CHAPTER 26

Long wh questions in French

Negation doesn't intervene where?

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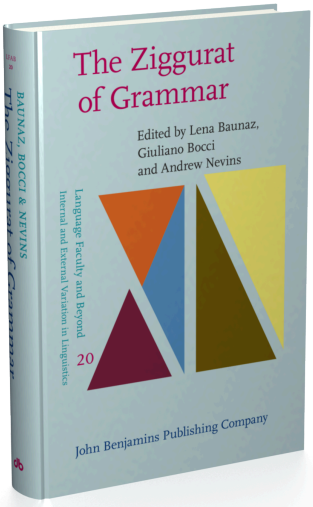

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Negation doesn't intervene where?

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This study investigates the interaction between negation and wh-dependencies in French long-distance questions. An acceptability judgment experiment tested 12 conditions, comparing in situ and ex situ wh phrases in positive contexts, under matrix negation, and under embedded negation. Wh extraction occurred from embedded clauses selected by communication and factive matrix verbs. Results show that matrix negation causes a severe reduction in acceptability, while embedded negation has a milder effect. Crucially, in situ wh phrases are consistently rated at least as high as their ex situ counterparts, even under negation. These findings support both a unified, locality-based analysis of intervention effects. We propose a Relativized Minimality account distinguishing A- and A′-chains and suggest refinements to phase theory to account for the sensitivity of long-distance wh dependencies to matrix negation.

Keywords: wh in situ, long-distance wh questions, negation, Relativized Minimality, intervention effects, French

1. Introduction

In recent work, Baunaz, Bocci & Shlonsky (2024) studied experimentally the impact of negation on wh interrogatives in French. Their work shows that the presence of negation c-commanding a clausemate wh in-situ or a trace of a moved wh leads to only a slight drop in acceptability, as compared with positive interrogatives. The configurations schematized in (1) and (2) give rise to acceptable sentences. As also shown in (1) and (2), and corroborated by the experimental results, negation does *not* selectively affect wh in-situ as compared with moved, i.e., wh ex situ interrogatives in French: wh-phrases in-situ are at least as acceptable as their ex-situ counterparts. This novel generalization is validated for the long-construal

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configuration in (2). We assume that it also holds for the mono-clausal configuration in (1).[1]

(1) a. [$_{CP}$ wh ... neg ... t_{wh}]
b. [$_{CP}$ ... neg... wh]

(2) a. [$_{CP}$ wh ... [$_{CP}$ ... neg ... t_{wh}]]
b. [$_{CP}$ ... [$_{CP}$ ... neg ... wh]

Sentences conforming to the pattern in (2b) were judged grammatical in Baunaz & Puskás (2008), but the authors noted a clear difference in acceptability between this pattern, in which negation appears in the same clause as the wh in-situ, and the one schematized in (3), in which negation appears in the matrix clause.

(3) [$_{CP}$ ... neg ... [$_{CP}$ ... wh]]

Baunaz & Puskás' (2008) examples appear in (4). We have supplemented them with the pair in (5), which reproduce the contrast between 'high' and 'low' negation in interrogatives with (overt) wh movement.[2]

(4) a. *Tu crois [qu'elle a* ***pas*** *vu quel film]?*
you think that she has not seen which/what film
'Which/what film do you think she has not seen?'
b. **Tu crois* ***pas*** *[qu'elle a vu quel film]?*
you think not that she has seen which/what film
(= which film don't you think she has seen)
(Baunaz & Puskás 2008: Example (5))

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1. The literature on French wh in-situ is notoriously inconsistent with respect to (a) the status of wh in-situ in embedded declarative clauses (long-construal) and (b) the status of (short) in-situ interrogatives with negation, such as (i): Some authors have claimed that both are ungrammatical (see Boskovic 1998, 2000, Cheng & Rooryck 2000 a.o).

