

Vowel-zero alternations in Czech prefixes

In Czech prefixes, a vowel-zero alternation of the following kind occurs:

(1)	+e	-e	
	beze-dný	bezøkvětný	"without bottom/ without flowers"
	vze-dmout	vzøhled	"blow up/ expression (face)"
	přede-vším	předøskok	"before all/ test-jump"
	roze-dmout	rozødmýchat	"blow up/ fan"
	roze-přít	rozøpřáhat	"strut/ remove"

The prefixal -e- can be observed only if 1) the prefix is consonant-final and 2) the stem begins with at least two consonants. The analysis I present is based on a 957 item-corpus containing all and only the entries involving CC-initial stems prefixed by *bez-*, *vz-*, *před*, *roz-*, *nad-*, *pod-* and *od-* recorded in the dictionary Ulbrich (1978).

The mentioned restrictions on the appearance of the prefixal -e- point to the stem-initial CC cluster as the conditioning context. However, scanning the different $\sqrt{\text{CC}}$ s, the situation seems desperate, as can be seen in (1): identical $\sqrt{\text{CC}}$ s such as $\sqrt{\text{pr}}$ or $\sqrt{\text{dm}}$ sometimes provoke the prefixal prothesis, but sometimes do not. This situation is general throughout the whole corpus.

I shall show that the key to the problem is to be found in the contrasting root-structures:

roze-dm-out = **C__C** vs. rozødmých-at = **CC__** ("__" indicating the vocalic position of the root).

That is, **C__C** structures provoke prefixal **e**, while **CC__** structures lead to prefixal **ø**. The root-structure can be established by two independent criteria: 1) the **C__C** type shows **CVC** forms in paradigmatic alternation (2a,b), whereas the **CC__** type never does (2c):

(2) pf=perfective, ipf=imperfective, pap=past active participle

	C__C :two words from the same stem				CC__ : non-related stem
$\sqrt{\text{CC}}$ -	a.		b.		c.
$\sqrt{\text{BR}}$ -	ode-brat	pf	od-bírat	ipf	bez-bradý
$\sqrt{\text{DR}}$ -	roze-drat	inf	roz-deru	1Esg	roz-drobit
$\sqrt{\text{HR}}$ -	přede-hra	noun NOMsg	her	noun GENpl	od-hrabat
$\sqrt{\text{ML}}$ -	roze-mlít	pf	roze-mílat	ipf	před-mluva
$\sqrt{\text{PR}}$ -	ode-prat	inf	od-peru	1Esg	vz-pruha
$\sqrt{\text{SN}}$ -	beze-sný	adj	sen	noun NOMsg	pod-sněžník
$\sqrt{\text{ŠL}}$ -	vze-šlý	adj	šel	pap masc sg	roz-šlapat
$\sqrt{\text{ZD}}$ -	pode-zdít	inf	zed'	noun NOMsg	od-zdola
$\sqrt{\text{DN}}$ -	beze-dný	adj	den	noun GENpl	-

2) **CC**__- stems are closed by a third consonant, whereas **CC**__-stems are always open:

(3)	C_2 is stem-final		C_2 is stem-initial
$[\sqrt{C_1C_2}]$	$=/C_1_C_2/$		$=/C_1C_2_/$
\sqrt{BR} -	ode-B__R-at	vs.	bez-BRaD-ý
\sqrt{DR} -	roze-D__r-at	vs.	roz-DRoB-it
\sqrt{HR} -	přede-H__R-a	vs.	od-HRaB-at
\sqrt{ML} -	roze-M__L-ít	vs.	před-MLuV-a
\sqrt{PR} -	ode-P__R-at	vs.	vz-PRuH-a
\sqrt{SN} -	beze-S__N-ý	vs.	pod-SNěŽ-ník
$\sqrt{ŠL}$ -	vze-Š__L-ý	vs.	roz-ŠLaP-at
\sqrt{ZD} -	pode-Z__D-ít	vs.	od-ZDoL-a
\sqrt{DN} -	beze-D__N-ý		

Identifying the different root-structures of the whole corpus along these criteria yields a nearly 100% complementary distribution.

In a second step, I show that prefixes do not behave like prepositions (e.g. *beze slov* "without words") whose vocalization is much less regular than the prefixal one. This situation is due to the morphological functioning of the lexically independent items *preposition* and *noun*, whereas prefixal compounds like *beze-dný* are recorded as a single lexical entry.

The observed alternation and its phonotactic conditioning raise a theoretical issue regarding the interaction of morphology and phonology: Slavic languages are reputed for their vowel-zero alternations. However, unlike in the case discussed above, these alternations are blocked (i.e. zero is prohibited) when more than one consonant intervenes between the alternation-site and the following vowel: *hudøb-a* "music NOMsg", *hudeb-ø* GENpl vs. *hudeb-ní* "musical". This generalisation even holds beyond Slavic: Moroccan Arabic ("I"=central high vowel) *køtlb-ø* "he writes pf" vs. *kIttlb-ø*, **køttlb-ø* "he causes to write", German *inner-e*, *innø-r-e* "internal" vs. *inner-lich*, **innø-r-lich* "internally", Tangale (Chadic language spoken in Northern Nigeria) *dobe* "call", *dobø-go* "called" vs. *dobu-n-go*, **dobø-n-go* "called me". By contrast in Czech prefixes, the zero occurs even when followed by more than one consonant. The solution is morphological: in the latter case, the CC-cluster following the alternation-site is morphologically simplex, whereas the two consonants of the cluster in all other cases (Moroccan Arabic, German, Tangale, *hudba* vs. *hudeb-ní*) belong to two different morphemes.

Based on these data, I develop a theory of vowel-zero alternations designed to account for the cross-linguistic phenomenon, i.e. making no reference to language-specific parameters. Vowel-zero alternations are viewed as the consequence of an asymmetrical relation holding between the Nucleus of the alternation-site and the Nucleus on its righthand side. The morphologically driven blocking effects of intervening CCs are approached by the interaction of the two Cs that morphology allows for. If both Cs belong to the same morpheme, they may interact (under circumstances to be defined). If not, they may not.

Finally, the discussed Czech prefixal alternations raise the issue of syllabic structure: assuming unsyllabified lexical structures parsed by a syllabification-algorithm, segmentally identical roots like $\sqrt{bør}$ and \sqrt{brad} have identical lexical representations, here ...br.... Hence, they are syllabified in the same way. In this kind of approach, there is no way of encoding the crucial information concerning the zero present in the $\sqrt{bør}$ stem. I therefore argue for lexical representations that are fully specified for syllabic structure.

Ulbrich, Rolf 1978: Langenscheidts Taschenwörterbuch der tschechischen und deutschen Sprache. Erster Teil Tschechisch-Deutsch. Berlin, München, Wien, Zürich, New York ¹⁰1993.