

The interface and the domain structure in Polish palatalisation and voice assimilation

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This paper advocates the idea that in CVCV phonology (Scheer 2004), the domain structure plays a crucial role for application of phonology proper via the interface. It is argued that the phonetic interpretation of (auto)segmental structures formed or found at what is otherwise regarded as word level and phrase level can be unambiguously handled in a representational way as long as the syntax-phonology interface is so designed that it can interfere with phonology proper depending on what syntactic structure forms the input to the interface. Data are taken in the realm of Polish palatalisation and voice assimilation.

I. Palatalisation

In Polish, palatalisation phenomena can be divided into two groups, depending on the prosodic level at which they occur: word-level and phrase-level, as shown in (1).

(1) *pan i pani* ‘Mr. and Mrs. _’ [nʲi ɲi]

/i/-induced palatalisation gives different phonetic results when occurring within a word ([ɲi]) and across word boundaries ([nʲi]). The pattern characteristic of the phrase level is also found within words, in foreign roots, as shown in (2).

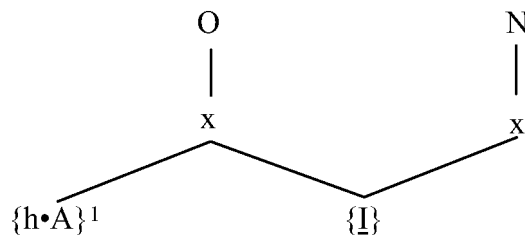
(2) *sinus i cosinus* ‘a sine and a cosine’ [sʲi sʲi sʲi]

Still, word-level palatalisation is fully productive even with foreign roots, as shown in (3), where the diminutive suffix *-ik* is introduced during the derivation.

(3) *sinusik i cosinusik* ‘a sine (dim.) and a cosine (dim.)’ [sʲi ɛi sʲi ɛi]

Gussmann’s (2007) (standard) GP analysis of Polish postulates a well-formedness condition on palatalised consonants. A word-internal structure which phonetically gives [ɛi] must consist of an onset-nucleus sequence in which both phonological expressions (segments) share the {I} element as their heads (p. 44-45), most probably a structure shown in (4).

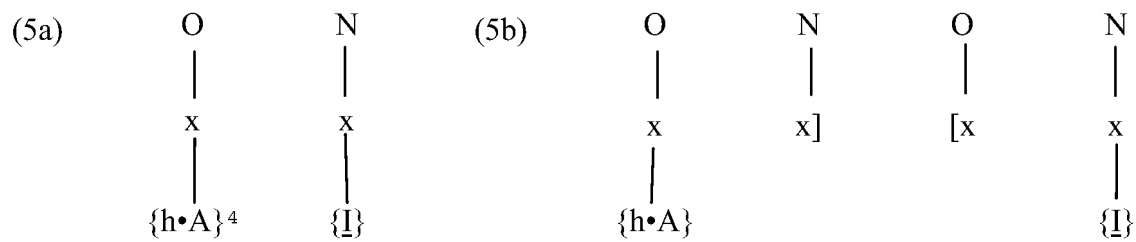
(4)



Among the constraints that Gussmann’s analysis posits for Polish, *I-alignment* (p. 52) requires that “[a] nucleus shares I-head with the onset it licenses.” However, what is phonetically [sʲi] in *sinus* or *cosinus* cannot fulfil *I-alignment* under Gussmann’s terms. Given Gussmann’s set of phonetic primes (GP elements)¹, there is no room for a separate structure for [sʲi] in which: 1) the nucleus shares its I-head with the onset, and 2) the phonetic contrast between [sʲi] and [ɛi] can be captured representationally. Eventually, the present paper proposes an ill-formed, in terms of *I-alignment*,

¹ With respect to consonant place-defining primes, these are only {I} for palatality, {A} for coronality, and {U} for labiality.

structure which may emerge as [sʲi] in roots (5a) and across word boundaries (5b) (presented on a (standard) GP skeleton).²



It appears as no accident that in standard spoken Polish, the somewhat strange [sʲi] sequence is only found in roots and across word boundaries, as shown earlier in (2) and (3). The present analysis posits that this is because these two environments are those in which no *domain-internal* structure is *created*, as opposed to *across domains* or *given*. For roots, a structure like that in (5a) is already present in the lexicon, and is not subject to *I-alignment*. For word boundaries, on the other hand, the adjacency between a word-final [s] and a word-initial [i] is accidental, the phonetically adjacent segments do not form a single phonological domain, and no onset-nucleus structure is created, hence escaping *I-alignment*, as in (5b).

II. Voice assimilation

Gussmann's (2007) monograph on Polish phonology provides an extensive analysis of voice assimilation in GP as triggered by the constraint *Voice Adjustment*, which reads: "The tonal specification of the last obstruent controls the laryngeal tier of the sequence." (p. 291) In order for the constraint to fully capture Polish regressive voice assimilation, which applies across any prosodic boundary in standard spoken Polish (see Gussmann 1992, Rubach 1996 or Gussmann 2007, for instance), the present paper concludes it must be allowed to apply across domains (contra Gussmann (2007: 298)), which is somewhat controversial for locality and perhaps also for non-arbitrariness in Government Phonology.

III. Unified account

This presentation will show how possibly the interface (Scheer's (2006) *Direct Interface* or other) could ensure that the structures claimed to exist in section I of this abstract are created, preserved or avoided in the course of the derivation with the use of a variation on Kaye's (1995) $\varphi(\text{concat})$ function, and how the domain structure and locality constraints work to match the attested data alluded to in sections I and II on a CVCV skeleton.

Bibliography

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² An argument backing up this claim is a well-documented fact about Polish that phonetically a non-palatalised consonant is never followed by the extremely front [i] (see Gussmann 2007, or virtually any monograph on the phonology of Polish). Hence, even though the structure in (5a) is ill-formed in terms of *I-alignment*, it should have an unambiguous phonetic interpretation, given that palatalisation phenomena in Polish have a right-to-left directionality.