(i) Lena n'a pas parlé à qui? Lena did not speak to who

We have not found any experimental evidence to support these claims. Indeed, previous experiment-based research has established the contrary: Wh in-situ is fine in biclausal wh-questions with long construal (see also Tual 2017, Glasbergen-Plas 2021, Baunaz, Bocci & Shlonsky 2024) and (i) is grammatical.

2. Baunaz & Puskás' (2008) examples compared non-factive matrix verbs like *croire* 'think' with factive verbs like *admettre* 'admit'. *Think*, however, is potentially a neg-raising verb: Although *pas* 'not' appears in the matrix in (4b), it can be interpreted as negating the embedded verb *see* rather than the matrix *think*. To avoid this potential pitfall, the matrix verb in (5) is *say* and the other non-factive verbs in our experimental tasks described in Sections 2 and 3 are similar verbs of communication. When construed with these verbs, negation can only be interpreted in the matrix.

(5) a. *Quel film t' as dit qu' elle a **pas** vu?*
which/what film you have said that she has not seen
'Which/what film did you say that she has not seen?'
b. **Quel film t' as **pas** dit qu' elle a vu?*
which/what film you have not said that she has seen
'Which/what film didn't you say that she has seen?'

These contrasts are *prima facie* surprising, since negation c-commands the wh in-situ/trace of wh movement in all the examples. Wh moves to the matrix in the *ex-situ* cases and must be associated (either by covert movement or by some other mechanism) to the root in the *in-situ* cases as well, since they are interpreted with long construal of the wh.

The present paper is an attempt to verify experimentally the pattern discovered by Baunaz & Puskás (2008) and discuss its significance for the theory of wh movement.

In the following section, § 2, we sketch our experimental design and procedure and follow that up in § 3 with a presentation of our results. The discussion in § 4.1, presents a summary of Baunaz & Puskás' (2008) analysis of (3) in terms of *feature stripping*. We point to some problems with that account and briefly present two alternatives, due to Kotek (2016) and Abels & Dayal (2023) that also fall short of explaining the patterns in French. In § 4.2, we tentatively adumbrate an alternative analysis. § 5 summarizes our findings.

2. Design, method and procedure

We carried out a web-based experimental study of acceptability judgments, (implemented and hosted on PCIbex Farm, Zhang et al., 2020). We tested the acceptability of biclausal direct wh questions with long-distance construal under 12 conditions, which were obtained from crossing 3 independent factors: *wh-situ, polarity*, and *verb type*. The factor wh situ has two levels: ex-situ vs. in-situ. The factor *polarity* has 3 levels: positive (no negation in either the matrix or the embedded clause), negation in the embedded clause, and negation in the matrix clause. Finally, we tested two classes of verbs in the matrix clause (*verb type*): verbs of communication — see Footnote 2 — (*affirmer* 'assert', *déclarer* 'declare', *dire* 'say', *écrire* 'write', *lire* 'read' and *raconter* 'tell') vs. factive verbs (*admettre* 'admit', *avouer* 'confess', *constater* 'note', *découvrir* 'discover', *oublier* 'forget' and *se rappeler* 'remember'). The 12 conditions are exemplified in (6) and (7). In all the items, the wh element was the direct object in the embedded clause. Furthermore, the subject in the matrix clause was always a personal pronoun. Since in-situ questions in French cannot be formed with the interrogative element *est-ce que* or with subject

clitic inversion, we evinced both in the ex-situ configurations, thus minimizing the differences between the in-situ and the ex-situ configurations and facilitating comparison between them.

