Basic position of adverbs in the Czech clause: A rating experiment

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Background and motivation The position of adverbs within clauses has played an important role in diagnosing properties of the clausal syntax, such as the position of the verb (Pollock 1989), the position of arguments (Diesing 1992, Neeleman & Reinhart 1998), or the sequence of functional projections in the clausal spine (Cinque 1999). Adverb position has also been used in the discussion of Slavic syntax, mostly as a diagnostic for verb position (Bošković 1995, Veselovská 1995, Migdalski 2006, Wiland 2009, a.o.), but relatively rarely in its own right (cf. Biskup 2011). Moreover, in Slavic languages, which are known for their free constituent ordering, intuitive judgements about adverb placement are often felt to be delicate.

Research question and hypotheses What is the basic position of different types of adverbs in the Czech clause? We consider two hypotheses: **H1** Adverb position correlates with adverb type, in accordance with Cinque's (1999) hierarchy. **H2** Setting aside resultative adverbs, the default adverb position is the preverbal position (roughly: edge of *v*P), independently of adverb type (Biskup's 2011 version of Ernst's 2002 scopal theory). The results corroborate H2, but also provide some evidence for H1 (tentatively distinguishing three syntactic "heights" of adverbs). Besides providing evidence for these hypotheses, the experiment is also exploratory in nature. Being the first experiment of its kind performed on Czech and possibly Slavic more generally (to the best of our knowledge), it supplies baseline data for future experimenting.

Design The participants were asked to rate the naturalness (Cz *přirozenost*; scale 1 = completely unnatural to 7 = completely natural) of sentences containing adverbs of five TYPES (manipulated within subjects/between items), corresponding to different positions in the functional sequence (*1/epistemic/speaker-oriented, 2/temporal, 3/aspectual, 4/manner/agent-oriented, 5/resultative*), in four syntactic POSITIONS (within subjects and items) in finite clauses with transitive predicates (*a/initial, b/preverbal, c/postverbal, d/final*). The target sentences were presented in a context which rendered them all-focus. The context and the target together formed either a short narrative or a dialog. Each target contained four major constituents (subject, transitive verb, and object – in that order – and the adverb, with varying POSITION) and a second-position clitic (a reflexive or a pronominal). Adverbs whose type is likely to depend on syntactic position were avoided. The 20 unique conditions (5 TYPES × 4 POSITIONS) were distributed on lists according to the Latin square design so that each participant saw each item just once. We used 40 items (8 per TYPE) and 40 fillers, containing little subexperiments and providing baselines for (un)naturalness (to be reported on in the talk). 85 Czech native speakers took part. We used the L-Rex software (Starschenko & Wierzba 2020) to run the experiment.

Example (1) is item 9 (with the adverb boldfaced here for clarity) – representing the *manner* level of the TYPE factor in all the levels of the POSITION factor. The item is constructed as a piece of a story, where the all-focus/all-new construal of the target is particularly salient, given the preceding context. Other information-structural construals, such as narrow focus on the adverb, are possible after accommodation, but less likely.

(1) C Zavolali jim, že můžou odjet.   *manner*
        called.PL them that can.3PL leave.INF
        'They called them that they can leave.'
     T (a) **Rychle** si Jitka sbalila kufr.   *initial*
             quickly REFL Jitka packed suitcase
        (b) Jitka si **rychle** sbalila kufr.   *preverbal*
        (c) Jitka si sbalila **rychle** kufr.   *postverbal*

     (d)   Jitka si sbalila kufr **rychle**.   *final*
            'Jitka quickly packed her suitcase.'

Results The results are summarized in the figure and table below (gray background in the table highlights the highest rating within adverb TYPE). The relevant results are: **R1** The most natural position for all adverb types – with the exception of *resultatives* – is the preverbal position (linear mixed-effect models computed with lmer of Bates et al. 2015 reveal simple effects of POSITION for all four TYPES and for all pairwise comparisons with the *preverbal* baseline; significance levels Bonferroni-corrected per model: *epis/asp/man* all $t < -3.60, p < .001$; *temp* all $t < -2.41, p < .016$). **R2** The most natural position for *resultatives* is the final position (treating *final* as baseline; simple effect of POSITION: all $t < -4.38, p < .001$). **R3** Comparing the *preverbal* and *initial* position, we observe a difference in the size of the naturalness dip: treating *temp/preV* as baselines (and setting resultatives aside), the model reveals a POSITION $\times$ TYPE interaction for *man,* where the dip is greatest ($t = -8.87, p < .001$), and *asp*, where the dip is smaller ($t = -5.56, p < .001$), but no interaction for *epis* ($t = -1.41, p = .16$).

