Temporal Reference in Russian Perfective Converbs: Effect of Clause Order and Event Coherence

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1. Introduction

While it is commonly accepted that Russian perfective converbs generally express non-simultaneity [Bikkulova 2011], logically entailing both anteriority and posteriority of the dependent clause[1], it is under much debate in the literature, whether they can express **posteriority** (or followance). Some authors argue in favor of separate posteriority meaning [Birzer 2010, pp. 100-107]. Others argue that this interpretation is confused with "logical implications" [Bikkulova 2011], depends too much on additional lexical means or context to represent a separate grammatical meaning [Weiss 1995] and probably no longer occurs in written speech corpuses [Birzer 2010, pp. 60-61], [Bikkulova 2011]. If posteriority interpretation is possible during written speech interpretation, the question arises which factors affect its acceptability and interpretation latency. Presumably, two such factors are 1) linear position of the embedded clause with respect to the main clause [Chafe 1984; Kortmann, 1995; Clark H. & Clark E. 1968] and 2) event coherence, by which we mean presence of a contextually or semantically preferred temporal placement of the two events in relation to each other ("natural chronology" and "deflexion" in Narrative Event Chronology account [Lehmann, 1998, p. 116], [Birzer 2010, pp. 91-93]).

2. Methods

245 Russian native speakers were instructed to read sentences with converbial clauses presented on the screen and to accept/deny interpretations suggested choosing either "yes" or "no" on the keyboard. Their interpretation latencies were measured. The study had a 2×2×2 factorial design: Clause order (Main-Sub vs. Sub-Main[2]), Coherence (coherent (1) vs. accidental (2) events in the two clauses) and Interpretation suggested (anteriority vs. posteriority). Each condition included 16 critical items distributed among 8 experimental lists. Filler items comprised 24 coordinate sentences and did not differ across the lists. Generalized and Linear Mixed-effects models were applied to binary answers and reaction times (RT) respectively.

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[1] Situation denoted by the dependent clause temporally preceding\following the situation denoted by the main clause would be called anteriority\posteriority respectively.

[2] Postposition of the converb in relation to the finite verb form is labeled as main_sub; preposition – as sub_main.

(1)   *Zagadav zhelanie, Kostja zadul svechi na torte.*

'Having made a wish, Kostja blew out the candle.' (Coherent)

(2)   *Poliv tsvety, Zhora protjor pyl' so shkafov.*

'Having watered the plants, Zhora wiped the dust off the bookshelves.' (Accidental)

3. Results

Although anteriority as a more prominent interpretation was generally significantly more acceptable (75% vs. 25%; p<0.001) and faster accepted than posteriority (-212 ms; p<0.001), they were equally acceptable in a neutral context in postposition (47% vs. 50%; p>0.05; fig.1). Order iconicity significantly affected both interpretation acceptability (fig.1) and latency (fig.2). Anteriority was more acceptable in preposition (97% vs. 53%; p<0.001), while posteriority – in postposition (47% vs 3%; p<0.001). Moreover, decision for anteriority interpretation was made 729 ms faster, when converb was in preposition (p<0.001). Posteriority acceptance was 827 ms faster in postposition (p<0.05) and its rejection was 629 ms slower in postposition (p< 0.001).
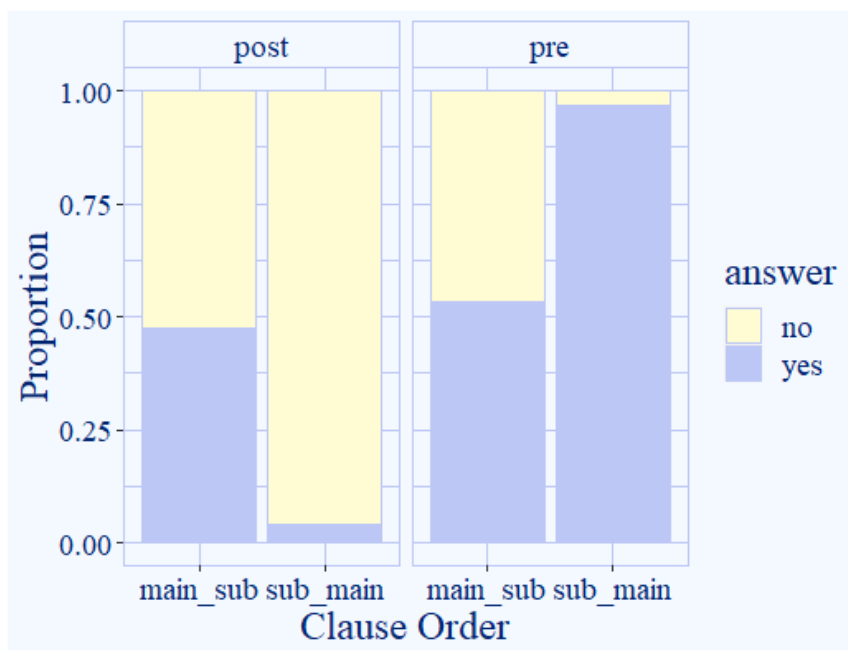