(6) *Communication verb in the matrix clause*

a. *Finalement, il* ***n****'a* ***pas*** *dit qu'on avait condamné quel accusé au procès?*
finally he NEG-has not said that one had convicted which defendant at.the trial
'In the end, he didn't say which defendant they had convicted at the trial?'

b. *Finalement, quel accusé il* ***n****' a* ***pas*** *dit qu' on avait condamné au procès ?*
finally which defendant he NEG-has not said that one had convicted at.the trial
'In the end, which defendant didn't he say that they had convicted at the trial?'

c. *Finalement, il a dit qu'on* ***n****'avait* ***pas*** *condamné quel accusé au procès ?*
finally he has said that one NEG-had not convicted which defendant at.the trial
'In the end, he said that they hadn't convicted which defendant at the trial?'

d. *Finalement, quel accusé il a dit qu' on* ***n****'avait* ***pas*** *condamné au procès ?*
finally which defendant he has said that one NEG-had not convicted at.the trial
'In the end, which defendant did he say that they hadn't convicted at the trial?'

e. *Finalement, il a dit qu' on avait condamné quel accusé au procès ?*
finally he has said that one had convicted which defendant at.the trial
' In the end he said that they had convicted which defendant at the trial?'

f. *Finalement, quel accusé il a dit qu' on avait condamné au procès ?*
finally which defendant he has said that one had convicted at.the trial
'In the end, which defendant did he say that they had convicted at the trial?'

(7) *Factive verb in the matrix clause*

a. *Finalement, il* ***n'a*** ***pas*** *constaté qu' on avait condamné quel*
finally he NEG-has not observed that one had convicted which
accusé au procès ?
defendant at.the trial
'In the end, he didn't observe which defendant they had convicted at the trial?'

b. *Finalement, quel accusé il* ***n'a*** ***pas*** *constaté qu'on avait*
finally which defendant he NEG-has not observed that one had
condamné au procès ?
convicted at.the trial
'In the end, which defendant didn't he observe that they had convicted at the trial?'

c. *Finalement, il a constaté qu' on* ***n'avait*** ***pas*** *condamné quel*
finally he has observed that one NEG-had not convicted which
accusé au procès ?
defendant at.the trial
'In the end, he observed that they hadn't convicted which defendant at the trial?'

d. *Finalement, quel accusé il a constaté qu' on* ***n'avait*** ***pas***
finally which defendant he has observed that one NEG-had not
condamné au procès ?
convicted at.the trial
'In the end, which defendant did he observe that they hadn't convicted at the trial?'

e. *Finalement, il a constaté qu' on avait condamné quel accusé*
finally he has observed that one had convicted which defendant
au procès ?
at.the trial?'
'In the end, he observed that they had convicted which defendant at the trial?'

f. *Finalement, quel accusé il a constaté qu' on avait condamné*
finally which defendant he has observed that one had convicted
au procès ?
at.the trial
'In the end, which defendant did he observe that they had convicted at the trial?'

To test these conditions, we created 18 experimental items. The three factors, *wh-situ, polarity,* and *verb type* were all manipulated within items. Each item included a set of 12 wh questions, which differed minimally with respect to the position

of the wh phrase, polarity, and verb type. As a result, we obtained a total of 216 experimental stimuli.

We divided the experimental stimuli into 6 lists using a Latin square design, with each list containing 36 experimental trials. Each item was presented twice per list, once with a communication verb, and once with a factive verb. The two instances of the same item present in the lists differed systematically also with respect to *wh situ*. The sequences of trials were divided into two blocks, so that two instances of a same item appeared in different blocks. Participants were randomly assigned to one of these 6 lists. In addition to the 36 experimental trials, every list included 36 identical filler trials. These filler trials featured declarative sentences. The acceptability of the filler sentences was intentionally varied, with 12 trials being highly unacceptable, 12 difficult to evaluate, and 12 highly natural. For each participant, the order of blocks was randomized, and order of the trials within each block was pseudo-randomized, interspersing experimental and filler trials.

The experiment began with an overview of the study, immediately followed by a consent form. Participants then completed a brief sociolinguistic survey, which gathered details such as whether they were native French speakers, their age, whether they were bilingual (and which other languages they spoke), their place of residence (country and region/city), and where they spent their childhood. At this point, participants received comprehensive instructions. They were asked to envision everyday conversations in casual settings and to think about the language they typically use in their daily lives. It was emphasized that they could interpret the sentences in the way that felt most natural to them, including imagining the appropriate prosody. Following a familiarization phase that consisted of 3 practice trials featuring sentences similar to the fillers, the main experimental session commenced. At the conclusion of the experiment, participants were shown a debriefing page.

