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APAP 2025

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PLENARY PAPERS

THREE DECADES OF OT. WHAT DID IT BRING AND WHAT NOT?

Haïke Jacobs

Radboud University Nijmegen

Since Hayes (1995) stress systems in metrical phonology have been generally classified as being either trochaic or iambic, a view which was taken over within Optimality Theory in Prince and Smolensky (1994). In this talk we will review 30 years of OT with special consideration of stress and stress typology.

The successes and failures of strict parallel classic OT will be discussed and illustrated by comparing constrained-based parallel OT with the derivational rule-based approach of Hayes (1995). Key elements in favor of the former are related to the fact that OT was able to dispense with notions such as destressing in clash (Wargamay) and foot extrametricality required for preantepenultimate stress (Palestinian Arabic and Preclassical Latin).

Problems for parallel OT were soon pointed out. The serial interaction of stress and syncope as in for instance Macushi Carib, but also Classical Latin, led to a serial version of OT, Harmonic Serialism (McCarthy 2010). Harmonic Serialism as we will show is also able to offer a better account of the cross-level interaction between stress and degemination in Chugach Alutiiq (Jacobs 2022), but requires a modification in the expression of syllable weight (branching rhymes instead of moraic codas). Using moras to express segmental length, but not syllable weight, is, as we will argue, independently required to understand Wolof stress which has geminates that do not attract stress. Finally, as a future prospect we will compare the Harmonic Serialism account with a Strict CV metric approach (Faust and Ulfsbjorninn to appear).

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HOW MUCH DO WE IMITATE IN A NON-NATIVE LANGUAGE? METHODOLOGICAL FOUNDATIONS AND RESEARCH PATHS IN L2 SPEECH IMITATION

Arkadiusz Rojczyk
University of Silesia in Katowice

Phonetic imitation is a process whereby a speaker adjusts spectral and temporal properties of his or her speech towards those of an interlocutor (Babel 2012; Pardo et al. 2012; Trofimovich & Kennedy 2014). Previous research has shown that multiple speech properties are subject to imitation such as Voice Onset Time (Nielsen 2011; Shockley et al. 2004), vowel quality and duration (Babel 2012; Pardo et al. 2010; Rojczyk 2013; Zajac & Rojczyk 2014), allophonic variants (Honorof et al. 2011), as well as speaking rate, intensity, or long-term average spectra Gregory & Webster 1996; Namy et al. 2002). Phonetic imitation is gaining interest in L2 speech research as shown by recent publications in recognised journals (Cao 2023; Chen et al. 2023; Jiang & Kennison 2022; Munro 2022; Rojczyk et al. 2025; Wieczorek & Rojczyk 2024).

In this talk, I will discuss the methodological foundations and research paths in L2 phonetic imitation. Relevant studies from our lab and others will be presented to illustrate how L2 phonetic imitation may inform the general research on L2 speech. Moreover, attention will be given to terminological nuances that L2 researchers must be aware of. Finally, I will attempt to outline potential future research paths in L2 speech imitation.

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SESSION PAPERS

COMPARING METHODOLOGIES IN NON-NATIVE SPEECH PERCEPTION RESEARCH: POLISH CONSONANT PERCEPTION BY UKRAINIAN LISTENERS

Anna Balas¹, Danielle Daidone², Ryan Lidster², Ewelina Wojtkowiak¹ and Iryna Kravchuk¹

¹Adam Mickiewicz University in Poznań

²University of North Carolina Wilmington

The field of non-native speech perception relies on the notion of cross-linguistic similarity to make predictions about language learning. However, there is still no consensus on the appropriate method of measuring perceptual similarity, despite the fact that models of the acquisition of second language (L2) speech all depend on its measurement (e.g. Speech Learning Model revised: Flege & Bohn 2021; Perceptual Assimilation Model for L2: Best & Tyler 2007).

A key difficulty in measuring perceptual similarity stems from limitations of the most frequently used task in the field: the Perceptual Assimilation (PA) task. In a PA task, listeners hear a non-native sound and choose which native (L1) sound it is most similar to and how good of an example of that category the stimulus is. Performance can be biased by the researcher's choice of category labels, a difficulty that is compounded when participants are multilingual and have more potential categories.

Given the problems with PA, an alternative task called Free classification (FC) has recently been tested. FC presents all stimuli at once and participants make groups according to which ones they think sound similar. FC does not use any labels, making it potentially viable for scenarios such as multilingual learners of languages with different features. FC has been shown to predict perception performance well (Daidone et al. 2023; Lidster & Daidone 2024), but has yet to be tested for multilingual populations.

The goal of this study is to test the predictive power of two competing methods: a perceptual assimilation (PA) task that dominates in the field despite certain shortcomings, and a free classification (FC) task that is promising but not yet widely tested.

We are examining the ability of native (L1) Ukrainian speakers to hear differences between Polish consonant contrasts with more than one potential mapping between L1 Ukrainian and Ln Polish

consonants: /t͡ʂ-t͡ʂ, ʃ-ʃ, z-z͡ʂ dz-dz͡ʂ v-w/, comparing two groups: those who have not studied Polish, and intermediate level Polish learners (2x40 participants). Direct comparisons of naïve and L2 listeners are rare for PA and have not yet been done for FC. L1 Ukrainian participants pose challenges for the PA task since, Polish may be their L3 or L4 with varying degrees of use of Russian. If perception can be accurately modeled using FC among both naïve listeners and learners, these findings would show how FC could be generalized, of great interest to the field.

MINIMAL WORD CONSTRAINT IN TURKISH FINAL DEVOICING

Göktuğ Börtlü, Selçuk University

Tobias Scheer, Côte d'Azur University

Eugeniusz Cyran, John Paul II Catholic University of Lublin

Basic pattern. Final devoicing in Turkish is more intricate a pattern than in other final devoicing languages (like German or Russian). Voiced fricatives never undergo this process (*kaz* "goose.Nom" - *kaz-i* "id. Acc"). Word-final voiced stops always devoice in bisyllabic (or bigger) roots: *kitap* "book.Nom" - *kitab-i* "id. Acc". Alongside with their regular devoiced form, some loans also display non-devoiced forms (*etüd-ü* "study.Acc" - *etü[t]* / *etü[d]* "id. Nom"). This appears to be a learned or spelling pronunciation: it does not withstand the generalization for the native vocabulary, where bisyllabic or bigger roots devoice without exception. In monosyllabic CVC roots, voiced stops may (*tat* "taste.Nom" - *tad-i* "id. Acc") or may not devoice (*sad̥* "sheet metal.Nom" - *sad̥-i* "id. Acc"). Whether or not a monosyllable undergoes final devoicing cannot be predicted: it is a lexical property of roots (e.g. Inkelas 1995). Finally, stops may also be lexically voiceless (both in mono- and bisyllabic roots), as in *top* "ball.Nom" - *top-u* "id. Acc" and *sepet* "basket.Nom" - *sepet-i* "id., Acc".

Size constraint. Inkelas & Orgun (1995) have added an observation to the puzzle: final stops in CVC monosyllables behave as described (they may or may not devoice), but in CVCC monosyllables they side with bisyllables: they always devoice (*garp* "west.Nom" - *garb-i* "id. Acc"). Using moras, the relevant descriptive generalization equating CVCVC and CVCC is "voiced stops always devoice iff the root is at least bimoraic" (coda Cs moraic, last C extrametrical). The same may be expressed in Strict CV, but this doesn't matter for our purpose.

