

Opaque Allomorphy in Polish

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Allomorph distribution in Optimality Theory (Prince & Smolensky 1993) is accounted for by the properties of the output (see Kager 1999, Kiparsky 2000, Mascaró 1996, Oostendorp 1998, Rubach & Booij 2001). Opaque allomorphy occurs when the distribution of the allomorphs cannot be determined in that way. This is problematic for a surface-based approach to phonology, such as OT. This talk argues that opaque allomorphy can be accounted for in terms of preserving contrast (see Kenstowicz 1995, Steriade 1997, Urbanczyk 1998).

In Polish, there is a process of Coronal Palatalization (Rubach 1984) by which anterior coronals become prepalatals before front vowels (/t d n s z/ → [ć dź ń ś ź]/_i e j). There are also underlying prepalatals in Polish. In the locative and vocative singular of masculine and neuter nouns, underlying and derived prepalatals take different allomorphs. Underlying prepalatals take the back suffix [u] while derived prepalatals take the front suffix [e] (see (1) and (2)).

<p>(1) Underlying Prepalatals</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">nominative sg.</td> <td style="width: 50%;">locative sg.</td> </tr> <tr> <td>liś[ć]</td> <td>liś[ć] + u</td> </tr> <tr> <td>narzę[dź] + e</td> <td>narzę[dź] + u</td> </tr> </table>	nominative sg.	locative sg.	liś[ć]	liś[ć] + u	narzę[dź] + e	narzę[dź] + u	<p>(2) Derived Prepalatals</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">nominative sg.</td> <td style="width: 50%;">locative sg.</td> </tr> <tr> <td>lis[t]</td> <td>liś[ć] + e</td> </tr> <tr> <td>ga[d]</td> <td>ga[dź] + e</td> </tr> </table>	nominative sg.	locative sg.	lis[t]	liś[ć] + e	ga[d]	ga[dź] + e
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This is an example of opaque allomorphy (Kenstowicz 1995, Oostendorp 1998). The properties of the output in the locative do not explain the distribution of the allomorphs. Given the outputs, both sets of prepalatals should take the same allomorph [-e].

The key proposal is that allomorphy in the locative preserves the original contrast between non-palatal and prepalatal sounds /list/ vs. /liść/ despite palatalization. The original contrast is manifested as different allomorphs, /list/ vs. /liść/ map onto [liść + e] vs. [liść + u], respectively.

The contrast account will be formulated within the model developed in Lubowicz (2003) (cf. Flemming 1995, Padgett 1997). The main idea is that contrast exists as an imperative in the grammar formulated as a family of violable and rankable constraints on contrasts, called PC constraints. PC constraints demand that contrasts be preserved in the output but not necessarily in the same way as in the input. To evaluate contrast, a candidate must be a set of input-output mappings, called a scenario.

The relevant contrast constraint in Polish is PC(high) which demands that the contrast be preserved between non-palatal and prepalatal sounds. Palatalization compels neutralization of the height contrast (PAL >> PC(high)) but allomorphy preserves the contrast.

(3)	Scenarios	PAL	PC(high)
A. Actual	/list, {+e, +u}/ → liść + e		
☞	/liść, {+e, +u}/ → liść + u		
B. Contrast-neutralizing	/list, (+e, +u)/ → liść + e		*!
	/liść, {+e, +u}/ → liść + e		

Scenario A wins since it preserves the contrast in height despite palatalization.

The contrast account has far reaching consequences. The main implication is that, unlike previous accounts, it allows for the principle of contrast to compel a phonological process, including allomorph selection.