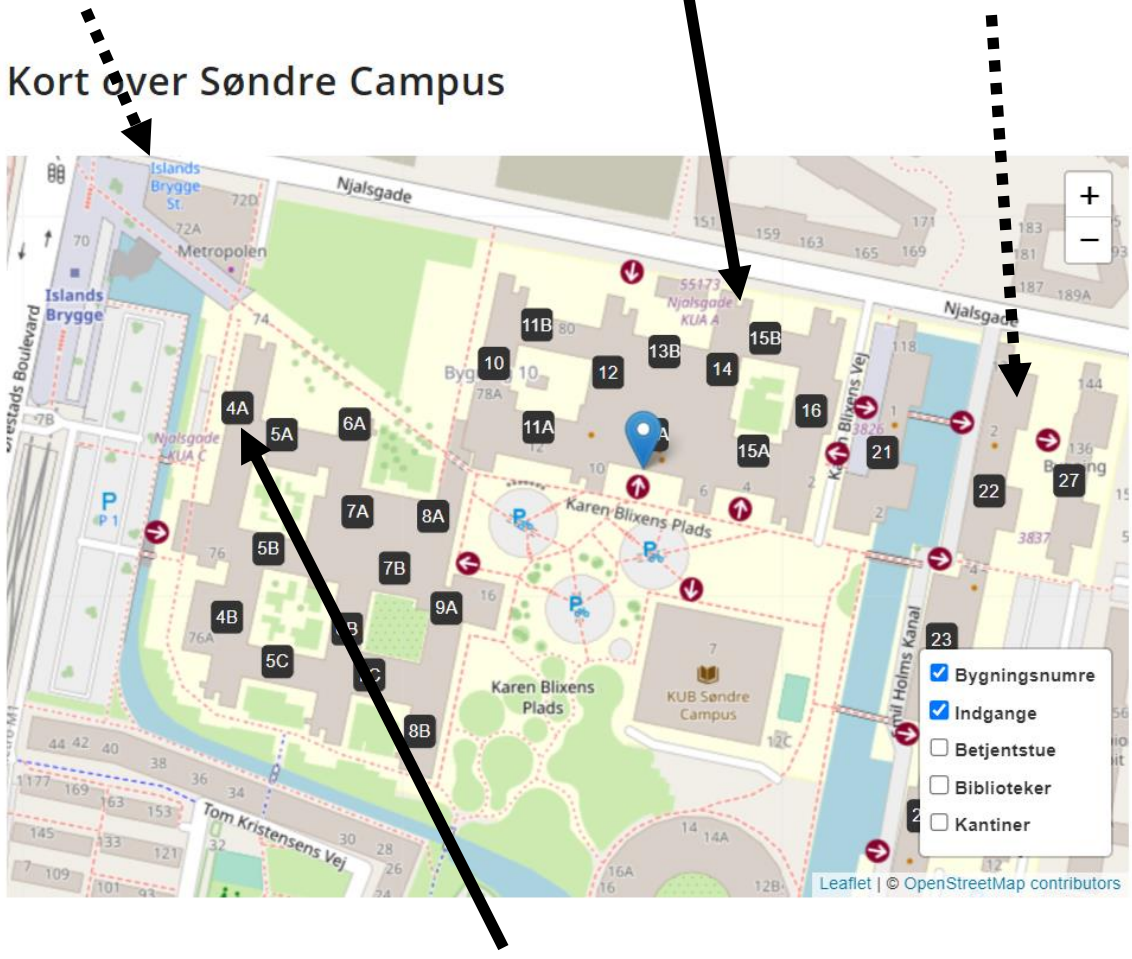
Phonetics & Phonology in Denmark 2022 #PPDK22