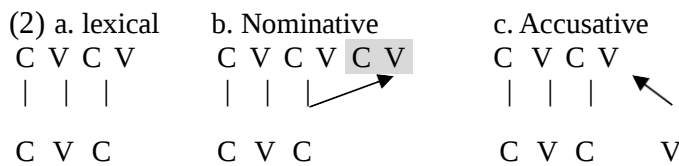
Three-way contrast. Followed by other authors, Inkelas & Orgun (1995) analyze the three- way distinction between voiceless, devoicing and non-devoicing CVC roots in terms of Laryngeal Realism (Iverson & Salmons 1995, Honeybone 2005), as under (1). We subscribe.

(1) laryngeal distinctions in Turkish

- | | | | |
|----|---|------------------|---------------|
| a. | C ^L phonologically voiced | no devoicing | sad̥ - sad̥-i |
| b. | C [°] phonologically unspecified | devoicing | tat - tad-i |
| c. | C ^H phonologically voiceless | voiceless anyway | top - top-u |

Non-devoicing stops are phonologically specified as such and therefore cannot devoice (1a: they bear L (or [voice])). By contrast, devoicing stops are neutral consonants C[°] 1b, which are unspecified (or underspecified) for voicing: they take on voicing from their environment in intervocalic position (passive voicing), otherwise are voiceless. Finally, voiceless stops are phonologically specified as such (1c: they bear H (or spread glottis)) and therefore cannot be passively voiced.

Analysis. Inkelas & Orgun's (1995) analysis is based on two crucial moves regarding the data: the whole class of monosyllabic voiced devoicing words (1b) is dismissed ("the virtual nonexistence of alternating final plosives in (C)VC roots..." p.778), and the learned /spelling pronunciation whereby some loans afford undevoiced pronunciations (the aforementioned *etüd* class) is taken seriously. We argue that both options regarding data selection are unwarranted. A word class represented solely by loans is suspicious, and the fact that the words in question also afford the regular voiceless pronunciation is not mentioned by Inkelas & Orgun. If these two data points are corrected, their analysis of the size restriction is not workable anymore. Rather, we argue that (virtual) geminates are the crucial ingredient of the size restriction. When spelt out by themselves (i.e. without suffixes), roots that are too small (2a) geminate their final consonant in order to meet the minimal word size (we use Strict CV representations where the minimal word size is defined as "encompassing at least two nuclei, final empty nuclei being ignored"). This gemination uses epenthetic syllabic constituents, the grey-shaded empty CV unit under (2b). When a suffix is added, whether V-initial as under (2c) or C-initial, the minimal word size is met and no gemination occurs. Non-devoicing of CVC roots is then a consequence of gemination: geminates do not devoice (reminiscent of geminate integrity).



What geminacy protects against is the phonological alteration of the consonant. In regular L systems with final devoicing, the L is removed in word-final position by a phonological process. This is disallowed when the consonant is a geminate, thus devoicing is blocked (1a). In bisyllabic roots, however, the L may be removed since here the C^L is not a geminate. Neutral C^o (1b) is phonologically unspecified and receives passive voicing from the environment upon phonetic interpretation (as in Acc *tad-i*). In regular H systems with final devoicing, the phonetic interpretation of C^o word-finally is voiceless (Nom *tat*). A geminate C^o as under (1b) is a case in point: unlike under (1a), no prime needs to be removed, and its pronunciation is voiceless due to phonetic interpretation, whether simple or geminate. Finally, nothing happens to C^H (1c) in the phonology: it is pronounced voiceless, whether singleton or geminate.

Final geminates are virtual. Final geminates under (2b) are so-called virtual geminates: they are phonologically geminate, but phonetically singleton. This configuration is found in many languages: English *agma* is a (partial) geminate /ŋɡ/ phonologically, which is pronounced singleton [ŋ] (e.g. Hammond 1997). In Norwegian (e.g. Kristoffersen 2007: 210ff), long vowels that occur in unsuffixed roots (common gender) shorten when the neuter suffix -t is added: *peen* - *pen-t* "pretty.comon gender, id. neuter). When the root-final consonant happens to be -t as in *søt* "soft.common gender", we know that adding the neuter suffix produces an underlying /-tt#/ cluster, which like all other clusters shortens the preceding vowel: *søt* "soft.neuter". However, the /tt/ is pronounced as a singleton [t], rather than as a geminate [tt]. In Turkish, lexical geminates as in *ha[tt]-i* "line.Acc" appear as singletons word-finally: *ha[t]* "id. Nom". Since geminates instantiate coda-onset sequences, there is no reason why they should degeminate phonologically: word-final coda-onset clusters RT, TT and RR are legal: *sert* "hard", *zapt* "conquest", *alarm* "alarm". We conclude that in Turkish, phonological geminates are pronounced singleton in word-final position.

VOT. The three-way laryngeal system of Turkish (1) is also reflected in VOT. In a typical two-way language, one category has a VOT around zero (neutral consonants C°), while the other is either significantly negative (L languages: prevoicing) or significantly positive (H languages: aspiration). But in Turkish, there is no consonant type with a VOT around zero (Kallestinova 2004). Rather, voiceless initial stops ptk have +53 VOT, against voiced initial stops bdg displaying -43 VOT (Öğüt et al. 2006, averaged over the three stops and 30 participants). This suggests the presence of both laryngeal specifications L (or [voice]) and H (or [spread glottis]). A similar spread VOT pattern in Swedish leads Ringen & Helgason (2008) to the same conclusion of a 3-way laryngeal distinction in a 2-way contrast language.

Voice assimilation (VA). Turkish allows for coda-onset clusters word-finally (*örf* "custom.Nom") and before consonant-initial suffixes (*örf-ler* "id. pl."). But CCC clusters are disallowed in monomorphemic strings, and are repaired in loanword adaptation (*elektirik* < *electric*, *asturonot* < *astronaut*, etc.). We conclude that morphologically complex CC-C clusters are not computed in one domain: *örf-lAr* is [[*örf*] lAr] where the root-final cluster is computed in the inner domain and then frozen (just like the cluster [ksθs] in English *sixths* [[[siks]θ]s], which is impossible within a morpheme). This is confirmed by the fact that the voicing of root-final stops is always identical when word-final and when occurring before a C-initial suffix (*sad̥* - *sad̥-i* - *sad̥-lar*, *tat* - *tad-i*, *tat-lar*): in both contexts, the voice value is acquired upon domain-final computation. Now consider that in Turkish, suffix-initial stops may either take on the voicing of the preceding segment (-tA / -dA "locative": *sad̥* - *sad̥-i* - *sad̥-da* "sheet metal. Loc", *tat* - *tad-i* - *tat-ta* "taste.Loc"), or come with their own fixed voicing. In the latter case, stop clusters disagreeing in voicing are produced. Thus -ken "converb marker (CV)" begins with a fixed voiceless k: *aɟ* - *aɟ-i* - *aɟ-ken* "hungry.CV", *sad̥* - *sad̥-i* - *sad̥-ken* "sheet metal.CV", the latter form bearing a [d̥zk] cluster. Conversely, -gil-ler "as a whole" has an initial fixed voiced g: *turunɟ* - *turunɟ-u* - *turunɟ-gil-ler* "citrus", producing the cluster [nɟg] in *turunɟ-gil-ler*. If a C° were involved in clusters that disagree in voicing, it should be passively voiced, i.e. receive voicing from the (phonetic) environment. Since this is not what we see, clusters disagreeing in voicing suggest that no C° is involved: both consonants are specified for voicing ($C^H C^L$ or $C^L C^H$). Stops like in -tA / -dA, though, are C° unspecified for voicing. Thus the behaviour of VA confirms that Turkish contrasts three types of stops: C^L , C^H and C° .

