

## POLISH SEGMENTAL ALTERNATIONS AS INTERFACE PHENOMENA

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There are two major approaches to the segmental alternations found in Polish. The first one employs rewrite phonological rules (e.g. Gussmann 1980) or violable constraints (e.g. Rubach 2003) which derive abstract underlying and intermediate representations into surface representations. The second approach treats palatalizations as processes triggered by diacritics marked on certain stems and/or affixes (Dressler 1985, Gussmann 2007).

The disadvantage of the first approach is that it strives at modelling opaque sound patterns as if they were transparent, by means of imaginary segments inserted into and deleted from phonological representations at will. The second approach does not need to refer to abstract phonological segments but instead employs diacritic markings which are similarly unconstrained.

My aim is to present and analyse palatalizations as an interface phenomenon. In particular, I argue that the opaque properties of palatalizations follow from the fact that palatalizations are the effect of translation from the morpho-syntax to the phonological module of the grammar.

The underlying idea is that computation within linguistic modules should be non-arbitrary, i.e. every step of a derivation within a module is a consequence of the working of general principles that map the input onto the output representation. Thus in the Minimalist Program syntactic objects move if movement is required by some general well-formedness condition. Similarly, in phonology spreading of a given feature calls for the presence of a local source (so called Non-arbitrariness Principle in Government Phonology, Kaye et al. 1990:194-195). On the other hand, translation of the information computable by one module into the information computable by some other module is arbitrary by definition, i.e. it is not regulated by general mapping principles. Vocabulary items in Distributed Morphology (Halle and Marantz 1993 *etc.*) express exactly this arbitrariness.

I will show that palatalizations are arbitrary in nature, i.e. the environments in which palatalizations take place do not form a phonological natural class. For example, a set of changes known as *i-anterior palatalization/Palatalization Replacement 1* is found in the environment of /ɛ/'s that are the exponents of the Locative and the Vocative singular of some masculine personal declensions but not by /ɛm/ which is the exponent of the Instrumental. Moreover, the input-output mappings cannot be expressed by means of a unified set of distinctive features, e.g. the mapping from the rhotic /r/ to the post-alveolar spirant /ʒ/, from the semi-vowel /w/ to the lateral /l/ and from dental plosive /t/ to palato-alveolar affricate /tʃ/ are triggered by the same set of affixes, but involve the manipulation of different sets of distinctive features.

The arbitrary properties of palatalizations suggest that they are not part of the phonological computation but rather of interface activity, i.e. translation. I argue that palatalizations are triggered at the Vocabulary Insertion stage of derivation by sets of morpho-syntactic case features. More precisely, when a given stem is inserted into the structure, the stem-final consonant is replaced with its palatalized counterpart if it is locally c-commanded by an appropriate set of case feature. As a result, the relevant morpho-syntactic information (decomposed case features) are rewritten as palatalized counterparts of stem-final consonants.

The approach outlined above dispenses with abstract phonological representations and diacritic markings. It also calls for a principled approach to case decomposition in Polish and requires that the generalizations about palatalizations be compatible with generalizations concerning the exponence of Agreement nodes in Polish.

I will show that although Polish segmental alternations are completely arbitrary on their representational side, their application obeys some very general principles. I will present a survey of automatic affix-specific alternations and their triggers and show that: (i) no palatalization rule replaces a segment A with B and B with some other segment (ii) different palatalizations affecting the same segments are never triggered by the same affix (iii) no individual affix replaces A with B and B with some other segment. It will be argued that these generalizations may be explained only if palatalizations are assumed to apply in accordance with the mode postulated in Kaye (1992, 1995), i.e. whenever their conditions are met.

The problem that this mode of application faces are apparent counter-feeding derivations attested in masculine personal nominal and adjectival declensions. E.g. the Nominative and Vocative of the adjective *ci[x]-y* ‘silent’ is *ci[c]-i*, arrived at by the joint application of two independently attested rules: one replacing velar /x/ with post-alveolar /ʃ/ (c.f. *ci[ʃ]-a* ‘silence’) and the other replacing /ʃ/ with palato-alveolar /ç/ (c.f. *gor-[ʃ]-y* ‘worse’ - *gor-[ç]-i*). The rule deriving /ʃ/ with /ç/ is independently known to replace voiced post-alveolar /ʒ/ with voiced palato-alveolar /ʒ/ in the same context c.f. *du[ʒ]-y* - *du[ʒ]-i* ‘large’. Yet another rule that applies in Nominative and Vocative plural replaces /r/ with /ʒ/ as in *chor-y* - *cho[ʒ]-y* ‘sick’. If all the rules apply at once, the output of the last derivation should be the unattested form *\*cho[ʒ]-i* as /r/ should go to /ʒ/ and /ʒ/ to /ʒ/.

I will argue that the case features mentioned in the environment of palatalization rules are rewritten as palatalized counterparts of stem-final segments. As the side-effect of palatalizations, the relevant features are erased from the representation and must no longer trigger other palatalization rules. Neither may they be referred to in Vocabulary Insertion. As a result Agr nodes that trigger palatalizations are realised by the default or the least specified Vocabulary items.

I will tackle the problem of counter-feeding opacity in virile declensions by claiming that the rule replacing /r/ with /ʒ/ in Nominative and Vocative plural (e.g. *chor-y* - *cho[ʒ]-y* ‘sick’) is triggered by a superset of the features triggering the rule replacing /ʒ/ with /ʒ/ (*du[ʒ]-y* - *du[ʒ]-i* ‘large’). Consequently, the /r/ /ʒ/ change must not feed /ʒ/ /ʒ/ change as the features triggering both rules are deleted before the latter has a chance to apply.

## References:

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