Book of abstracts

University of Copenhagen

Thursday November 17th 14.00 to 18.00 in Room 15a.0.13

nearest metro station **Linguistics Lab**



Friday November 18th 10.00 to 15.00 in Room 4a.0.69

Program

Thursday November 17th	Room 15a.0.13	Title	Author
1400		Welcome and practicalities	PPDK22
1410		A look at the viability of measuring H1 and H2 in voice signals exhibiting period doubling and subharmonics	Gert Foget Hansen
1440		Second language learner processing and production of stød	Sabine Gosselke-Bertelsen
1510		Analysis of intonation patterns in Livonian controlled speech	Tuuli Tuisk
1540		coffee	
1600		”One long vowel” – On the consonant-vowel ratio in Danish	Ruben Schachtenhaufen
1630		Closure voicing in Danish stops: Phonetics, phonology, variation, and history	Rasmus Puggaard-Rode, Camilla Søballe Horslund & Henrik Jørgensen
1700		Phonetic flexibility in old age: Training seniors to perceive nonnative speech sounds	Birgitte Poulsen, Sidsel Holm Rasmussen & Ocke-Schwen Bohn
1730		Predicting nonnative consonant identification: The case of English consonants and native speakers of Kalaallisut	Ocke-Schwen Bohn & Kulunnguaq Korneliussen
1800		end (followed by informal pizza dinner at the Linguistics Lab)	
Friday November 18th	Room 4a.0.69		
1000		Teaching Children to Discriminate? A Quantitative Study of Linguistic Representation in Recent Disney Films	Jens Kjeldgaard-Christiansen, Zac Christopher Boyd, Michaela Hejná, Mark Eaton & Mathias Clasen
1030		The ‘Critical Role’ of Voice Quality for Performative Morality in Dungeons and Dragons	Zac Boyd & Míša Hejná
1100		Three Motivations for Linguistic Variation in Films:A Case Study of the Four Main Protagonists in Black Widow	Freja Hovgaard Knudsen
1130		Lunch	
1230		Preaspiration and sonorant devoicing in two Faroese dialects	Sandra Saxov Lamhauge
1300		Exploring variation in intonation through the Discourse Context Analysis framework	Anna Bothe Jespersen
1330		Digging into English vowels with (a) SPADE: Reflections on vowel duration and quality from corpus phonetics	Jane Stuart-Smith
1445		see you in 2024!	PPDK22

A look at the viability of measuring H1 and H2 in voice signals exhibiting period doubling and subharmonics

Gert Foget Hansen, University of Copenhagen

Can *f*0 and thus H1 and H2 meaningfully be determined in voices showing bi-periodic alternations in the vibratory pattern i.e. exhibiting period doubling? If so, do H1 and H2 values purely depend on the trajectory of the opening-closing gesture of the glottis (and the accompanying OQ), or is it also affected by the degree of period to period alternation?
Two main problems will be discussed: determining *f*0, and the effect of period to period alternations on H1 and H2 amplitude.
Viewing biperiodic alternations as a special case of modulation (modulating amplitude, frequency or both with a frequency of *f*0/2) allows for a reasonable interpretation of *f*0.
The relative amplitude of H1 and H2 is not affected when the biperiodic alternation pertains to amplitude (amplitude modulation), but is affected when the biperiodic alternation pertains to period time.

Second language learner processing and production of stød

Sabine Gosselke-Bertelsen, University of Copenhagen

Spoken Danish features a cross-linguistically rare creaky voice phenomenon – 'stød' – whose distribution follows a complex set of phonological and morphological rules (Basbøll, 2005; Grønnum, 2005). Some of these rules are transparent and highly productive. For instance, the addition of the plural suffix *-e* dictates that bimoraic monosyllables lose stød. Native listeners seem to use the presence or absence of stød in words with this plural suffix as a predictor of grammatical number. Their grammatical decisions are delayed and more often incorrect when prosody mismatches the grammatical suffix (Clausen & Kristensen, 2015). Listeners also show brain activity patterns related to surprise (N400) and the need for reanalysis (P600) when stød is followed by a non-stød-associated suffix and vice versa (Hjortdal, Frid, & Roll, 2022). Due to concluded and ongoing reduction processes, stød in Danish not only predicts suffixes but also discriminates many words. Given these functions, stød can be considered an important feature for Danish native speakers in spoken language processing.

Unlike native speakers, second language learners typically struggle with prosody in a non-native language. On the perception side, an unawareness of prosodic alternations in morphological processes may lead to less efficient spoken language processing as learners cannot use the prosody in the selection of lexical candidates (Hjortdal et al., 2022). On the production side, incorrectly produced prosody is one of the most important contributors to foreign-accentedness and can lead to stigma and decreased intelligibility (Mennen & de Leeuw, 2014).

I would like to present a near-complete online study which aims at investigating stød perception and production in 40 Danish native speakers and 40 second language learners of Danish. In the context of stød perception, a reaction time task tests how quickly and correctly grammatical decisions (i.e., "singular or plural" or "person or action") are made for spoken words with stød-alternating suffixes (e.g., *teltet* /tsɛl̰tɤ̝/ vs *telte* /tsɛltə/), including minimal pairs (e.g., *maler* /mæ̰:l.ɐ/ vs *maler* /mæ:l.ɐ). In the production part, participants are asked to read out sentences with target words from the same categories as in the perception part. The study is complemented with a battery of demographic background questions and questions about the participants' language background.

Thus far, results from the study strengthen the claim that stød plays an important role in grammatical decision making for native speakers. In fact, in situations where reductions are ongoing, participants often use the prosodic cue alone to differentiate grammatical categories. In contrast, the second language learners are considerably less affected by the prosody. They seem not to use stød to correctly identify otherwise homophonous words, nor do they systematically use the prosody to distinguish or activate grammatical categories. They also struggle with correctly identifying stød

targets in production. All in all, this paints a picture of stød as a particularly difficult property for Danish second language speakers and raises the question of how this could be remedied.