"I WENT TO FRANCE" OR "I WENT TO BRONX"? INSIGHTS INTO L2 LEARNERS' LISTENING PROBLEMS

Agnieszka Bryła-Cruz
Maria Curie-Skłodowska University in Lublin

Recent pedagogic literature on L2 listening has stressed bottom-up approaches which explicitly and directly concentrate on the phonological properties of spoken texts and speech segmentation (Field, 2008; Saito et al., 2023; Vafae, & Suzuki, 2019; Vandergrift, 2004). Expertise in listening skills encompasses confidence in dealing with the speech signal and learners should be instructed how to attain automatic and accurate decoding (as is the case in L1) and not just how to make use of the context to compensate for what they have failed to decode. Also, a good deal of discourse around ESL listening has suggested that a greater emphasis should be placed on the *process* of listening rather than the *product*. The main objective of the present study is to address the issue raised by Field (2008), who states that listening exercises should be diagnostic and instead of trying to obtain correct answers, the teacher should try to identify problems in comprehension and provide remedial instruction.

In the present study 58 L2 (Polish) learners were asked to transcribe an extract of non-scripted speech (321 words) delivered by an English native speaker. Importantly, dictation is reported to be the most widely used integrative testing technique which allows to assess performance at phonological, syntactic and semantic stages of the speech perception process without divorcing it from its naturalistic context, that is without preventing top-down processing (Flowerdew & Miller, 2005). Qualitative examination of transcription errors provided a valuable insight into students' misunderstandings and enabled the identification of the listening processes which proved most challenging (speech segmentation, phoneme recognition and word recognition). The study has important pedagogical implications which can be used by teachers to guide their students in the development of listening skills both in and out of the classroom.

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PHONOLOGICALLY ADAPTED ANGLICISMS FACILITATE OR HINDER ENGLISH PRONUNCIATION LEARNING?: THE CASE OF SPANISH AND ITALIAN ADVANCED ENGLISH AS FOREIGN LANGUAGE SPEAKERS

Anita Buczek-Zawila

University of the National Education Commission in Kraków

Loanword integration into the RL phonological system is a regularly occurring feature and an instance of contact-induced variation. When investigating those matters, Cognitive Contact Linguistics assumes the inclusion of the perspectives of the speaker and hearer, focusing on the interaction between the codes they have in their repertoires and the ways they constantly shift between the language-specific constructions in their different codes (Zenner et al. 2019), transferring elements from one of their languages to an emerging variant (Onysko 2019). In their mental networks these codes are always co-activated and can therefore affect patterns of use. One manifestation of this is the somewhat obscured acquisition and production effect observed in copying (back) the previously assimilated sound pattern of loans in RL onto the original SL phonetic structure. The paper explores instances of a seemingly adverse effect RL phonologically adapted (pseudo)anglicisms have on the acquisition of target EFL sounds in pronunciation training. The specific focus is the English half-close front short vowel [ɪ] in the speech of adult advanced EFL speakers with L1 Italian and Spanish background. 20 loanwords were selected, all functioning in colloquial everyday communication, to be evaluated according to their potential to help or hinder the acquisition of the [ɪ] segment, following the *Frequency in a Favourable Context* parameter (Brown 2015). Preliminary results in the group of 11 Spanish and 9 Italian English Studies undergraduates display the adverse rather than facilitating potential of these anglicisms, despite or possibly because of similarity-base activation in the mental

networks. The hypothesized explanation would be that these phonologically adapted loans work as exemplars to be connected to in the context of L1 to L2 learning, an effect similar to that of cognate words (Brown 2015).

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ABSOLUTE AND RELATIVE SILENCE IN ENGLISH PHONOLOGY

Csaba Csides

Károli Gáspár University of the Reformed Church in Budapest

The proposed presentation concentrates on the difference between relative and absolute silence in phonology. The discussion is couched in the framework of strict CV-phonology¹, a radical offspring of standard Government Phonology (GP). The exact framework is a non-mainstream CV inasmuch as both empty and contentful vocalic position can be targeted by government and government may proceed in both directions as proposed by Csides (2008).

Besides showing that vowel-reduction and static/dynamic silence are but two different sides of the same coin (manifestations of relative and absolute silence in the phonological string), I will also attempt to demonstrate that the proposed network of governing relations can contribute to our understanding of a lot of phonological phenomena, such as the minimal word constraint, absence of pretonic syncope in English, stress assignment and shortening and lengthening phenomena. A distinction will be made between metrical government and proper government: the former targets contentful vocalic positions while the latter targets empty vocalic positions.

Moreover, I propose that governing relations are initiated by stressed vocalic positions, and these vocalic positions serve as heads of what I refer to as CV-feet. The location of stressed vocalic positions is determined by a process of searching for minimal and optimal CV-feet from the right edge of the word.

The theory I advocate can also be used to identify different types of consonant-lenition sites in a principled manner. Governing relations – in the theory proposed – are primarily contracted by vocalic positions and only if all V-to-V governing relations have been exploited can V-to-C governing relations be erected. An important outcome of the theoretical framework proposed in the presentation is that – as Scheer & Szigetvári (2005:37) also point out – phonological representations need not be

¹ Strict CV Phonology was initiated by Lowenstamm (1996) and was further developed by Rowicka (1999), Dienes & Szigetvári (1999), Szigetvári (1999, 2000), Csides (2002, 2008), Ségéral & Scheer (1999), Scheer (1998, 2004) among others. CV phonology, however, is a radical offspring of Standard Government Phonology (GP), initiated originally by Kaye, Lowenstamm & Vergnaud (1985, 1990), Kaye (1990), Charette (1990, 1991), Harris (1990) among others.

divided into two separate worlds (segmental and suprasegmental) since both types of processes can be captured in a unitary way.

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THE UKRAINIAN LARYNGEAL SYSTEM AS A CHALLENGE TO PHONOLOGICAL THEORY

Eugeniusz Cyran
John Paul II Catholic University of Lublin

The Ukrainian laryngeal system is unique in many respects. It poses both general typological and specific theoretical questions. The standard variety of Ukrainian contrasts fully voiced obstruents with voiceless unaspirated ones (D/T) like other Slavic languages, e.g. *dym* ‘smoke’ vs. *tym* ‘that one,

instr.'. However, unlike most Slavic languages, it does not exhibit word-final obstruent devoicing, maintaining the laryngeal distinction in this position like Serbo-Croatian (D/T#), e.g. *plid* [plid] 'fruit' vs. *plit* [plit] 'fence', *hryb* [hryb] 'mushroom' vs. *hryp* [hryp] 'flu, gen.pl.'. Additionally, unlike all the other Slavic languages, Ukrainian has unique asymmetrical regressive voicing assimilation in which a voiceless obstruent assimilates to the following voiced one (TD → DD), e.g. *borot'ba* [borod'ba] 'fight', *brat gazdyni* [d-g] 'housewife's brother', but not the voiced obstruent to the following voiceless one (*DT → TT), e.g. *ridko* [ridko] 'rarely', *vid tyx* [d-t] 'from those'.

Final obstruent devoicing (FOD) seems to be related to the presence or absence of regressive voicing assimilation (RVA). In Polish, which has FOD, e.g. *grzyb* [gʐip] 'mushroom', symmetrical RVA occurs both word-internally, e.g. *kózka* [kuskɑ] 'goat, dim.', *prośba* [prozba] 'request', and across a word boundary, e.g. *brat Gosi* [d-g] 'Gosia's brother', *sad Kasi* [t-k] 'Kasia's orchard'. On the other hand, Serbo-Croatian, which has no FOD, exhibits regular assimilation internally, e.g. *slădak* [sladak] 'sweet' / *slătka* [slatka] 'sweet, fem.', which is also reflected in the spelling, but not across word boundaries, e.g. *pet dinara* [t-d] 'five dinars', *sred škole* [d-ʃ] 'middle of school'. Thus, Ukrainian, appears to pattern with languages like Polish in having RVA medially and across the word boundary, but it restricts its assimilation of voiceless obstruents to voiced ones. The relation between FOD and RVA in this language is therefore partial. On the other hand, Ukrainian patterns with Serbo-Croatian with respect to FOD, but only partially with respect to RVA.