Figure 1. Acceptability of posteriority (post) and anteriority (pre) interpretation depending on clause order.
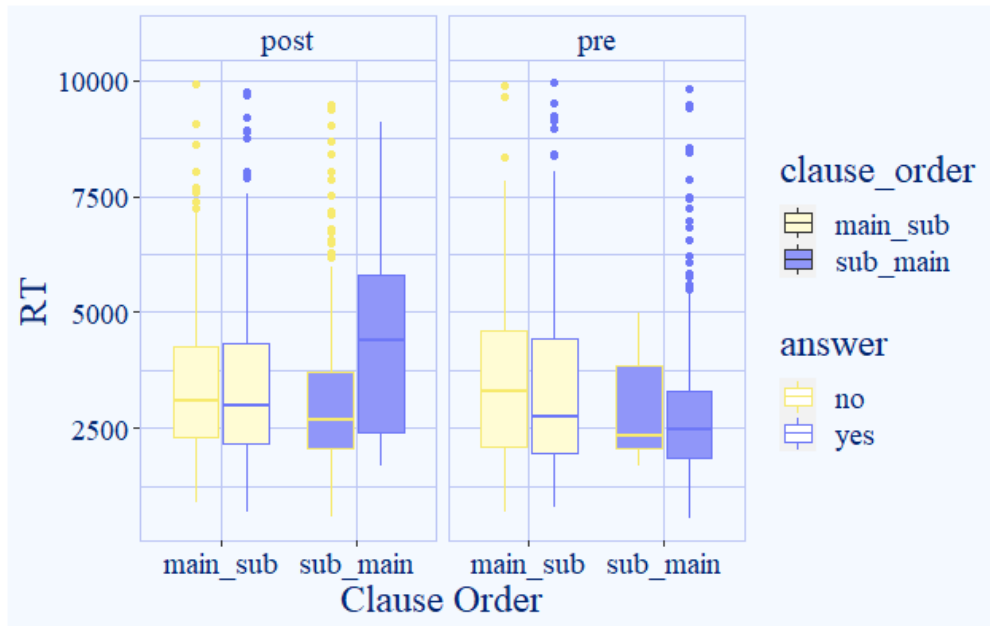
Figure 2. Interpretation latency of posteriority (post) and anteriority (pre) interpretation depending on clause order.

