Vocalic length as evidence for the incorporated-free particle distinction in Czech

**Intro.** Verbal particles in Germanic and elsewhere come in two varieties: incorporated and free. Slavic languages apparently have only the incorporated particles, hence the wide-spread term verbal prefix. Here we look at a length alternation found with Czech verbal prefixes, and argue that the alternation can be best explained if the prefixes too can be either incorporated or free, despite the fact that this has no obvious effect on their position in the surface string.

The length alternation. We start from the observation that some verbal prefixes have two distinct forms dependening on their syntactic environment (a fact brought to attention by Scheer 2001). Roughly, when they attach to a verbal form, the prefix vowel is short, see the first column of Table (1). When they appear in a zero derived nominal, the prefix vowel is long, see the third column. For details concerning the verbal/nominal distinction, see Ziková (2012).

(1) Verb Prefix = $CV$ , N prefix = $CVV$					
verb	gloss	zero N	gloss		
vy-stup	get out!	vý-stup	outcome		
na-stup	get on!	$\mathbf{n}\mathbf{\acute{a}} ext{-}\mathrm{stup}$	boarding		
$\mathbf{za}$ -stup	step in!	$\mathbf{z}\mathbf{\acute{a}} ext{-stup}$	substitute		
<b>při</b> -stup	come here!	<b>pří</b> -stup	access		
u-stup	step back!	<b>ú</b> -stup	retreat		

Out of all the verbal forms that have the short prefix (like the present za-stoup-i, past za-stoup-il, infinitive za-stoup-it, passive za-stoup-ený, etc.), the imperative is chosen because it has no apparent suffix. And similarly, out of all the forms with the long prefix (relational adjectives zá-stup-ný 'vicarious', diminutive-

like  $v\acute{y}$ -stup-ek 'protrusion', etc.), the zero derived noun is chosen also because it has no suffix. The comparison of the two suffix-less forms shows that prefix quantity is not dependent on purely phonological context in any obvious sense. Instead, we are looking at a morpho-syntactically triggered process. What is this process?

**Phonology.** We propose that the prefixes in (1) are stored in the lexicon as long, and shorten in verbs. We implement this by a templatic requirement (Scheer 2001, Bethin 2003, Caha-Scheer 2008) that requires verbal prefixes to be max  $1\mu$  (long vowels count for  $2\mu$ ). Such a template explains the facts in Table (1): prefixes that do not meet this requirement have to shorten.

The proposal runs against the existing analyses by Scheer (2001) and Ziková (2012), who propose that the prefixes are short in the lexicon, and lengthen in contact with the noun. Evidence for a shortening analysis starts from the observation that some prefixes are always short, see (2).

(	(2) Ver	Verb Prefix = $CV$ , N Prefix = $CV$					
	verb	gloss	zero N	gloss			
-	<b>po</b> -stup	move on!	<b>po</b> -stup	progress			
	$\mathbf{se}$ -stup	come down!	$\mathbf{se}\text{-stup}$	descent			
	$\mathbf{od} ext{-stup}$	move away!	$\mathbf{od} ext{-stup}$	distance			

Nothing else said, the lengthening analysis predicts that in the first line, we get the N \* $p\mathring{u}$ -stup instead of po-stup. The wrong prediction is avoded by stipulation: the prefixes in (2) are simply claimed not to undergo the process.<sup>1</sup>

However, under the shortening analysis, we need not make any stipulations here. The prefixes in table (2) are simply analyzed as lexically short, surfacing as such in the nominalization. Their 'promotion' to a verbal prefix status triggers (under our analysis) a templatic effect (be max  $1\mu$ ), which is trivially satisfied without any effect on the shape of the prefix.

Second of all, we capture the regularity which holds regardless of any processes, namely that ALL verbal prefixes have a canonical prosodic shape (cannot have  $2\mu$ , epenthesis aside). The lengthening analysis does not predict any such regularity. The verbal prefixes are listed in (3), which is an exhaustive list ordered alphabetically.

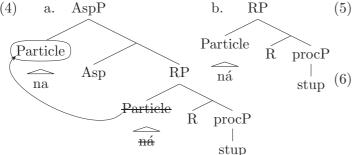
(3) Verbal prefixes have max  $1\mu$ : na, nad, o, ob, od, pod, pro, pře, před, při, s, u, v, z, za Note that some verbal prefixes have no vowel; this is compatible with the max  $1\mu$  template. For these prefixes, we predict that they do not show any additional length in nominal environment, because there is no prefix lengthening. The prediction is borne out.