The paper explores the theoretical consequences on phonological computation that follow from particular representational decisions – binary vs. privative – as regards laryngeal distinctions. The focus on representation determines the types of frameworks taken into consideration which do not include the currently most popular Optimality Theory. It is argued that the closest to achieving some degree of explanatory adequacy are two quite disparate representational proposals which, however, share the view that phonetic grounding in the phonological representation must be relaxed and partly replaced with phonetic interpretation playing the role of the interface. One of these proposals is based on a binary feature [$\pm$ tense], while the other employs the privative feature [voice]. It is also demonstrated how phonetic interpretation, if left unrestricted, may lead to a situation where neither the type of phonological representation of the laryngeal contrasts, nor the phonological computation are of any consequence in laryngeal phonology, putting into question the existence of phonology.

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BEYOND PERCEPTION: DURATIONAL DIFFERENCES IN THE COMPONENTS OF MINIMAL PAIRS

Reinhold Greisbach, University of Cologne
Anne Hermes, CNRS & Sorbonne Nouvelle

There are acoustic phenomena in speech that only become apparent as significant differences after a statistical analysis of a large corpus of data (many tokens, many speakers) or in special laboratory settings, but which have no practical communicative relevance. A well-known example is “incomplete neutralisation” in German, which can be observed on the acoustic and even on the perceptual level depending on the experimental design, and which states that there is a measurable difference between voiced and unvoiced word-final obstruents (Roettger et al., 2014). However, these statistically significant differences are too weak to be useful as coding aid for syllable-final obstruents in German orthography.

In this study, we present another phenomenon of a similar kind, which shows up in minimal pairs in German. In a previous study (Greisbach et al., 2024), it was shown that there are statistically significant differences in duration in two-syllabic minimal pairs of German contrasting vowel length /C₁V(:)C₂ə/, specifically [C_{1L}V:C_{2L}ə_L] vs. [C_{1S}V:C_{2S}ə_S] (L=long, S=short): Not only the long vowel in sequence 1 is longer than the short vowel in sequence 2, i.e., dur(V:) > dur(V), but also dur(C_{1L}) > dur(C_{1S}), while vice versa dur(C_{2L}) < dur(C_{2S}) and dur(ə_L) < dur(ə_S). This was encountered in slow as well as in fast speech production.

Here, we present new data showing that the same phenomenon surfaces also in German minimal pairs with complex syllable onsets as in /C₀C₁V(:)C₂ə/. Twenty-two German speakers (14 females) produced five different minimal pairs (e.g., “Träne” – ‘tear’ vs. “trenne” – ‘devide’) in slow and fast speech in a carrier phrase (“Mehr ___ bitte!” – ‘More ___ please!’). The ‘slow’ speaking rate corresponded to the normal speaking rate of the test subjects, while for the ‘fast’ speaking rate they were asked to speak as quickly as possible.

The results replicate the ones of the previous study for /C₁/, /C₂/ and /ə/ in both speech rates but not for /C₀/, where no statistical differences could be found.

Detailed results on absolute and relative segmental durations will be presented at APAP and an interpretation in correspondence to a comparable phenomenon of this kind which was found in Italian caused by the contrast of geminate vs. singleton consonants (Turco & Braun, 2016) will be given.

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THE JAPANESE-HAWAIIAN-MĀORI TRIANGLE – LOANWORD ADAPTATION AND (UN)RELATED MATTERS IN SELECTED PACIFIC TONGUES

Krzysztof Jaskuła

John Paul II Catholic University of Lublin

Word-adaptation from source languages (L1) to target languages (L2) has been widely discussed over the past years from a variety of perspectives. In this presentation, we will consider how words from English and other languages of Europe have been adapted into the three selected sound systems of the Pacific tongues. These include one north-Pacific (Japanese – isolated and closer to Asian), one mid-Pacific and Austronesian (Hawaiian – Eastern), and one truly south-Pacific and Austronesian (Māori – also Eastern, but geographically, very Southern), in terms of phonology and phonetics. This trio has been chosen for a few reasons. Among other things, the consonant systems of both Māori and Hawaiian are very poor, while that of Japanese is far from such poverty. Nonetheless, all of these have only one liquid in their inventories, i.e. either /l/ or /r/. Other matters will be presented anon.

Since the source languages and target languages mostly differ in the numbers of consonants and their groups, changes from L1 to L2 must naturally refer to reductions of consonant combinations in all word positions, which will be shown in tables and diagrams.

A few examples of English borrowings with consonant clusters in word-initial position are as follows:

<i>English</i>	<i>Japanese</i>	<i>Hawaiian</i>	<i>Māori</i>
[brʌʃ]	[buɾaɕi]	[palaki]	[paraɛhe]
[glæs]	[guɾasɯ]		[karaɪhe]
[klɒk]	[kuɾok:ɯ]		[karaka]
[sku:l]		[kula]	[kura]

As can be seen above, the words that come from English and other European languages adapted to the Pacific tongues are hard to come by in a uniform manner, since the recipient languages happen to be selective.

It will also be demonstrated that the potential linguistic victims might have a role in enriching the languages of the victorious. In other words, we will see how the conquered languages have managed to fight back in terms of lexical influence, at least a little.

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ACOUSTIC CORRELATES OF FOCUS MARKING IN POLISH: THE ROLE OF PITCH, INTENSITY, AND DURATION

Mariola Kaszycka

John Paul II Catholic University of Lublin

Despite extensive research on prosodic focus marking in languages such as English, German, and other European languages, Polish remains relatively understudied in this regard. Polish exhibits prosodic focus marking in a variety of contexts, including corrective, contrastive, and parallel structures, similar to Germanic languages. However, the specific acoustic cues that signal focus in Polish have received less attention. In Polish, both focus and givenness are marked prosodically, with pitch and intensity being the most significant cues for focus-triggered emphasis. Both focused and given words are influenced by these factors, though their effects can be context-dependent (Malisz & Żygis, 2016; Malisz & Żygis, 2017). Duration, while exhibiting some variability, is generally considered less pivotal in signalling focus compared to f0 and intensity (Dogil, 1980; Dogil & Williams, 1999; Hamlaoui et al., 2015). This study addresses these gaps by analysing recordings from fifty native Polish speakers to examine the extent to which f0, intensity, and duration contribute to focus marking. The research explores different types of focus, including broad, narrow, and corrective focus. Particular emphasis is placed on the contrast between accented and non-accented words and syllables. The results indicate that pitch and intensity serve as primary markers of focus, with focused constituents exhibiting significantly higher values. While duration plays a lesser role overall, it is notably longer in corrective focus. Statistical analyses using linear mixed-effects models confirm that subject and object focus differ in pitch and intensity patterns, with corrective focus showing distinct prosodic characteristics. By investigating the acoustic cues involved in focus marking, this study enhances the understanding of prosodic focus marking in Polish and contributes to broader theoretical discussions on prosody. The findings provide new insights into the prosodic patterns characteristic of Polish, offering a cross-linguistic perspective on focus marking and advancing knowledge within the broader field of prosody research.