Coherent contexts supporting the anteriority interpretation increased its acceptability (75% → 88%) and decreased the acceptability of posteriority (47% → 23%; $p<0.001$, fig.3), as well as speeded up interpretation for converbial constructions in preposition by 178 ms ($p<0.04$; fig.5). However, context coherence did not significantly facilitate the interpretation overall ($p>0.05$; fig.4), unlike in studies on temporal clauses with 'before'/ 'after', e.g., [Natsopoulos & Xeromeritou 1988]. There was no interaction between the two factors either ($p>0.05$; fig.5).
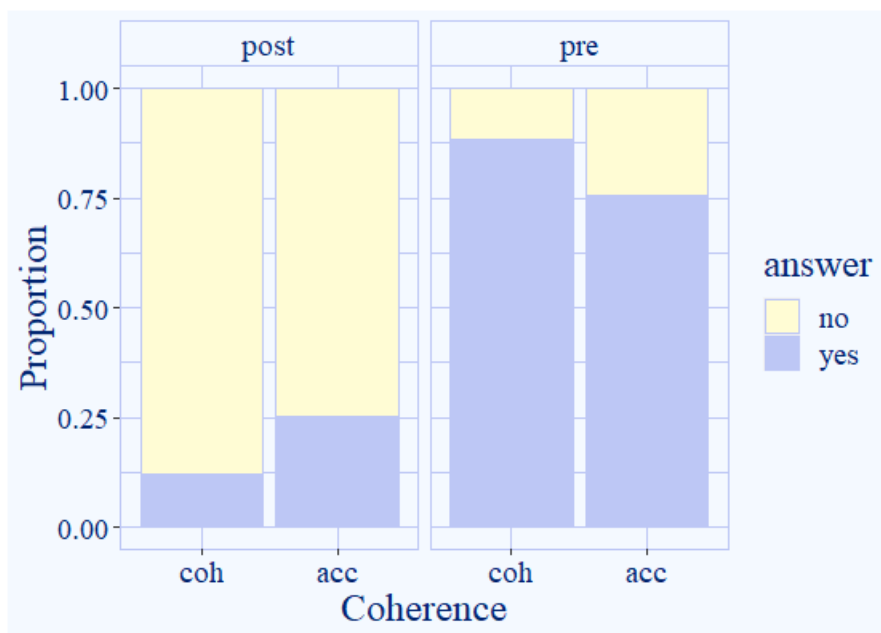

Figure 3. Acceptability of posteriority (post) and anteriority (pre) interpretation depending on coherence of the situations.
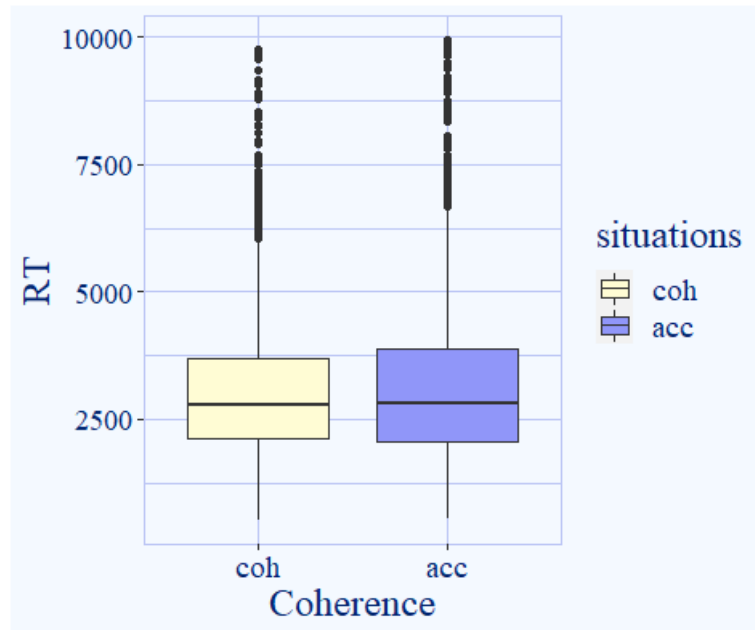
Figure 4. Interpretation latency depending on coherence of the situations.
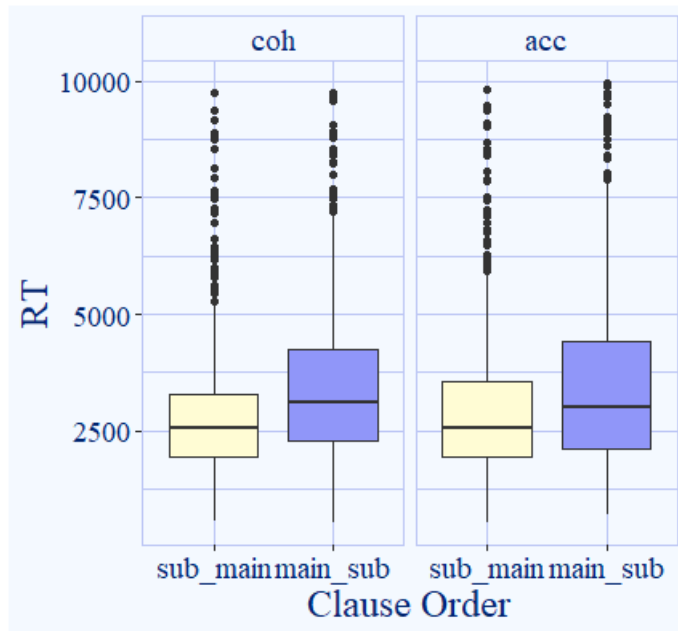

Figure 5. Interpretation latency depending on the clause order and coherence.