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Analysis of intonation patterns in Livonian controlled speech

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The paper presents an analysis of intonation patterns in Livonian, an indigenous language of Latvia that belongs to the Finnic branch of the Uralic language family. Nowadays, Livonian is listed in UNESCO's Atlas of the World's Languages in Danger as a critically endangered language (e.g., Moseley 2010). Prosodically, Livonian constitutes one of the most interesting languages among Finnic languages. Livonian has been claimed to have a ternary vowel length (Lehiste et al. 2008) as well as three distinctive lengths for consonants (Markus et al. 2012). Syllable durations in stressed and unstressed syllables are involved in establishing three contrastive foot types. Livonian is the only Finnic language to differentiate between two contrastive phonological tones: plain tone and broken tone or stød (e.g., Vihman 1971, Teras & Tuisk 2009).

Most studies on Livonian prosody have focused on word prosody and there has been no research on Livonian speech melody so far. The current study aims to provide a preliminary description of Livonian intonation based on the data from controlled speech. The purpose is to use the phonological labels to describe the intonation patterns that have been adapted to many languages (e.g., Pierrehumbert & Hirschberg 1990, Hirst & Di Cristo 1998, Gussenhoven 2004, Jun 2005, Ladd 2008).

For the present analysis, recordings of Livonian controlled speech from one female and one male speaker were used. The data was drawn from the University of Tartu Archives of Estonian Dialects and Kindred Languages and consist of repetitions (1) of single words and (2) declarative sentences. The reason for choosing this particular data lies in the fact that at the time of recording, Livonian was still used as the main language of communication. The data was manually segmented and annotated using Praat (Boersma & Weenink 2022). The labelling and analysis relies on the principals provided by Jun and Fletcher (Jun & Fletcher 2014).

The general account of intonational categories in Livonian provides H*+L, L*+H, L*+L, H*L+H and H*L+L pitch accents according to the present data. The analysis reveals that the peaks in the F0 contour are generally aligned with the accented syllables. In declarative phrases, the most common peak pitch accent is H* (see Figure 1). There is a fall to a lower level in the unstressed syllable following the accented syllable and the pitch accent is transcribed as H*+L. The last word of the phrase generally has a low peak pitch accent followed by a low plateau (L*+L). There is a reason to believe that the tonal target is also distinctive in terms of focus.

Repetitions of single words (Figure 2) represent the reading intonation. The first words were normally produced with a rise followed by a high plateau and therefore labelled as L*+H. The last words in the repetitions had a H*+L pitch accent. Occasionally, the pitch peak was aligned earlier in the accented syllable in words with stød and the fall to a lower level was already within the accented syllable (Figure 2 right). Therefore, such occurrences were labelled as H*L+H and H*L+L pitch accents.

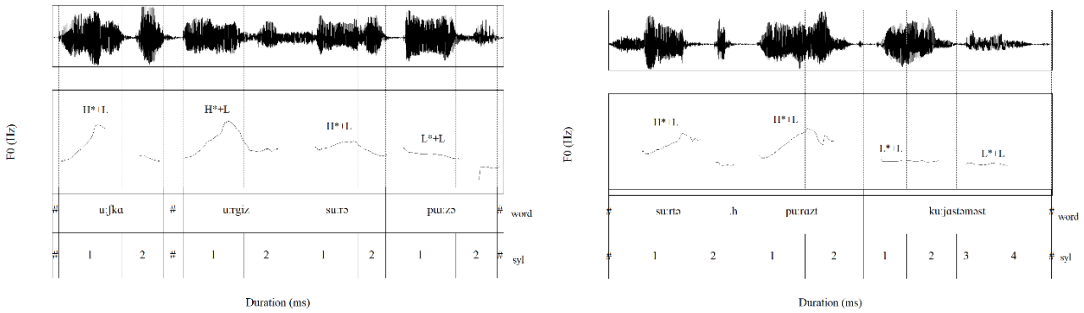

Figure 1. F0 contours of the sentence [uːʃkɑ uːrgiz suːrə pɯːzə] 'the snake fled into a large bush' (left) and [suːrtə puːrɑzt kuːjɑstəməˑst] 'the big sail must be dried' (right) spoken by a female speaker.