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CORONAL PALATALIZATION GETS [ʃɹ]ONGER: THE CASE OF s-RETRACTION AND CORONAL AFFRICATION IN CONTEMPORARY ENGLISH

Artur Kijak

University of Silesia in Katowice

This study examines specific cases of coronal palatalization [t d s z] > [tʃ dʒ ʃ ʒ] observed predominantly in younger speakers across various contemporary English varieties. The discussion focuses on three processes known in the literature as affrication (e.g., *train* [tʃɪɛm], *dream* [dʒɪ:m]), s-retraction (e.g., *street* [ʃtʃi:t], *student* [ʃtʃu:dənt]), and palatalization (e.g., *this year* [ðɪʃ jɪə]). Building on historical developments from Middle English (ME) and Early Modern English (EModE), this study proposes that the evolution of the ME diphthong [iu] > [ju:] (e.g., *issue* [ɪʃju:] > [ɪʃu:]) plays a crucial role in the palatalization patterns found in Present-Day English (PDE) (Kijak 2023). The analysis adopts the Minimality Hypothesis perspective (Kaye 1995, Pöchtrager 2014); this step allows us to exclude some cases of yod palatalization (mostly in unstressed positions) as lexicalized historical relics, e.g., *virtue* ['vɜ:tʃu:] and *soldier* ['səʊldʒə]. Since, however, yod palatalization in stressed positions and across word-boundaries, e.g., [tʃ]uesday and di[dʒ] you, is an ongoing tendency, it must be recognized as an active phonological process. Moreover, the cases of full palatalization before the rhotic - an innovation widely observed in youth speech across English varieties (Gylfadottir 2015) - seem to be a follow-up step, e.g., *train* [tʃɪɛm], *dream* [dʒɪ:m], *street* [ʃtʃi:t], etc. The latter conclusion may be confirmed by the fact that s-retraction is also found before the yod-triggered affricates, e.g., *student* [ʃtʃu:dənt] (Nicholas & Bailey 2018). Additionally, the absence of s-retraction in /spr/ and /skr/ clusters, while its regularity before /tr/ and /dr/ branching onsets (e.g., a[ʃtʃɪ]onaut and [ðɪ:ʒ dʒɪ]eams), suggests that the process is not merely a case of a gradient phonetic interpretation – a funny way of producing /s/ in s+Cr sequences - but an active phonological mechanism. Contrary to claims that the shift has already been accomplished in younger speakers (e.g., Smith *et al.* 2019 and Bailey *et al.* 2022), i.e., that /s/ = [A H] has already been phonologically restructured into /ʃ/ = [I H], this study argues that s-retraction remains synchronically active. Evidence from morpheme-internal and external sandhi environments (e.g., con[ʃtʃɪ]uction, [ðɪʃ tʃɪ]ick, and [ðɪ:ʒ dʒɪ]eams) further supports this view. It is proposed that in English both the glide /j/ and the rhotic /ɹ/ are specified for the palatal element [I] (see also Scheer 1999, 2004, van der Torre 2003) that provides a phonological basis for their role as palatalization triggers. It is further argued that the coronal affrication before /j/ and /ɹ/ is a prerequisite for s-retraction (cf. Shapiro 1995) and that the affrication and s-retraction are the result of the strong tendency for the element [I] (light elements) to appear at the left boundary of a prosodic domain (Bakley 2017).

This study also addresses the exclusion of labials and velars from full palatalization targets and the inability of front vowels to trigger coronal palatalization in PDE. These findings contribute to a broader understanding of synchronic phonological processes, phonetic variation, and ongoing sound change in contemporary English.

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OT-CC SHOWS TENACITY IN TACKLING OPACITY: EVIDENCE FROM PODHALE GORALIAN

Tomasz Łuszczek
University of Warsaw

This paper investigates a three-way opaque process interaction found in Podhale Goralian (Rubach&Łuszczek 2019; Łuszczek 2022) from the perspective of Optimality Theory (OT). It is shown that the data can be handled by OT if the theory admits candidate chains and PREC constraints (OT-CC; McCarthy 2007).

Podhale Goralian exhibits an alternation between ɔ ~ o, as in [bɔg-a] (gen.sg.) ~ [bok] ‘God’ but not in [bɔk-u] (gen.sg.) ~ [bɔk] ‘side’. These data show that /ɔ/ → [o] before word-final voiced obstruents (and non-nasal sonorants) and that obstruents are devoiced word-finally. Schematically:

- (1) a. Final Tensing(FT): ɔ → o / __ C_([+voice])# b. Final Devoicing(FD): [+obstr] → [-voice] / __ #

Words such as /bɔg/ → [bok] ‘God’ show that FT (1a) is counterbled by FD (1b) and hence FT *overapplies*: we have a tense [o] before a word-final [-voice] obstruent.

Podhale Goralian also has Voice Assimilation (VA), as in [bɔg##daxu] ‘side of roof’ (from /bɔk##dax-u/), which exhibits k → g / __ d across word boundaries. The point of interest here is that the surface sequence [-ɔg#] meets the structural description of FT, but the process does not apply. This shows that FT is counterfered by VA and hence FT *underapplies*.

Modelling this three-way interaction in standard OT is impossible because, for one reason, counterbleeding entails constraint violations that seem unmotivated by surface facts (cf. McCarthy 1999; Baković 2007). However, I will show that the data can be handled by OT-CC, a version of OT which works with multiple-form candidates and special constraints on the order of forms in such

candidates (i.e. PREC constraints). The success of OT-CC is rather remarkable: it derives both types of FT's opacity from a single PREC constraint. This result shows that OT-CC is a tool that cannot be ignored in constraint-based research into phonological opacity.

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THE NOVELTY EFFECT IN PHONETIC DRIFT: POLISH IMMIGRANTS' PRODUCTION OF ENGLISH AND POLISH VOICELESS STOPS

Aleksandra Matysiak
Jan Kochanowski University of Kielce

The study explores phonetic drift in Polish adult immigrants to the UK (beginner L2 learners), specifically the influence of English on the pronunciation of initial voiceless stops (/p/, /t/, /k/) in their native language. The main aim of the research is to investigate whether prolonged exposure to English induces phonetic drift, causing Polish speakers to unintentionally aspirate voiceless stops in their L1 speech.

Twenty Polish immigrants who arrived in the UK with basic L2 level took part in the study. Participants were recorded pronouncing English and Polish words with initial /p/, /t/, and /k/. Their VOT values were then measured acoustically using Praat software and statistically compared between both languages for the presence of aspiration.

The findings are interpreted within the framework of Chang's 'novelty effect' (2012 & 2013), which suggests that the initial exposure to a second language can induce temporary or lasting changes in the pronunciation of the native language. Chang's findings challenge the assumption that L2 influence on L1 is weakest at early stages of L2 learning, as more experienced learners exhibited less phonetic drift in their L1 stops than less experienced ones.

The results of the current study contribute to the understanding of cross-linguistic influence and language attrition, offering insights into how phonetic properties of a second language can possibly shape first-language pronunciation over time.

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THE ACOUSTICS OF THE UVULAR STOP IN THE DURZI COMMUNITY IN JORDAN

Osama Omari
Yarmouk University in Irbid

Most previous studies on the articulatory properties of the uvular stop /q/ in Arabic have drawn conclusions based on data from dialects that do not retain this sound in daily speech (cf. Zawaydeh, 1999). This study investigates the acoustic features of the uvular stop /q/ in Durzi Jordanian Arabic, a variety that has uniquely preserved the use of /q/ in everyday speech among the Durzi minority in Azraq, eastern Jordan. To examine its acoustic characteristics, eight native speakers of the dialect were recorded reading monomorphemic minimal pairs embedded in a carrier phrase. The minimal pairs contrasted the uvular stop /q/ with the velar /k/ and the emphatic stop /tʕ/ with its plain counterpart /t/ in word-initial position. The acoustic features measured were voice onset time (VOT), vowel duration, and vowel formants (F1, F2, and F3) at two points: vowel onset and vowel midpoint.