Additionally, coordinative fillers were processed faster than subordinative stimuli (fig.6), on a par with type of clause link hypothesis [Fedorova 2005, p. 53], and were more prone to iconic order influence [Jansen 2008, p. 84] (p<0.001; fig.7).
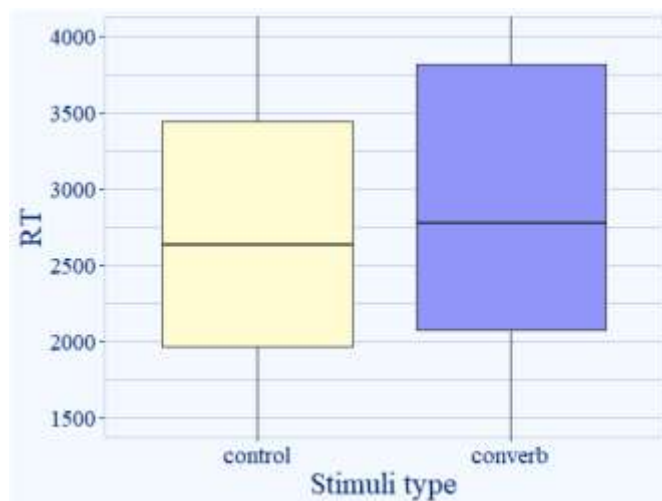
Figure 6. Interpretation latency in sentences with coordinative (control) and subordinative (converb) link between clauses.
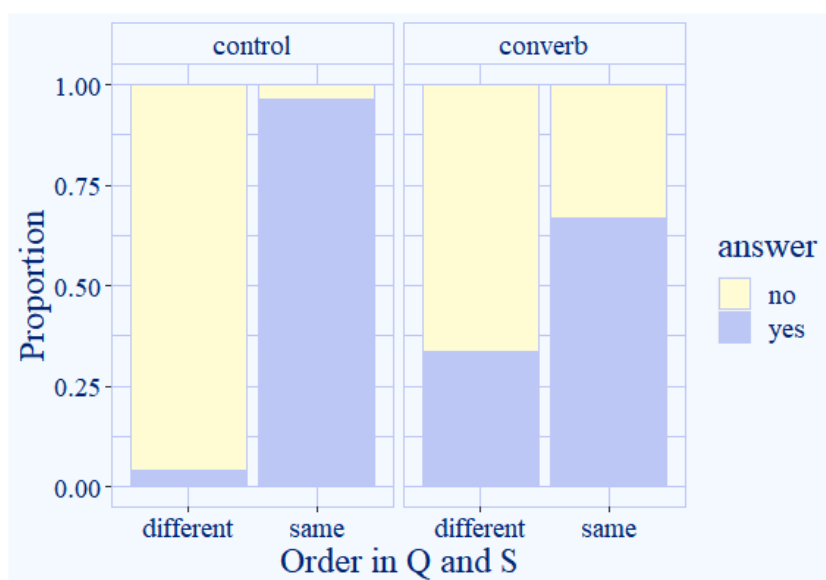

Figure 7. Acceptability depending on the same\different clause order in stimuli and interpretation in coordinative (control) and subordinative (converb) sentences.

4. Conclusion

The study demonstrates that both interpretations of Russian converbial clauses are influenced by the clause order and the event coherence. Clause order, but not contextual prompt is crucial for posteriority interpretation, contrary to previous views [Weiss 1995], [Birzer 2010], Narrative Event Chronology by [Lehmann, 1998]. It also showed that Order Iconicity principle plays a major role in temporal processing, consistent with, e.g., [Kortmann, 1995] and [Clark H. & Clark E. 1968]. Results suggest posteriority could be a separate taxis relation for converbs, although it was never more acceptable than anteriority and was cognitively more difficult to accept. The alternative explanation for posteriority prominence is that postposition facilitates non-standard temporal interpretation in the same way it facilitates non-standard uses with inanimate or non-nominative subjects [Onipenko & Bikkulova 2014], [Zhukova et. al 2020].

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