When syntactic parallelism is really discourse parallelism in VP ellipsis

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Introduction

Sentences containing VP ellipsis (VPE) must find a matching antecedent VP for the elided VP. This parallelism condition is associated with recoverability: when a V-gap is encountered, a VP representation from the preceding context must be copied into the empty VP position for the sentence to be interpreted. What kind of VP representation is this?

Syntactic identity is argued for based on sentences where syntactic non-identity results in ill-formedness [1-3]:

1. a. Kurt blamed Mario for the terrible performance, and John did too.
   b. Kurt blamed Mario for the terrible performance, and John was △ too.

But other cases need a semantic identity condition to rule in sentences that are acceptable despite syntactic non-identity [4-5]:

2. (?Kurt blamed Mario for the terrible performance, so John was △ too.

Possible solutions:

• Keeler (2000): Both syntactic and semantic mechanisms for VP recovery are available; which one is selected is determined by the coherence relation between the clauses containing the antecedent and elided VPs. → For a Resemblance relation (1), syntactic identity is enforced, for Cause-Effect (2), only semantic (higher-order) identity is required.

• Frazier & Clifton (2005): Syntactic and semantic discourse mechanisms are available; which one is selected is determined by the domain of the antecedent-ellipsis relation. → Syntactic constraints apply within sentences (syntactic domain); Discourse constraints apply across sequences of sentences (discourse domain; syntactic structure assumed unavailable at discourse).

• Tannehaus & Carlson (1999), others: The same parallelism condition applies to all cases of VPE, but over representations that encode the right types of information, such that apparently acceptable cases of non-identity actually satisfy parallelism.

Three experiments on voice mismatches and strict/sloppy interpretations in VPE suggest the parallelism condition on VPE is viable, and applies at the level of discourse structure. Differences in the antecedent-ellipsis relations permitted within and across sentences follow from the unavailability of reflexive-binding across sentences.

Experiment 1

Previous work has suggested that syntactic effects are conditioned on discourse coherence [3,5] (though see [6]). Experiment 1 asks whether syntactic effects interact with discourse coherence, by comparing the effect of Voice mismatch on VPE acceptability where antecedent and ellipsed were related by Resemblance (and, but) or Cause-Effect (so, because), in a magnitude estimation experiment [7]. Ellipsis-Mismatch cases were compared to both Matched and NoEllipsis controls.

Predictions:

• According to Keeler [4], Resemblance depends on alignment of syntactic arguments—should be sensitive to mismatch.

• In contrast, Cause Effect (CE) relates sentences at the propositional level—should be insensitive to mismatch.

Mismatch-Ellipsis: Kurt blamed Mario for the terrible performance, and (so) John was too.

Match-Ellipsis: Kurt blamed Mario for the terrible performance, and (so) John did too.

Mismatch-No Ellipsis: Kurt blamed Mario for the terrible performance, and (so) John was blamed by him too.

Match: Kurt blamed Mario for the terrible performance, and (so) John blamed him too.

Results:

There was an Ellipsis-Mismatch interaction: Mismatch was judged worse than Match only with Ellipsis (F(1,23)=103.p<0.0001).

There was also a 2-way DiscourseRelation-Ellipsis interaction: The Mismatch-Ellipsis effect was stronger when clauses related by Resemblance vs. CE (F(1,23)=4.9.p<0.05).

Thus while acceptability was degraded across the board by violations of syntactic identity, discourse coherence modulated how strongly parallelism was enforced. The parallelism condition is viable and has a gradient effect on well-formedness: the extent of degradation due to mismatch can be alleviated without being categorically eliminated in certain discourse contexts.

Experiment 2

Experiment 1 shows a discourse coherence effect where the relevant coherence relations are between conjoined clauses. Experiment 2 asks whether this discourse effect extends to cross-sentential VPE.

• Keeler’s original proposal [3] meant to characterize relations among sentences—effect of syntactic mismatch modulated by discourse coherence should be the same whether ellipsis is intra- or cross-sentential.

• But: Frazier and Clifton [8] suggest different constraints apply to syntactic domains (sentence-internal) and discourse structure (across sentences)—cross-sentential VPE should be insensitive to syntactic mismatch.

Coordination-Mismatch: Kurt blamed Mario for the terrible performance, and (so) John was too.

Coordination-Match: Kurt blamed Mario for the terrible performance, and (so) John did too.

CrossSentential-Mismatch: Kurt blamed Mario for the terrible performance.

(Co) So John was too.

CrossSentential-Match: Kurt blamed Mario for the terrible performance.

(Co) So John did too.

Results:

• There were main effects of Match (F(1,13)=18.77, p<0.0001) and Coherence (F(1,13)=14.6, p<0.001), and a Match-Coherence interaction (F(1,13)=30.3, p<0.0001).

• There was no interaction of Coherence with Ellipsis Type (F(1,13)=8.99, p<0.34).

Discourse coherence modulations of syntactic observed to the same extent cross-sententially as in coordination; this suggests the discourse representation must be at least structurally rich enough to encode the difference between passive and active syntax.

Experiment 3

Can the syntactic parallelism condition be reduced to discourse structural parallelism? Experiment 3 looks at the availability of strict/sloppy interpretations of VPE containing reflexives. Hestvik [11] noticed strict readings are possible when VPE appears in subordinate (Cause-Effect) but not coordinate (Resemblance) structures. After reading a sentence or sentence pair with an ambiguity due to VPE, participants answered a 2-choice question indicating how they had interpreted the sentence.

Predictions:

• If syntactic identity includes identity of binding relations, sloppy or not strict interpretations satisfy parallelism. Strict readings might then increase when clauses are related by Cause-Effect.

• If the parallelism condition modulated by coherence is really discourse structural, the interaction between non-parallelism and coherence should not depend on the presence of syntactic structure, therefore should not be limited to the sentence domain.

Resemblance-WithinSentence:

CauseEffect-WithinSentence:

CauseEffect-CrossSentence:

Results:

• Main effects of EllipsisType (Within-/Cross-sentence (F(1,17)=5.7.p<0.05)) and DiscourseRelation (Resemblance/CE) (F(1,17)=4.3.p<0.05): more strict interpretations within vs. across sentences, and in CE vs. Resemblance.

• EllipsisType-DiscourseRelation interaction: proportion of strict interpretations greater for CE than Resemblance, and within- but not cross-sentence ellipsis (F(1,17)=16.5.p<0.001).

While the expected discourse coherence effect was observed in within-sentence VPE, this pattern did not extend to ellipsis across sentences; this contrasts with the parallel sentence-internal and external effects observed in Experiment 2.

Conclusions

The parallelism condition on VPE has a gradient effect on well-formedness, with the coherence relation between antecedent and ellipsis clause meanings modulating how strictly parallelism is enforced.

Given the identical effects of structural mismatch at the discourse and syntactic levels, it seems necessary for representations of sentences in discourse to encode structure resembling the internal syntactic structure of sentences, perhaps along the lines of Hardit & Romero’s discourse trees [12], where nodes are connectives representing different coherent relations. Voice mismatch affects VPE acceptability, suggesting representations are sufficiently well-articulated for actives and passives to differ.

Resemblance also enforces syntactic parallelism more than Cause-Effect in reference resolution, in cases where VPE creates ambiguity—there was a higher proportion of strict (structurally parallel) interpretations in Resemblance vs. Cause-Effect across sentences. The failure of this contrast to extend to cross-sentential ellipsis is expected if strict identity is established by variable binding, which requires c-command between elements in a connected syntactic structure.

References