The findings reveal that the effect of the uvular stop on the adjacent vowel is limited to the vowel onset and does not extend to the vowel midpoint. A similar pattern was observed for the emphatic stop /tʕ/, whose backing effect was also restricted to the vowel onset. These results suggest that the backing influence exerted by these consonants in this variety is coarticulatory in nature and does not have phonological ramifications.

Keywords: acoustics, coarticulation, Arabic dialects, uvular stop

THE PERCEPTION OF POLISH GEMINATES: A STUDY ON GEMINATE ARTICULATION AND SOCIAL MEANING

Weronika Polakowska
University of Amsterdam

Geminates are most commonly phonetically realised as lengthened consonants, but they can also be rearticulated, meaning that each of the consonants is produced separately. Polish appears to be a unique case that shows more consistent rearticulation [1]. The frequency of rearticulation is speaker-dependent and factors such as speech rate or lexical stratum were previously named as the motivation behind the phonetic realisation of the geminates [1]. The orthography of Polish is also of importance, as it serves as a foundation for the spoken standard language [2] and geminates are spelled with two graphemes [3]. The purpose of this paper is improving the description of Polish geminates by adding perception and speaker evaluation.

Despite the decrease in prescriptive attitudes, Standard Polish is still viewed as the language of highly-educated, intelligent individuals, as well as radio and news presenters [4]. As a result, pronunciation that bears closer resemblance to the spelling could potentially appear more ‘correct’. Such social implications are attached to language variation by listeners who, upon recognising the contrast, assign them separate social meanings [5]. While there is evidence from other languages such as California English [6], there has been no research to date on the perception of the geminate contrast in Polish, as well as its social implications. This study attempts to fill that gap using a speaker-evaluation task, which is able to extract subconscious perceptions of the target linguistic element [7].

Twenty participants took part in an online survey, where they were asked to listen to the stimuli with one of the articulation methods and rate the recordings using affective scales that indicated intellect, formality, and socioeconomic background. The findings suggest that Polish speakers are able to discriminate between the two types of geminate production. Furthermore, the ratings indicate that

rearticulated geminates appear to carry social meanings representative of Standard Polish, including higher intellect and education level. In conclusion, this study suggests that rearticulation in Polish is motivated by adhering to the standard language.

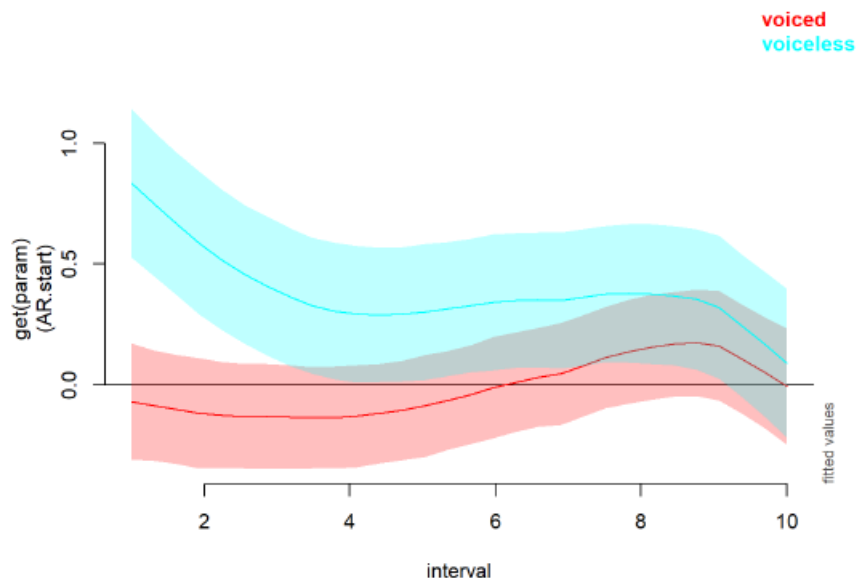
WHY PHONETICIANS SHOULD BE PROPONENTS OF SUBSTANCE-FREE PHONOLOGY

Geoff Schwartz

Adam Mickiewicz University in Poznań

Substance-free phonology (e.g. Blaho 2008; Iosad 2013) claims that phonological categories are purely abstract entities that are not determined by phonetics. At first glance, it would seem that such a perspective might not be of much use for those who do phonetics research. Here I argue that this is not the case, revisiting the phonetic complexities of two-series laryngeal systems, as exemplified by English and Polish. The label Laryngeal Realism (LR) refers to theories (e.g. Beckman et al. 2013, Raimy 2021) that use phonological features to directly encode the typology of Voice Onset Time (VOT). A crucial claim of LR is that short-lag VOT reflects a lack of phonological marking for laryngeal features, regardless of whether short-lag stops are lenis (as in English), or fortis (as in Polish). In this way, voicing and aspiration systems are thought to be phonologically distinct.

Phonetics research, however, has suggested that LR is realistic only for VOT, but not for other laryngeal cues, of which there are many. One notable case is the effect of consonant voicing on the pitch of the voice (f_0) on neighboring vowels. Two patterns, reflecting findings from a number of languages (Hanson 2009, Kirby & Ladd 2016, Schwartz et al. 2019, Gao & Arai 2019, Pfiffner 2021), provide a direct challenge to LR. First, available data from English and a number of voicing languages reveal parallel effects of f_0 as a function of laryngeal type, suggesting phonological equivalence between voicing and aspiration systems. Second, only voiceless consonants appear to have an active f_0 effect suggestive of a phonological feature. An illustration from 30 speakers of Polish is shown below (Author et al. in preparation). The contours represent pitch over the time course of vowels following voiceless and voiced stops. Note that voiceless consonants raise f_0 , while voiced stops show no effect. These data suggest that Polish is just like English, with unmarked lenis stops. Meanwhile, data from L1 perception (Schwartz & Arndt 2018) and L1-L2 phonetic interaction (Wojtkowiak 2022) provide further support for the idea that negative VOT in Polish does not reflect a phonological feature.



A substance-free approach is helpful for interpreting such findings, since it allows us to look beyond familiar VOT patterns and examine the acoustic signal in a more holistic manner. With a phonetically deterministic outlook, we risk focusing too much attention on a single phonetic parameter.

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THE VANISHING AUXILIARY: THE REDUCTION OF *DOES* TO *’S* IN SPONTANEOUS BRITISH ENGLISH SPEECH

Piotr Steinbrich

John Paul II Catholic University of Lublin

The paper investigates the contracted form *’s* as a reduced variant of the auxiliary verb *does* in casual British English speech. While function word reduction is a well-documented phenomenon in connected speech, the reduction of *does* to *’s* remains underexplored in both phonetic and pedagogical research. The study adopts a dual approach, examining both the syntactic environments that permit or block this contraction and the phonetic conditions under which it is more likely to occur. Drawing on corpus-based analysis of naturally occurring speech, the paper delineates grammatical contexts in which *does* is syntactically eligible for contraction. It also identifies phonetic environments that facilitate or inhibit the reduction to *’s*. Framed within the view that spoken language operates under different grammatical principles than written language, the paper argues for a grammar–phonetics interface whereby grammatical variation is motivated phonetically. The findings have direct

implications for the teaching of advanced EFL learners, offering practical guidelines for incorporating 's as a form of *does* into pronunciation instruction. The proposed teaching framework aims to help learners better align their expectations of spoken English with actual usage, ultimately helping improve reception and production of casual speech.

