Experimental evidence against a PF theory of French wh-in-situ

1 Introduction and Theoretical Background

French is known for exhibiting optional wh-movement, as shown in (1).

(1) a. Jean a vu qui ? John has seen who
   b. Qui Jean a vu ? who John has seen

In recent developments of generative syntax (Chomsky 1995), optionality has been claimed not to be desirable. This is the reason why several authors in the literature on French proposed that wh-in-situ could be considered to be a PF phenomenon, or at least a syntactic phenomenon that occurs because of PF reasons (Hamlaoui 2011, Mathieu 2016, Richards 2016). All these theories make predictions about the position where wh-elements surface in the sentence: the position depends more on phonological constraints than on the syntactic category of the wh-element and the underlying syntactic representation. For example, Mathieu claims that French wh-in-situ phrases have a general tendency to require material to their right (2a is preferred to 2b).

(2) a. Il est venu comment à la fête ? b. ?? Il est venu à la fête comment ?
   He has come how at the party He has come at the party how

2 Experimental Study

We tested the predictions from the theories presented above, namely that the position of in situ wh-elements is somewhat rigid, and that it is not dependent of a fixed syntactical order. 62 native speakers participated in a web-based acceptability judgment task (7-point Likert-scale) with 12 conditions. Stimuli included declarative and interrogative sentences containing transitive or ditransitive verbs (within subject factor), where we varied the order of the Direct Object and the Adjunct or Indirect Object. Example sentences for transitive verbs are presented in (3). We used linear-mixed models to try to understand the effect of word order on the normalised scores of the participants.

(3) a. Marie a invité Paul lundi. b. Marie a invité lundi Paul.
   Marie has invited Paul monday Marie has invited monday Paul
   c. Marie a invité Paul quand ? d. Marie a invité quand Paul ?
   Marie has invited Paul when Marie has invited when Paul
   e. Marie a invité qui lundi ? f. Marie a invité lundi qui ?
   Marie has invited who monday Marie has invited when Paul

3 Results

In declarative sentences with transitive verbs (3a/3b), participants always gave higher ratings to sentences with the order DO/Adj (as in 3a) \((p < .01)\). The preference for this canonical order was also respected in interrogative sentences (3c-f): questions where the DO directly follows the verb (3c/3e) were considered better than those where the Adj directly follows the verb (3d/3f), no matter if the wh-element is the DO or the Adj \((p < .01)\). Similar results were found for ditransitive sentences.

Contra PF theories of wh-in-situ, these results revealed that the surface position of the wh-element is not as important as the underlying syntactic representation of interrogative sentences.

Since Hamlaoui (2011) claims that the difference between wh-ex-situ and wh-in-situ questions in French lies in their information structure properties (which have a direct consequence on PF), we carried out a second experiment with contexts containing presupposed information about different constituents of the sentence. According to Hamlaoui, the surface position of the wh-element depends on what is non-given in the sentence. However, the results of this second experiment were similar to those of the first, and they did not vary depending on information structure properties, thus not giving support to Hamlaoui’s position.