Rating per position and type (z–score)
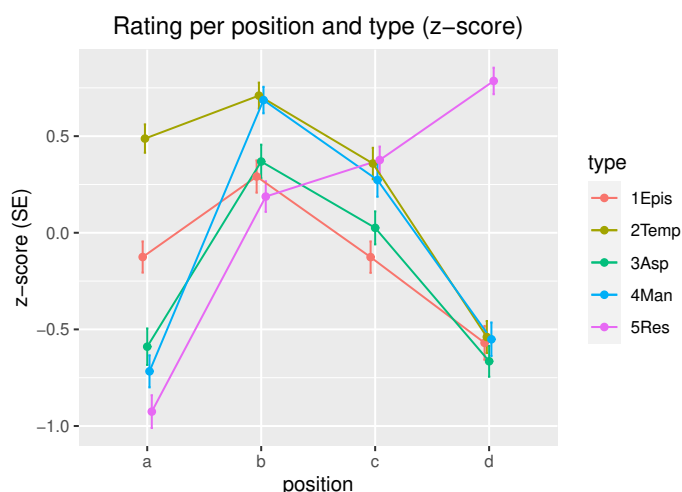
	mean rating(SD)			
	a/initial	b/preV	c/postV	d/final
1	4.4(1.8)	5.2(1.8)	4.3(1.9)	3.6(1.8)
2	5.5(1.7)	5.9(1.5)	5.3(1.7)	3.6(1.6)
3	3.5(2.0)	5.3(1.9)	4.6(1.8)	3.4(1.7)
4	3.3(1.8)	5.9(1.5)	5.1(1.8)	3.6(1.7)
5	2.9(1.8)	5.0(1.8)	5.3(1.6)	6.1(1.5)

type
- 1Epis
- 2Temp
- 3Asp
- 4Man
- 5Res

Click **here** to get the experiment materials.
Click **here** to get the raw results.

Discussion Result **R1** directly supports **H2**, i.e., it shows that – independently of adverb type (setting resultatives aside) – the most natural position for adverbs is the preverbal one. Assuming canonical syntactic positions for all major constituents (which is supported by the all-focus nature of the targets) – pre-clitic S(ubject) in SpecTP or possibly SpecFinP (Lenertová 2004) and Verb in *v* (Veselovská 1995, 2005) – the natural position of adverbs is likely to occur somewhere between *v*P and TP, which is consistent with Ernst (2002) as well as Biskup (2011). At the same time, **R3** – the POSITION $\times$ TYPE interaction, whereby different types of adverbs are differently natural in the *initial* position (as compared to *preverbal*) – is consistent with **H1**, i.e. a Cinque (1999)-style sequence: the higher the assumed syntactic position of the adverb (*epis/temp* are highest, *asp* lower, *man* lowest), the more natural the adverb is in the initial position (as compared to the default *preverbal*). The effect is gradient and thus raises the question how it could be tied to the strict Cinque-style hierarchy. We hypothesize that different basic positions of S are implicated, depending on the kind of topic–comment structure that the participants might have accommodated. Non-topical S could be lower, in which case high adverbs (*epis/temp*) could take preference in supporting the clitic (moving, say, to SpecFinP). By contrast, low adverbs (*asp/man/res*) are too low to be targeted by the clitic-related EPP; the S is always closer, independently of its topicality. Finally, **R2** (*res* most natural when final) is expected under all theories and gives us confidence that our manipulation worked as intended.

Selected references • **Biskup, P 2011.** *Adverbials and the phase model.* John Benjamins. • **Cinque, G 1999.** *Adverbs and functional heads.* Oxford University Press. • **Ernst, T 2002.** *The syntax of adjuncts.* Cambridge University Press. • **Lenertová, D 2004.** Czech pronominal clitics. *Journal of Slavic Linguistics* 12:135-171. • **Starschenko, A & M Wierzba 2020.** L-Rex: Linguistic rating experiments [software]. • **Veselovská, L 1995.** Phrasal movement and X^0 morphology. Olomouc: Palacký University PhD dissertation.