EFFICACY OF VOWEL NORMALIZATION METHODS FOR FACTORS OTHER THAN INTER-SPEAKER VARIABILITY

Lukasz Stolarski

Jan Kochanowski University of Kielce

Vowel normalization methods aim to reduce acoustic or perceptual variability resulting from inter-speaker differences. The term is often used interchangeably with “speaker normalization”, and benchmark comparisons of these methods typically focus solely on speaker variability.

The aim of this study is to evaluate the efficacy of selected vowel normalization techniques when accounting for broader factors, collectively named “environment”, which include differences in hardware, software, and acoustic conditions. These factors pose challenges when analyzing recordings from multiple sources in a single study, significantly limiting the use of numerous online audio corpora created for phonetic research.

The materials used in the study involve samples of Polish vowel productions recorded under four different conditions: (1) the same speaker in the same environment, (2) the same speaker in different environments, (3) different speakers in the same environment, and (4) different speakers in different environments. Fundamental frequency and the first three formants were measured with Python scripts that utilized the Parselmouth library. The measurements obtained were then normalized using two intrinsic methods (the Bark Difference Method, the Miller Method) and three extrinsic methods (the Lobanov Method, the Nearey Method, the Watt & Fabricius Method).

The results indicate that inter-speaker differences tend to cause greater data dispersion than inter-environment differences. However, in relative terms, the normalization methods tend to perform better for different speakers in the same environment than for the same speaker in different environments. This is consistent with the primary goal of these techniques, which is to reduce inter-speaker differences. Nonetheless, vowel normalization methods have been found to be fairly successful in reducing within-category data spread caused by inter-environmental differences and should be considered effective tools when dealing with vowel recordings from diverse sources.

PRONOUNCEABLE AND UNPRONOUNCEABLE WORD-FINAL 2-CONSONANT CLUSTERS IN POLISH. THEORETICAL IMPLICATIONS

Jolanta Szpyra-Kozłowska

Maria Curie-Skłodowska University in Lublin

Polish is well-known for the presence of 2, 3, 4 and 5-element consonant clusters, representing different sonority profiles, in all word positions: initially, medially and finally, e.g.

- initially, e.g. /**dr**gn/ąć ‘budge,’ /**rt**/ęć ‘mercury’
- finally, e.g. nastę/**mpstf**/ ‘consequence, gen. pl.,’ wia/**tr**/ ‘wind’
- medially, e.g. be/**zvzgl**/ędny ‘ruthless,’ pio/**snk**/a ‘song, dim.’

Such blatant violations of the Sonority Sequencing Generalization (SSG), according to which sonority increases towards the syllable nucleus and diminishes away from it, undermine the validity of this principle for Polish. While in surface-oriented structural analyses of Polish the SSG is not recognized, in many generative studies it is assumed to operate in deep phonology where syllable onsets and codas follow it, but not on the surface as word onsets and codas often depart from the sonority-driven syllable structure.

The present paper is a continuation of a previous study devoted to the pronounceability of word initial two-consonant clusters. It is a preliminary report on an experiment which examines the ease/difficulty of pronunciation of 60 nonwords with final two-consonant clusters, representing different sonority profiles for 25 Polish students. It aims at finding answers to the following research questions:

- What is the degree of pronounceability of consonant clusters in 60 experimental items?
- Is the ease/difficulty of cluster pronunciation related to their (non)occurrence in word final position?
- Is the ease/difficulty of cluster pronunciation connected with their sonority profile?

The obtained results show that the examined clusters fall into three categories: those which are easy to pronounce, those which are unpronounceable and those with speaker-dependent variability in pronunciation. It is demonstrated that the (non)occurrence of the clusters in the existing words is a poor predictor of their pronounceability. The experimental data receive a more adequate interpretation in terms of the clusters' sonority profiles, coupled with some language-specific constraints. This means that in spite of numerous violations, the SSG is active in Polish shallow phonology.

CAPTURING DIALECTAL VARIATION THROUGH THE FORMAL APPROACH: ARGUMENTS FOR A "DIASYSTEMIC" ANALYSIS OF THE ARABIC LINGUISTIC CONTINUUM

Charles Vancaeyzeele
University of Orléans

The label "Dialectal Arabic" (DA) encompasses a complex linguistic reality, as a continuum of variations stretching from the Maghreb to the Middle East (Ryding 2005, 2014). However, formal analyses of DA dissect this continuum focusing only on a fraction corresponding to a smaller linguistic reality: Moroccan Arabic (Lowenstamm 1993, 2011; Arbaoui 2002; Lampitelli 2005; Lahrouchi 2018), Tunisian Arabic (Chekili 1982; Gibson 2013), Egyptian Arabic (Fathi 2023), etc. These varieties are thus treated as isolated systems, thereby obscuring their membership in a diasystem (Britto 1986), whose existence is, however, empirically well-founded.

This study aims to reconcile the formal analysis of DA varieties with their projection onto a continuum, supporting the idea that they are different instantiations of a single Arabic diasystem.

The phenomenon under consideration here is apophony, i.e., a vowel mutation process encoding morphological contrast (Ségéral 1995). Specifically, apophony serves as an exponent of verbal derivation for the imperfective aspect (IPF) from the perfective aspect (PF). Three DA varieties, spread across different points of the continuum, are examined: Moroccan Arabic (MA, western), Tunisian Arabic (TA, central), and Egyptian Arabic (EA, eastern). Apophony manifests in these varieties in different ways, producing the vowel alternation classes listed below. The MA data are drawn from Arbaoui (2002), the EA data from Fathi (2023), and the TA data from Vancaeyzeele (2025).

	ALTERNATIONS	PF	IPF	ROOT
MA	N/A	/ktØb/	/ktØb/	√ktb “write”
TA	N/A	/ktØb/	/ktØb/	√ktb “write”
	/a/ → /u/	/mʃatʰ/	/mʃutʰ/	√mʃtʰ “comb”
EA	/u/ → /u/	/ðʰur/	/ðʰur/	√ðʰr “appear”
	/i/ → /a/	/silim/	/slam/	√slm “be safe”
	/a/ → /u/	/tʰalab/	/tʰlub/	√tʰlb “ask”
	Ø → /i/	/ʁasØl/	/ʁsil/	√ʁsl “wash”

These data raise the following question: how can this variation be transposed into a formal architecture so that a single system can account for it?

Guerssel & Lowenstamm (1990, 1996) attribute vowel alternations in Classical Arabic to the "Apophonic Path" (AP): Ø→i→a→u→u. EA exploits the first three stages (Ø→i→a→u→...), TA the last two (...→...→a→u→u), and MA none of them. However, the AP is assumed to be an unalterable property of the Arabic phonological diasystem: the potential absence of certain stages is due to the lexical inventory at a given point within it. In MA, verbs do not contain any lexical vowels that could serve as an input for the AP, unlike in EA.

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HIGH FEATURE IN PALATALISATION: A CASE STUDY OF UKRAINIAN VOWEL REDUCTION

Naoya Watabe
University of Osaka

In Slavic languages including Ukrainian, front vowels trigger palatalisation on preceding consonants, which has been generalised as spreading of a *front* feature [3, 6]. In addition, fronting of unstressed /a/ following palatalised consonants has been formalised by a constraint demanding front vowels in this context [4]. However, palatalisation has also been categorised as *high*; typological research has documented that high vowels are more likely to cause this process than non-high vowels [2, 5].