**Syntax**. On the basis of such facts, we think that the shortening analysis is to be preferred. For us, the direction of the change is important in that we believe that also in the morphosyntactic

 $<sup>^{-1}</sup>$ To be fair, Scheer and Zikova claim that the non-lengthening prefixes are a phonological class. But this has some problems too, since pro-, which falls in the same phonological class as the non-lengthening po-, regularly lengthens. In sum, one needs a diacritic to code which prefixes lengthen and which not.

structure, the long prefix is primary, and the short version derived. The way we implement this idea is by claiming that the templatic requirement is tight to a particular structural position (Spec,Asp) which the prefix reaches by movement.

Specifically, we propose that Czech prefixes are generated as small-but-phrasal specifiers in the vicinity of the root (in the Spec of a low functional category, R(esult)). Here, they carry spatial meaning (if not over-ridden by idiomatic interpretation), but contribute no aspectual information. If they stay here, they remain long, see (4b), where we use Ramchandian labels for the projections. However, if they move (string vacuously) to Spec,Asp – a higher functional projection – they are subject to the templatic requirement, and shorten, as shown in (4a). This analysis recalls the proposal in Svenonius (2004:sec.5). There, however, R is below the verb and prefixes always have to move. Here we assume that R is above the verb, and that when Asp is missing (in zero derived nouns and their kin), prefixes may surface in the low position.



- ut-kast
  out-throw = 'draft'
- b. Han har **kastet** katta **ut**he has thrown cat out
- a. {**za/při/pod**} moři over/by/under sea
- b. {zá-/pří-/pod-} -mořský
   over/by/under sea
   'transatlantic, coastal, underwater'

The closeness of the root and the prefix. While string vacuous, the prefix movement affects structural closeness of the root and the prefix. We believe that the structural difference is empirically observable as the distinction between free and affixal (incorporated) particle. This finds support in both comparative considerations, and Czech internally.

Norwegian. Consider the Norwegian data (5). (5a) shows that the particle is incorporated in zero derived nouns (and other non-verbal constructions, see Svenonius 1996). In verbal contexts (5b), however, the particle is free. Thus, as for its trigger, the Norwegian incorporated/free particle alternation is virtually identical to the long/short particle distinction in Czech. Our proposal captures the parallel easily, building on the analysis of Norwegian by Taraldsen (2000). Taraldsen argues that particle stranding is dependent on particle movement. Specifically, for stranding to happen, the particle moves out of the VP (our RP) to a Spec of a functional projection above the VP, exactly as in (4a). Verb movement — understood as phrasal VP movement — may then strand the particle. However, if the particle does not move out of the VP, it cannot be stranded, yielding (5b). Our story for Czech length is identical; the difference is that verb movement in Czech never crosses the particle, but pied-pipes it along.

**Prepositions.** It has been noted that prepositions and prefixes are related (see work by Matushansky 2002, Gehrke, Svenonius; Gribanova 2009). Interestingly, those prefixes that can be used as prepositions also show length alternations (6). The two contexts here are similar to the English under (the) water vs. underwater, i.e., free vs. incorporated. When free (6a), the prepositions are  $1\mu$  at most. When incorporated (6b), they may be long ( $p\tilde{r}i$ -,  $z\tilde{a}$ -). This is the same distribution of length and shortness that we argued to arise in verbal prefixes.

Conclusions. There are reasons to believe that Czech prefixes alternate — even though string vacuously — between a free and incorporated status. If correct, the conclusion brings the Czech (and perhaps Slavic) prefixes even closer to Germanic, strengthening the suggestions made in previous research, but also refining it in several aspects.

Sel. references. Bethin: Metrical quantity in Czech. Caha&Scheer: The syntax and phonology of Czech templatic morphology Gribanova: Phonological evidence for a distinction Matushansky: On formal identity of Russian prefixes and prepositions Scheer: The Rhythmic Law in Czech. Svenonius 96: The verb-particle alternation in the Scandinavian languages. Svenonius 04: Slavic prefixes inside and outside VP. Taraldsen: V-movement and VP-movement in Derivations of VO-order. Ziková: Lexical prefixes and templatic domains.