The sentences were presented in isolation. To evaluate them, participants were required to select a value on a 7-point Likert scale (from 1 to 7). The endpoints of the scale were labeled from *complètement inacceptable* (=1, "completely unacceptable") to *complètement acceptable* (=7, "completely acceptable").

We recruited 52 participants through Prolific.com, compensating each with £2.25 for their involvement. The median completion time was around 12 minutes. The recruitment campaign specifically targeted individuals between the ages of 18 and 40 who were native French speakers, born and currently residing in France, and without any reported language impairments or literacy issues.

3. Results

The analysis of the preliminary questionnaires revealed that the participants all met the selection criteria. Accordingly, they were all included in the analyses. The ratings from the experimental trials were analyzed using a linear mixed-effects model from the *lme4* package (Bates et al., 2015) in R (R Core Team, 2023). Ratings were predicted as a function of the wh phrase position (ex-situ vs. in-situ), polarity (positive, negation in the embedded clause, or negation in the matrix clause), and verb type in the matrix clause (bridge vs. factive), along with their interactions. Contrast coding was applied to the wh position and verb type factors, with weights of −0.5 and +0.5, similar to ANOVA models. For the polarity factor, which has three levels, custom contrasts were specified: the first contrast — *contr.polarity1* — compared "positive" with "negation in the embedded clause" (0.5, −0.5, 0.0), while the second — *contr.polarity2* compared "negation in the embedded clause" with "negation in the matrix clause" (0.0, 0.5, −0.5). This approach aligns with the hypotheses based on Baunaz & Puskás (2008) and the previous results of Baunaz, Bocci & Shlonsky (2024). Specifically, positive wh-questions are expected to be fully acceptable, regardless of wh phrase position. According to Baunaz & Puskás (2008), negation in the embedded clause does not give rise to any syntactic violation and should be acceptable, though a slight decrease in acceptability might occur due to the increased complexity induced by negation. In contrast, negation in the matrix clause is predicted to result in a severe more degradation in acceptability: questions with negation in the matrix clause are expected to receive lower ratings than questions with negation in the embedded clause.

The most complex error structure justified by the design and data included random intercepts for participants and items, as well as by-participant slopes for wh situ and polarity, and by-item slopes for polarity and verb type.

The results of the model are summarized in Table 1. The ratings predicted by the model are plotted in Figure 1.

The model revealed a significant effect for *wh.situ*, with in-situ wh phrases rated significantly higher than ex-situ wh phrases, regardless of the other factors: $beta = -0.65$, $t(3387) = -5.05$, $p < .001$; Std. $beta = -0.32$. Positive wh questions were rated significantly higher than questions with negation in the embedded clause (*contr.polarity1*): $t(3387) = 10.89$, $p < .001$; Std. $beta = 0.78$. Furthermore, questions with negation in the embedded clauses were rated significantly higher than questions with negation in the matrix clause (*contr.polarity2*): $beta = 2.21$, $t(3387) = 10.91$, $p < .001$; Std. $beta = 1.08$. The main effect of matrix *verb type* (communication vs. factive) was not significant. We observed a significant interaction of *wh situ* with *contr.polarity1* ($beta = -0.32$, $t(3387) = -2.71$, $p = 0.007$, Std.