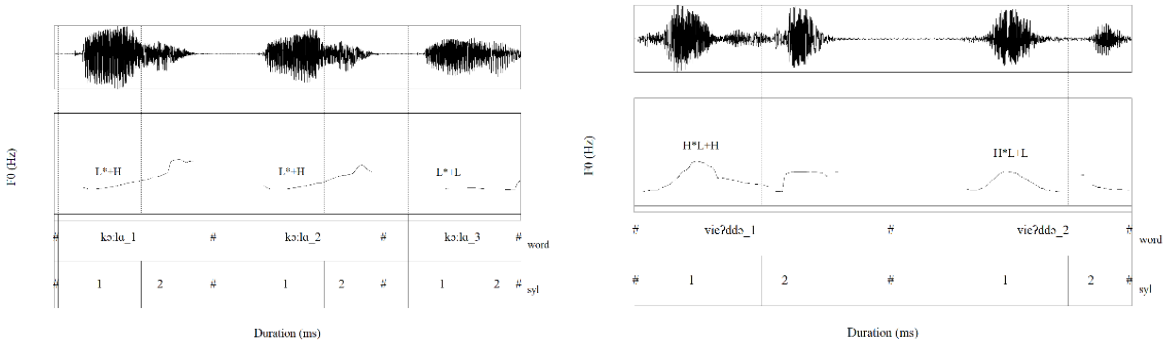

Figure 2. F0 contours of the repeated words [kɔːlɑ] 'island' (left) and [vieʔddə] 'to carry' (right) spoken by a female speaker.

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”One long vowel” – On the consonant-vowel ratio in Danish

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Danish is often presented as being extremely vocoid compared to other languages, both with regards to the ratio of vowel phonemes to consonant phonemes and the number of consecutive vowel sounds in connected speech. According to some analyses, Danish features over 40 vowel phonemes, and in popular media, Danish researchers recently described Danish as ”almost one long vowel”. Furthermore, recent Danish language change is often suspected to increase the vowelconsonant
ratio even further.

In this presentation, I will explore various aspects of the consonant-vowel (c/v) ratio in Danish. I will discuss methods for counting vowel phonemes accross languages and present actual c/v ratios from a lexical point of view as well as in connected speech. Furthermore, I will discuss how c/v ratios are affected by phonetic reduction in spontaneous speech and recent language change in Danish. From this, we will see whether the claims about the vocoidicity of various aspects of Danish can be confirmed or not.

Closure voicing in Danish stops: Phonetics, phonology, variation, and history

Rasmus Puggaard-Rode, Camilla Søballe Horslund & Henrik Jørgensen

Voicing during stop closures is phonetically marked (e.g. Ohala 1983). This is reflected in Modern Standard Danish, where voicing is even actively blocked during stop closures (Hutters 1985; Puggaard-Rode et al. 2022). There is a laryngeal contrast between voiceless unaspirated stops /b d g/ and voiceless aspirated stops /p t k/. In spite of this, Danish /b d g/ are often characterized as having a [voice] feature in their underlying representation (Keating 1984; Kingston and Diehl 1994); we have previously argued that voice plays no role in the phonological representation of Danish stops (Horslund et al. 2022; Puggaard-Rode et al. 2022). In this presentation, we discuss the past and present of stop voicing in Danish.

Proto-Germanic is usually not considered to have had distinctive stop voicing (e.g. Honeybone 2002), and the few synchronic Germanic languages which display this feature (e.g. Dutch, Yiddish, and Afrikaans) are often considered to have innovated or borrowed it at a later stage (Iverson and Salmons 2003). Contrary to this, we propose that stop voicing was historically more widespread in Danish, and that the present sole reliance on aspiration in managing the laryngeal contrast is a recent innovation. There are two significant advantages to this proposal: 1) It helps explain synchronic consonant gradation whereby /b d g/ in certain contexts alternate with semivowels [ʊ̯ ɤ̯ ɪ̯]. The development from stops to semivowels in some prosodic contexts can be explained with a sequence of consecutive sound changes if we assume that /b d g/ were voiced in a previous stage of the language, but is much more difficult to explain if /b d g/ have always been voiceless. 2) It helps explain why there are several traditional regional varieties of Danish with more widespread stop voicing than Modern Standard Danish, as we will demonstrate with data from a traditional legacy corpus (Goldshtein and Puggaard 2019); this has typically gone unmentioned in the dialectological literature. Consonant gradation had very different outcomes in regional varieties without stop voicing, cementing that Modern Standard Danish likely had more widespread stop voicing in a previous stage of the variety. This does not necessarily mean that voicing used to be distinctive in Danish; another option is that there was historically a contrast between voiced and voiceless aspirated stops, as in Modern Standard Swedish (Helgason and Ringen 2008). We will discuss the relative likelihood of either scenario on the basis of typology and dialectal variation.

In summation, we argue that in previous stages of the Modern Standard Danish variety, and in several other varieties of Danish, closure voicing played a role in /b d g/ – either as a distinguishing feature or as phonetic enhancement of the phonological contrast between /b d g/ and /p t k/. This affected the phonological development of the language and resulted in the synchronic patterns of consonant gradation. At present, voicing is actively blocked in /b d g/ in essentially all contexts, and plays no role in the phonology of Danish stops.