This study discusses representation for palatalisation by focusing on Ukrainian vowel reduction. In this language, various reduction patterns have been noted for several dialects [1]. For instance, as summarised in (1), when unstressed /a/ follows a palatal(ised) consonant, it changes to [i] in some South-Western dialects and to [e] in other South-Western and Northern dialects.

Standard Ukrainian:	pámjati	mísiatsi	
South-Western Ukrainian:	pámiti, pámeti	mísiitsi, mísetsi	
Northern Ukrainian:	pámeti	mísetsi	
	‘memory’	‘month’	(cf. [1: 56–57])

Furthermore, the author’s survey indicated that these raising patterns are also observed in actual speech of the standard variant [7].

This presentation argues that the vowel change in the reduction is formalised as spreading of *front* and *high* features from palatal(ised) consonants to the following unstressed vowels. While fronting is triggered by the *front* feature, the variation in height is attributed to the ranking of the faithfulness constraint on a *low* feature: if this feature is preserved, *high* and *low* features emerge at the surface, phonetically realised as [e]; if not, only a *high* feature emerges and [i] appears. In summary, the current discussion suggests that palatalisation should be represented by both *front* and *high* features.

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HOW DO L1 POLISH SPEAKERS PERCEIVE NON-MODAL PHONATION

Ewelina Wojtkowiak, Geoff Schwartz, Kamil Kaźmierski, Maral Asiaee and Rafia Canyurt
Adam Mickiewicz University in Poznań

Much of the research on L2 speech acquisition has centered on segmental aspects of language. However, relatively little attention has been given to how vocal quality itself may differ across languages and whether L2 learners adjust to the target language's conventions for non-modal phonation, such as creaky voice. This topic has gained significance in light of the increasing prevalence of creaky voice among native English speakers in recent years (Yuasa 2010; Wolk et al. 2012).

Polish and English differ notably in their typical phonation patterns. Polish primarily relies on modal phonation, whereas English allows for a slightly wider range of phonation types, with creaky voice becoming increasingly common. Given this contrast, Polish speakers acquiring English may experience a shift in their use of non-modal phonation. A recent production study of Polish-English bilinguals found that, despite creaky voice carrying social stigma in English (Anderson et al. 2014), these speakers incorporate it into both their L1 and L2 productions (Wojtkowiak et al. 2024). Interestingly, its usage in English becomes more consistent as their phonetic training in the L2 progresses, despite it not placing much focus on practising different types of phonation.

The present study builds on these acoustic findings by investigating Polish-English bilinguals' perceptions of creaky voice in English and their attitudes toward creaky phonation. In a survey study implemented in Qualtrics, we asked 56 Polish-English bilinguals to rate English speech stimuli (which differed with respect to accent – British vs. American, as well as creak type – continuous, phrase-final, or absent) on several Likert scales.

Statistical analysis was conducted using ordinal regression in R. The key predictor of interest was *stimulus type* (i.e. creak type), with *stimuli accent*, *stimuli sex*, and *respondent accent* included as control variables. P-values were then adjusted using the Benjamini-Hochberg correction for multiple comparisons. Significant differences were found in four of the six scales: lack of creakiness appeared to make people sound more energetic ($p=.002$), more approachable ($p<.001$), more compassionate ($p=.003$), and more cheerful ($p=.01$). Therefore overall, speakers were rated more positively when the stimuli did not contain creaky voice.

The next step involves conducting an acoustic analysis of the stimuli using VoiceSauce to examine potential factors influencing listener ratings. In some cases, individual speakers were rated more negatively for non-creaky productions compared to those containing creak. This analysis aims to identify specific acoustic properties that may have contributed to these patterns.

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AFFRICATE PALATALIZATION IN POLISH: AN AUTOSEGMENTAL ACCOUNT OF A STEM-SPECIFIC CHANGE

Sławomir Zdziebko

John Paul II Catholic University of Lublin

In Polish, many stems which terminate in dental affricates [tʃ] and [dʒ] surface with the retroflex affricate [ʈʂ] and the spirant [ʒ] in a set of morphophonological environments (see 1).

(1)

- a. *tanie*[tʃ] ‘dance’ - *tań*[tʃ]-y-ć ‘dance, inf.’ - *tań*[tʃ] ‘dance, imp.’ - *tań*[tʃ]-qc ‘dancing’
- b. *chłopie*[tʃ] ‘boy’ - *chłop*[tʃ]-e ‘voc, sg.’ - *chłop*[tʃ]-yk ‘dim.’
- c. *pienią*[dʒ] ‘penny’ - *pienią*[z]-(e)k ‘dim.’ - *pienię*[z]-n-y ‘monetary’
- d. *kotw-i*[tʃ]-a ‘anchor’ - *kotw-i*[tʃ]-(e)k-a ‘dim.’ - *kotw-i*[tʃ]-y-ć ‘anchor, inf.’
- e. *zdraj*[tʃ]-a ‘traitor’ - *zdraj*[tʃ]-yn-i ‘traitor, fem.’
- f. *Katowi*[tʃ]-e ‘place name’ - *Katowi*[tʃ]-an-in ‘a person from K.’

Following Rubach (1984), I will refer to this alternation as Affricate Palatalization. AP shows a considerable number of exceptions, some of which are illustrated in (2).

(2)

- a. *kie*[tʃ]-a ‘skirt’ - *kie*[tʃ]-(e)k-a ‘dim.’
- b. *wie*[tʃ] ‘gathering’ - *wie*[tʃ]-yk ‘dim.’
- c. *no*[tʃ] ‘night’ - *no*[tʃ]-(e)k-a ‘dim.’ - *no*[tʃ]-n-y ‘nocturnal’
- d. *ry*[dʒ] ‘kind of mushroom’ - *ry*[dʒ]-yk ‘dim.’

Works such as Steele (1973), Laskowski (1975) and Gussmann (1978, 2007) postulate that stems in (1) end in abstract velar plosives, which surface as dental affricates in the contexts in which they do not undergo the 1st Velar Palatalization. All these analyses need to incorporate a mechanism which derives [tʃ] and [dʒ] in the paradigms of the stems in (1) but does not affect other stems which terminate in velars.

An alternative proposed by Rubach (1984), assumes the existence of the rule of Affricate Palatalization, which takes dental affricates as the input. Rubach's claim is that the affixes concatenated with the stems in (1) are lexically represented with front vowels, while the affixes attested in (2) contain lexically back vowels. Rubach's account ignores the stem-specific nature of AP and assumes that the change from $[\widehat{ts}]/[\widehat{dz}]$ to $[\widehat{tʃ}]/[\widehat{dʒ}]$ is triggered by the presence of front vowels, which is hard to defend.

This paper argues that Affricate Palatalization is a morphophonological process triggered by the integration of floating autosegments which are part of the lexical representation of the relevant affixes. AP is argued to be a stem-specific change: the fact that items exemplified in (1) undergo AP, while those exemplified in (2) resist it, is an idiosyncratic property of those items.

I postulate that the alternating stems are lexically represented with a floating Place nodes, while the stems which resist AP possess fully integrated Place nodes. It is proposed that the constraints which promote the surfacing of the underlying specification of stems-final consonants are ranked above constraints which require the surfacing of the floating material. Due to this assumption items with fully-integrated place nodes (3b) resist the change. Items with floating Place nodes undergo the change due to the marked status of tautomorphemic anchoring of floating material.

(3)

a. alternating $[\widehat{ts}]/[\widehat{dz}]$ (data (1))

ROOT

PLACE

/ \

A I

b. non-alternating $[\widehat{ts}]/[\widehat{dz}]$ (data (2))

ROOT

|

PLACE

/ \

A I

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