

Ambiguity avoidance as an efficiency strategy driving word order change

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Ambiguity has often been discussed in the literature as a trigger for language change, in particular in the context of reanalysis (Harris and Campbell, 1995). More recently this view has been challenged by approaches posing that ambiguity is sometimes the result of change rather than its cause (De Smet, 2009, 2013) and that ambiguous contexts rather favor the expansion of change instead of triggering it (De Smet, 2021). In the present paper we present a case study in which we consider ambiguity from a language processing perspective and argue that it is the effort to avoid structurally ambiguous patterns and hence processing costs that drives the reduction of word order variability in language use. As a case at hand we consider diachronic variability in the linearization of infinitival complements of control verbs, including both obligatorily non-restructuring – or clausal – infinitives and optionally restructuring – or non-clausal – infinitives.

Although infinitival complements of control verbs are allowed to occur in clausal internal position (intraposition) in Present-day German (1a), this option is often considered marked (Haider, 2010; Wurmbrand, 2001) or is dispreferred in actual language performance (Bayer et al., 2005; Schmid et al., 2005; Bader and Schmid, 2009). Instead, the occurrence at the right edge of the clause (extraposition) as in (1b) is usually the preferred option (Ibid.). Our diachronic corpus study ranging from Early New High German to Present-day German shows, however, that intraposition was more frequent in older stages but it gradually disappeared in favor of extraposed infinitival complements over time.

- (1) a. Laura glaubt, **dass er [die Stadt zu verlassen] beschließt**
Laura thinks, that he the city to leave decides
b. Laura glaubt, **dass er beschließt, [die Stadt zu verlassen]**
Laura thinks, that he decides the city to leave
'Laura thinks that he decides to leave the city'

Following previous literature, we attribute the Present-day German preference to the processing costs associated with the ambiguity of intraposed infinitives. While patterns as (1b) clearly denote clausal infinitives in Present-day German, intraposition patterns as (1a) are possible with both clausal and non-clausal infinitives, thus giving rise to the structural ambiguity illustrated in (2).

- (2) a. Laura glaubt, **dass er [_{CP} die Stadt zu verlassen] beschließt**
b. Laura glaubt, **dass er die Stadt [_V zu verlassen _V beschließt]**

From an incremental parsing perspective, it has been argued that (2b) is always computed first due to a preference for minimal structure building (Bayer et al., 2005). While this type of ambiguity is less problematic when the matrix verb optionally allows for non-clausal infinitives, giving rise to a structure as in (2b), the lack of structural cues in sentences with intraposed infinitives can generate higher processing costs when the matrix verb only allows for clausal infinitives, i.e. the structure in (2a) only, since upon encountering the matrix verb the initial structural analysis has to be revised and a clausal boundary inserted post-hoc.

In the present paper, we look at the attested diachronic word order variation of German infinitival complements from the perspective of ambiguity avoidance. We claim that, while intraposition was often used in older German due to the increasing standardization of the language which favors verb-final structures, the growing influence of the spoken modality on the standard language has caused increased processing pressure and thus the preference for extraposed infinitives, a linearization pattern that avoids the type of ambiguity discussed above.

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