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Phonetic flexibility in old age: Training seniors to perceive nonnative speech sounds

Birgitte Poulsen, Sidsel Holm Rasmussen and Ocke-Schwen Bohn

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Foreign language learning abilities are by some thought to decline in line with general cognitive age-related decline (e.g., Deary et al. 2009). However, extensive speech learning research, as formulated in the Perceptual Assimilation Model (Best, 1995; Best & Tyler, 2007) and the Speech Learning Model (Flege, 1995; Flege & Bohn, 2021) suggests that language learning abilities last throughout life. Yet, the empirical basis for this assumption stems mainly from studies involving adults up to the age of 40 years (Bohn, 2018a, 2018b). To widen the knowledge on foreign language learning in general this project intends to provide insights into the second language (L2) learning abilities of people above the age of sixty. The L2 aspects targeted here are those related to speech perception and production, and the phonetic flexibility of Danish seniors will be explored in training studies informed by previous literature on perceptual training of nonnative speech (e.g., Logan & Pruitt, 1995; Sakai & Moorman, 2018).

Four different training studies will investigate whether Danish seniors can improve their perception of four types of nonnative speech contrasts via perceptual training. The potential improvement of nonnative speech perception in seniors will be compared to results from a group of younger participants as well as results from an age matched control group. The training targets to be investigated in the four training studies are 1) fricative voicing 2) lexical tones 3) consonant place of articulation, and 4) back vowels. These target contrasts will be drawn from English and Mandarin speech sounds.

In this talk we present the theoretical premises to the research project and discuss a number of methodological and practical details. Specifically, we outline the experimental designs of the studies that target the first two types of L2 phones, i.e., the (ongoing) study that trains listeners to discriminate English fricatives /s/ - /z/, and the (upcoming) study which will train listeners to discriminate Mandarin tones.

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Predicting nonnative consonant identification: The case of English consonants and native speakers of Kalaallisut (West Greenlandic)

Ocke-Schwen Bohn & Kulunnguaq Korneliussen, Aarhus University

Studies of nonnative speech perception have often focused on individual contrasts (e.g., /r/-/l/) or specific phonetic dimensions (e.g., voice onset time). The present study reports two experiments which examine the perception of the complete set of English initial consonants by native speakers of Kalaallisut (West Greenlandic). Most accents of English allow 23 consonants in initial position, with voicing contrasts for all plosives and fricatives, whereas Kalaallisut has 13 initial consonants with no voicing contrasts. We generated predictions for the identification of English consonants by native speakers of Kalaallisut from a comparison of the consonant inventories (initial position) of the two languages, and from Experiment 1, in which 12 native speakers of Kalaallisut perceptually assimilated English consonants, presented in [Ca] syllables, to their native inventory, using Kalaallisut labels and providing goodness-of-fit ratings of these matches. The predictions were then tested in Experiment 2, in which the same participants as in Experiment 1 identified the same consonants, using English labels. Neither the comparison of the consonant inventories nor the results of the perceptual assimilation experiment account satisfactorily for the patterns of (mis-) identification observed in Experiment 2. We conclude our presentation with a discussion of factors which contribute to the observed patterns, and with a critical evaluation of the usefulness of perceptual assimilation tasks in predicting problems in cross-language speech perception.

Teaching Children to Discriminate? A Quantitative Study of Linguistic Representation in Recent Disney Films

Jens Kjeldgaard-Christiansen, Zac Christopher Boyd, Michaela Hejná, Mark Eaton, and Mathias Clasen, Aarhus University

Rosina Lippi-Green's (1997, updated in 2012) seminal study on language variation and morality in Disney continues to inform studies of linguistic representation, variation, and discrimination in different media. The study analyzed 371 characters in 24 animated full-length Disney films and showed that foreign-accented characters were disproportionately likely to be immoral. By contrast, Standard American English was mostly spoken by protagonists and other sympathetic characters. This finding in particular justified Lippi-Green's claim that Disney "teaches children how to discriminate" (2012, p. 101).

In the present study, we investigate whether the discriminatory trends identified by Lippi-Green (1997, 2012) also describe Disney's more recent films, specifically the 12 "Disney Classics" released between 2009 and 2021, which constitute Disney's successful "Revival Era." The analysis consisted in three full screenings of each original, English-language film as it appears on Disney's on-demand streaming service, Disney+, in addition to many repeated reviews of particular scenes and sequences. For each film, a list of characters, which categorized their gender, age, language variety, age, and moral standing, was compiled. The analyzed films contain 273 characters in total. Those characters whose language variety could not be readily and unambiguously ascertained were subjected to review by all members of the research team. This team consisted in one linguist and native speaker of American English, one linguist and non-native speaker of English, one linguistically trained native speaker of Canadian English, and two linguistically trained non-native speakers of English.