Table 1. Summary of the linear mixed-effects model predicting ratings from the interaction of wh phrase position (*wh.situ*), polarity (*contr.polarity1* corresponding to positive vs. embedded negation and *contr.polarity2* corresponding to embedded negation vs. matrix negation), and verb type (*verb.type*)

rating ~ wh.situ * polarity * verb.type +
(1 + wh.situ + polarity | participant) +
(1+ wh.situ + polarity | item)

Predictors	Estimates	*CI*	*p*
(Intercept)	4.38	4.05–4.71	<0.001
wh.situ	−0.65	−0.90–−0.40	<0.001
contr.polarity1 (positive v. embedded negation)	1.60	1.31–1.89	<0.001
contr.polarity2 (matrix vs embedded negation)	2.21	1.81–2.60	<0.001
verb.type	−0.02	−0.36–0.32	0.920
wh.situ × contr.polarity1	−0.32	−0.56–−0.09	0.007
wh.situ × contr.polarity2	−0.58	−0.81–−0.35	<0.001
wh.situ × verb.type	−0.08	−1.31–1.15	0.900
contr.polarity1 × verb.type	0.72	0.37–1.07	<0.001
contr.polarity2 × verb.type	0.78	0.34–1.21	<0.001
wh.situ × contr.polarity1× verb.type	0.52	−0.50–1.55	0.318
wh.situ × contr.polarity2 × verb.type	0.37	−1.04–1.77	0.609

beta = −0.16), as well as with *contr.polarity2* (*beta* = −0.58, $t(3387) = -4.84$, $p < .001$; Std. *beta* = −0.28). Also verb type interacted significantly with the *contr.polarity1* (*beta* = 0.72, $t(3387) = 3.99$, $p < .001$; Std. *beta* = 0.35), as well as with *contr.polarity2* (*beta* = 0.78, $t(3387) = 3.50$, $p < .001$; Std. *beta* = 0.38). No three-way interaction was significant.

To investigate the interaction between wh phrase position and polarity, we analyzed the estimated marginal means (EMMs) using the *emmeans* package (Lenth, 2020). We calculated the EMMs of *wh situ* (ex-situ vs. in-situ) within each level of *polarity*, averaging over *verb type*. EMMs (also known as least-squares means) are the model's predictions of the average rating for each condition after adjusting for all other factors and the random-effects structure. Next, we computed pairwise contrasts between ex-situ and in-situ wh phrases for each *polarity* condition. The contrasts revealed that in-situ wh phrases were rated significantly higher than ex-situ ones within all polarity conditions (positive: contrast estimate = −0.810, $SE = 0.143$, $t(103) = -5.672$, $p < .0001$; embedded clause negation: contrast estimate = −0.776, $SE = 0.143$, $t(103) = -5.432$, $p < .0001$; matrix clause

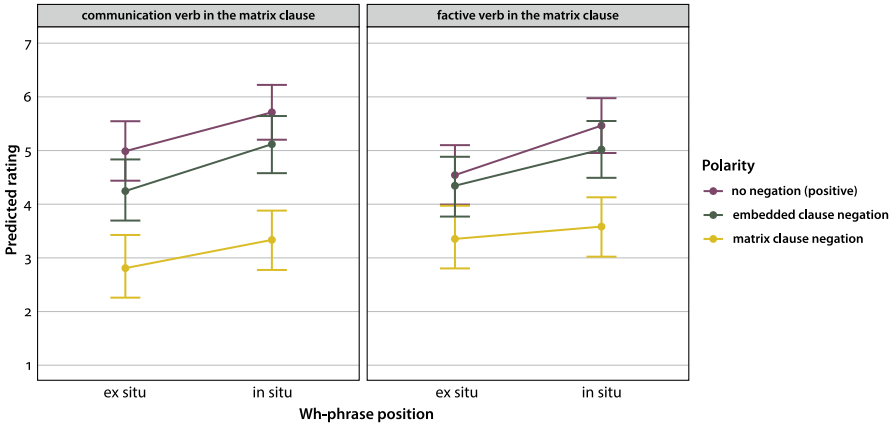

Figure 1. Estimated effects of wh phrase position (ex-situ vs. in-situ), polarity (positive, embedded clause negation, matrix clause negation), and verb type (communication vs. factive) on ratings. The graph presents the predicted ratings across the three factors, with each line representing one of the polarity conditions. Error bars indicate 95% confidence intervals

negation: contrast estimate = −0.358, $SE = 0.143$, $t(103) = -2.507$, $p = .0137$). See Figure 2 for the estimated marginal means for *wh situ* (ex-situ vs. in-situ) across the three levels of *polarity*.

