Cross-linguistic research on filler-gap dependency processing has shown that gaps are created actively in advance of concrete evidence, regardless of whether the gap position is pre-verbal (verb-final languages) or post-verbal (verb-medial languages) [1-4]. However, little is known about whether the same revision processes are triggered in both types of languages when active gap creation is disconfirmed by later-arriving information, such as filled-gaps. The variation in error signal position could implicate different degrees of commitment to revise:

Post-verbal filled-gaps in English or French arrive after the wh-verb semantic association is completed, whereas pre-verbal filled-gaps in Japanese arrive before the semantic associations could be completed. Here, we address this question by investigating French-speaking adults and children’s comprehension of wh-questions with post-verbal filled-gaps (1), and compare it to comprehension of the Japanese counterpart with pre-verbal filled-gaps reported in [5]. We show that French and Japanese children equally fail to revise due to their general syntactic revision difficulties [6], whereas French adults, who succeed more than children, nevertheless fail to revise more often than Japanese adults.

(1a) French ambiguous question
Où est-ce qu’Aline a expliqué qu’elle allait attraper des papillons?
Where Q Aline has explained that she went catch some butterflies
“Where did Aline explain that she was going to catch butterflies?”

(1b) French filled-gap question
Où est-ce qu’Aline a expliqué dans le salon qu’elle allait attraper des papillons?
Where Q Aline has explained in the room that she went catch some butterflies
“Where did Aline explain in the living room that she was going to catch butterflies?”

We used a Question-after-Story comprehension task following [5]. In each cartoon story a character visits three locations, one of which is host to the main clause event (e.g., explaining in (1)) and another to the embedded clause event (e.g., butterfly-catching). Participants answered a target wh-question after the four critical stories per condition. Two conditions for the wh-question include an ambiguous condition in which both main and embedded clause answers are possible (1a), and a filled-gap condition in which the main clause gap position is occupied by an overt locative PP (1b).

Data from French 6-year-old children (n=20) and adults (n=24) show interesting similarities and differences from the Japanese data in [5] (see Figure). In the ambiguous condition, French adults and children prefer main clause attachment (Adult:74%, Child:75%). This is consistent with the first verb (i.e. embedded verb) attachment preference observed in Japanese adults and children (Adult:92%, Child:94%) [5], and establishes that the off-line interpretation preference reflects the active wh-attachment to the first interpretive position [3,4]. In the filled-gap condition, French children strongly preferred main clause attachment despite the presence of filled-gap in the main clause (13% revision success). The degree of reanalysis failure was similar to that of Japanese children (17% success), and the lack of language influence confirms children’s general difficulties in sentence revision [6]. However,
adults’ data show a novel language influence in revision success: French adults showed a weak embedded clause attachment preference (65%), suggesting that they were able to revise the initial wh-attachment though not consistently, whereas Japanese adults were at ceiling in revising the initial analysis (95%).

**Figure.** The left figure shows the proportion of first verb attachment in French and Japanese ambiguous conditions. The right figure shows the proportion of successful revision in French and Japanese filled-gap conditions.

We propose that the greater reanalysis difficulty in French reflects the multiple levels of representations that require revision: Active gap creation in French occurs at the verb and completes both syntactic dependency and related semantic/discourse representations, but in Japanese it only allows syntactic dependency completion, which alone is too difficult for children to revise. Implications for models of sentence reanalysis will be discussed [7,8].

References