Our analyses reveal that the main conclusions of Lippi-Green's (1997, 2012) study do not describe more recent Disney films. Characters that speak Standard American English are neither especially moral nor immoral compared to speakers of other language varieties, and characters with foreign accents are, surprisingly, especially moral. We also find that the proportion of British English accents is significantly reduced, while the proportion of Standard American accents has increased. In addition to presenting these and other findings, the paper will address some methodological issues concerning the individuation of characters and the identification of their language varieties and moral standing. Finally, we will make some proposals about the factors that might explain the documented developments.

The 'Critical Role' of Voice Quality for Performative Morality in Dungeons and Dragons

Zac Boyd & Míša Hejná, Aarhus University

'High performance' (Coupland 2007) is a valuable resource for examining indices as it necessarily draws on existing language ideologies. In this paper we explore how one may index aspects of morality and notions of good and evil. Moving beyond how dialects can be employed to do this (Lippi-Green 2012), we specifically target phonatory variation.

We do so through an analysis of Dungeons and Dragons (D&D), a tabletop role-playing game in which players and the Dungeon Master (DM) collaboratively construct a long-form narrative story driven by the actions of the players through gameplay. Data for the present paper comes from voice actor Matthew Mercer, the DM for *Critical Role* - a popular D&D web series. We explore how Matt Mercer employs aspects of voice quality to construct 'good' and 'evil' in Non-Player Character (NPC's) identities in D&D.

We examine nineteen NPC voices portrayed by Mercer. Characters selected for study exhibit a range of D&D races (e.g. Elves, Genasi, Teifling, etc.) and genders (eleven male, six female, one trans-male and one non-/multi-gendered 'hive mind'). We created a vocal profile for each character comprising auditory judgements, visual qualitative spectrogram analysis, and acoustic measurements. Voice quality was examined in VoiceSauce (Shue 2010; Shue et al. 2011). Via these profiles and known information about each character (e.g. demographic information and character backstory/campaign story arc) we examine patterns in how NPC characters signal to the audience and players whether they are good or evil.

Our results indicate that evil characters tend to exhibit whispery phonation, extremes of which show aryepiglottic trilling (i.e. growl). The more saliently evil the character, the stronger the epilaryngeal constriction is, which translates into higher intensity whisper and increased growl. Good characters, on the other hand, typically employ modal and/or breathy phonation and those with more intimate relationships employ more extreme breathy phonation when talking to/about their loved ones. Our focus on voice quality shows that evil characters draw on prototypical notions of exaggerated & pathologically affected voices to index non-human like threats and 'evilness'. This is in line with research done on vocal performances in *The Exorcist* (1973; Kjedgaard-Christiansen *et al.* In press), suggesting that such indexical links may have existed for at least several decades. Importantly in D&D, even predominantly good or evil characters must express alignment and disalignment with friends and foes, and this is reflected in the phonatory variation, albeit in a more gradient manner. More specifically, negative stancetaking is associated with the phonatory aspects that are typical of the evil characters, and positive stancetaking is associated with those of the good characters. In this, we argue that evoking 'good' and 'evil' in performative speech can be viewed as a form of stancetaking - one that is situated within the characters' ideology of their world, reflected in the characters' relationship with the adventuring party, and realised based on how a character positions themselves within the political and personal conflicts of this world.

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Three Motivations for Linguistic Variation in Films:

A Case Study of the Four Main Protagonists in *Black Widow*

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Films provide an interesting source of data for the sociolinguist as they are likely to show stereotypical use of linguistic variation and enable us to shed light on which linguistic features are used to portray specific personae and groups. However, the motivations behind the varieties produced by movie characters are largely unexplored and a theoretical structure for discussing linguistic variation in films is lacking. Through analyses of selected characters in *Black Widow*, as well as prior studies of *The Man From U.N.C.L.E.*, *Casino Royal*, and *From Russia With Love*, this paper will propose three main motivations for the linguistic variation present in these films.

The suggested three motivations are a.) the actor persona's vernacular, b.) attempts of recreating realistic correlations between variety and character background, and c.) the conveyance of non-factual information relating to the character or the character's function within the narrative. The latter spans, but is not excluded to, trustworthiness, likeability, intelligence, comic relief, and relation to the main protagonist. The paper further proposes that these motivations can be extended to describe linguistic variation in films in general.

A study of the linguistic productions of the four main protagonists of *Black Widow* has been conducted, paying attention to the following linguistic features: vowel productions, intonation and rhythm, productions of /ɾ/, /w/, and /v/, and non-standard syntax. The four selected characters are all Russian and all fight on the side of the primary hero, Natasha Romanoff. Despite these similarities, the characters serve different functions in the narrative and have different individual goals and personalities. Considering these aspects of the characters, the paper found that, despite all being Russian with similar backgrounds, the linguistic varieties displayed by the characters differed systematically in a manner that cannot be explained as a realistic correlation between their varieties and backgrounds. The findings indicate that certain features commonly associated with Russian English have differing indexicalities: Only likeable idiots systematically omit articles; /ɾ/ as /ɾ/ is used as a quick and broad device for marking a character as Russian; and the production of /w/ as /v/ is reserved for evil supervillains.

The paper further found that the primary hero, Natasha Romanoff speaks with a General American dialect despite having a similar upbringing to that of the other three characters as well as being Russian like them. Linguistically, her Russian heritage is only referenced by her speaking Russian. No features of Russian marks her speech productions in English.

Preaspiration and sonorant devoicing in two Faroese dialects

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Preaspiration and sonorant devoicing are understudied phenomena and are known to be rare in the languages of the world (Hansson 1999; Hejná 2015; Silverman 2003). Faroese is one of the languages where these features are found, and numerous papers have described these features in the Faroese language (Árnason 2011; Hansson 1999; Helgason 2002; Thráinsson et al. 2012; to name a few). However, these studies base their results on very few speakers, and only a few use acoustic-phonetic methods. In addition, many of the phonological conditions have not been sufficiently described or investigated, and lastly, typically sonorant devoicing gets much less attention than preaspiration (Hansson 1999; Helgason 2002; Thráinsson et al. 2012).

In this work in progress, I present some preliminary results on some specific phonological conditions for preaspiration and sonorant devoicing in Faroese and compare them across two different dialects. The phonological conditions analyzed are 1) preaspiration in front of non-homorganic stops, e.g. *fuktur* 'humidity', pronounced [ˈfʊʰktʊɹ] or [ˈfʊktʊɹ], and 2) sonorant devoicing in front of /s/, e.g. *dansa* 'dance', pronounced [ˈdan̥sa] or [ˈdansa]. These two phonological conditions are vastly understudied in Faroese.

The data consists of spontaneous speech from sociolinguistic interviews. As not all of my data has been transcribed yet, I have only analysed the phenomena in the speech of three elderly women from the village Viðareiði (in the north of the Faroe Islands) and three elderly women from the village Hvalba (in the south of Faroe Islands) in order to see if there is dialectal variation (see figure 1).

My results so far point to there being dialectal variation. The results indicate that the northern dialect as a whole does not preaspirate in condition 1, while the southern dialect does. They also indicate that the northern dialect devoices its sonorants in front of /s/, while the southern dialect does not. Area 2 and 3 in figure 1 are both described as having the same preaspiration pattern, only area 3 has been reported to occasionally voice its plosives as well (Thráinsson et al. 2012; Petersen 2022). My findings, however, suggest that there is an additional dialectal difference between the areas, namely the lack or presence of preaspiration before two non-homogenous stops as in condition 1. In addition, many scholars state that the devoicing of sonorants in Faroese goes even further than in other languages, as sonorants are also devoiced in front of /s/ (Lockwood 2002; Rischel 1961; Thráinsson et al. 2012). However, my results indicate that there is a dialectal difference, as the sonorants are voiced in this condition in the south.

As a side note, in analysing my data I have noticed that when vowels occur next to dental/alveolar nasals, the nasals tend to disappear entirely and the vowel in turn becomes fully nasalised. This is a process never to have been reported on about the Faroese language.

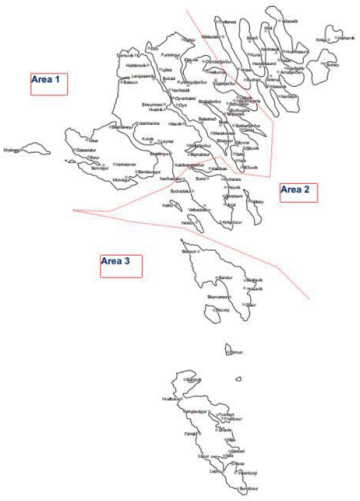

Figure 1. The three main areas concerned in dialectal variation of preaspiration in the Faroe Islands (Petersen 2022). Area 1: Vágar, Northern Streymoy and Eysturoy. Area 2: Southern Streymoy and the Northern Islands. Area 3: the Southern Islands

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Exploring variation in intonation through the Discourse Context Analysis framework

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This presentation will explore discourse variation in the realisation of uptalk in Australian English. Realisation will be conceptualised here as both f0 shape and f0 trajectory. The analysis of discourse-contextual variation in uptalk has tended to focus either on broad discourse categories such as text type (Britain 1992; Levon et al. 2014) or on more fine-grained, primarily qualitative variability through e.g. Conversation Analysis or stance analysis. However, more systematic ways of quantifying fine-grained pragmatic and socio-stylistic meanings at the discourse level would be helpful, as uptalk has been shown to be highly sensitive to both sociolinguistic meanings (Levon et al. 2014; Levon 2016) and situational context (Jespersen and Hejná, in prepration).

This presentation is concerned with evaluating the application of one such framework, Discourse Context Analysis (DCA), to variation in uptalk realisation, comparing this approach with an analysis of Dialogue Acts annotated through the DAMSL system (Allen and Core 1997; Mushin et al. 2007). The choice of Dialogue Acts as comparison hinges on a proposed connection between uptalk rises and forward-looking Dialogue Acts (Fletcher 2005; Fletcher and Stirling 2014). In DAMSL, Dialogue Acts are divided into forward- and backward-looking functions. The DCA framework, developed at the LANCHART Centre in Copenhagen (Gregersen et al. 2009), on the other hand, distinguishes between variation at five levels: speech event, activity type, interaction structure, macro speech act, genre and enunciation.

The data for the study stems from conversations between 22 speakers of Sydney Australian English recorded from light entertainment programmes on two radio stations. Two ethnic groups are represented: mainstream Australian English speakers and speakers of Australian Aboriginal English. The speakers are middle-class, and middle-aged to older in age. The dataset comprises approximately 8 minutes of speech from each speaker. This data resulted in the analysis of 742 intonational phrases ending in an intonational rise. *F0 shape* was categorised using the AusToBI framework, with a distinction between high and low rises made on the basis of previous material. *F0 trajectories* were calculated as the distance from f0 elbows (essentially low turning points) to f0 peaks (f0 maxima) and represented in semitones. Statistical analyses were conducted through mixed-effects regression.

The transcription of uptalk according to various Dialogue Acts showed little significant variation, and only yielded significant results when pooled together into forward- and backward-looking acts. The Discourse Context Analysis revealed various levels of co-variation between rise realisation and discourse context. For instance, speech produced during uninterrupted monologues, as well as speech directed at radio audiences rather than interlocutors present in the room, resulted in rises with the largest f0 excursions. Implications for the analysis of uptalk will be discussed.

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Digging into English vowels with (a) SPADE: Reflections on vowel duration and quality from corpus phonetics

Jane Stuart-Smith (with James Tanner, Morgan Sonderegger, Jeff Mielke, Rachel Macdonald, Erik Thomas, Robin Dodsworth, and The SPADE Consortium)

Corpus phonetics, or acoustic analysis for larger speech datasets (cf e.g. Chodroff 2018), harnesses new advances in speech processing tools with the availability of multiple diverse spoken corpora. Scaling up robust acoustic measures for consistent implementation across corpora allows us to test and inspect commonly-held assumptions about phonetic and phonological patterns which arise from more restricted samples of particular dialects and/or languages (e.g. Chodroff et al., 2019). One such corpus phonetics project is SPeech Across Dialects of English (SPADE) (Sonderegger et al 2022), in which we developed the Integrated Speech Corpus ANalysis (ISCAN)/PolyglotDB software (McAuliffe et al 2019) for the examination of 'English' as represented by some 44 public and private corpora, from North America and the British Isles.

This talk will consider the evidence for three aspects of vowel duration and quality which underpin our expectations of what English vowels are like phonetically and phonologically, the extent to which they might vary across dialects and speakers, and some theoretical and methodological considerations which emerge along the way:

- The English Voicing Effect (Tanner et al., 2020): English vowels before voiced obstruents are assumed to be longer than before voiceless ones, in e.g. *bead* vs *beat*. To what extent does this hold true (~229k tokens from 1974 speakers, from 30 dialects/15 corpora)?

- The Scottish Vowel Length Rule (Stuart-Smith and Macdonald in preparation): Shorter vowels before voiced obstruents, nasals and laterals (e.g. *bead, bean, deal*) alongside longer vowels in other varieties of English, is a key aspect of Scottish accents which make them distinctive (Aitken, 1984). Which vowels still show the SVLR in contemporary Scottish dialects (~319k tokens from 343 speakers, from 5 dialects, 6 corpora)?

- English monophthongs and diphthongs (Tanner et al 2022): English shows phonological vowel contrasts which are signalled by both spectral and duration cues, with some vowels assumed to be more dynamic (e.g. CHOICE, PRICE) than others (e.g. FLEECE) (e.g. Watson & Harrington, 1999; Williams & Escudero, 2014). Which acoustic cues define English vowels most effectively, and how securely can categories like 'monophthong' and 'diphthong' can be established empirically for English (~323k tokens from 1245 speakers, from 21 dialects/11 corpora)?

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