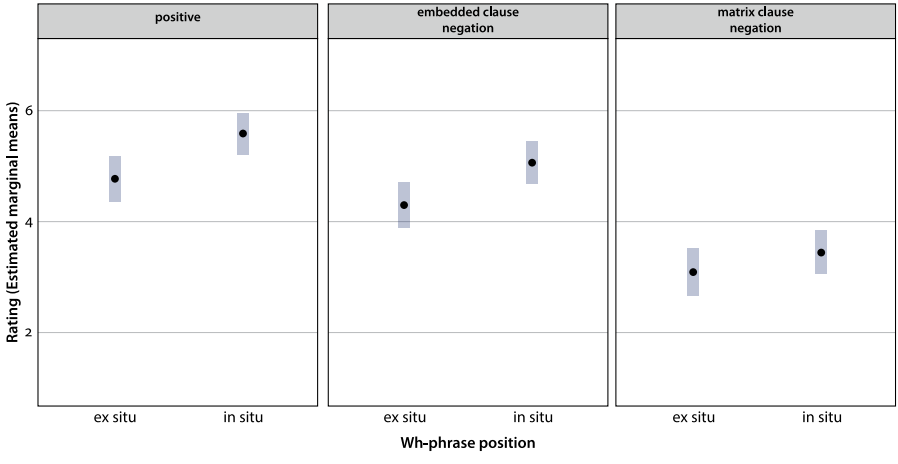

Figure 2. Estimated marginal means (EMMs) for wh-phrase position (ex-situ vs. in-situ) across the three levels of polarity: Positive, embedded clause negation, and matrix clause negation. Error bars represent 95% confidence intervals

To assess whether the magnitude of the ex-situ vs. in-situ difference varied across polarity conditions, we compared these contrasts across the different levels of polarity. We calculated the differences between the contrasts and their associated t-values, assessing the significance of these differences using a critical t-value of approximately 1.96 (for $\alpha = .05$). The results indicate that the difference in ratings between ex-situ and in-situ wh phrases is not significantly different between the positive condition and the negation in the embedded clause condition ($t = -0.168$, not significant). However, the difference between ex-situ and in-situ is significantly reduced when negation occurs in the matrix clause compared to when it occurs in the embedded clause ($t = 2.07$, $p < .05$).

To examine the interaction between *verb type* and *polarity*, we proceeded similarly to the previous analysis by computing the EMMs of *verb type* (communication vs. factive) within each level of *polarity*, averaging over wh phrase position. In positive wh questions, communication verbs were rated higher ($Mean = 5.35$, $SE = 0.208$) than factive verbs ($Mean = 5.01$, $SE = 0.208$), but the difference was not significant ($beta = 0.3419$, $SE = 0.199$, $t(56.5) = 1.722$, $p = 0.0905$). In the embedded clause negation condition, communication verbs ($Mean = 4.69$, $SE = 0.221$) and factive verbs ($Mean = 4.68$, $SE = 0.221$) received almost identical ratings, with no significant difference between them ($beta = 0.0113$, $SE = 0.232$, $t(51.8) = 0.049$, $p = 0.9613$). However, in the matrix clause negation configuration, factive verbs ($Mean = 3.48$, $SE = 0.218$) were rated significantly higher than communication verbs ($Mean = 3.07$, $SE = 0.218$), with a significant difference ($beta = -0.4054$, $SE = 0.181$, $t(59.5) = -2.238$, $p = 0.0290$), in line with the pattern pointed out by Baunaz & Puskás (2008).

These results suggest that verb type only significantly affects ratings when negation is in the matrix clause, with factive verbs receiving higher ratings than bridge verbs in this condition. No significant differences were observed in the positive or embedded clause negation conditions. See Figure 3 for a visual representation of the estimated marginal means by verb type and polarity.

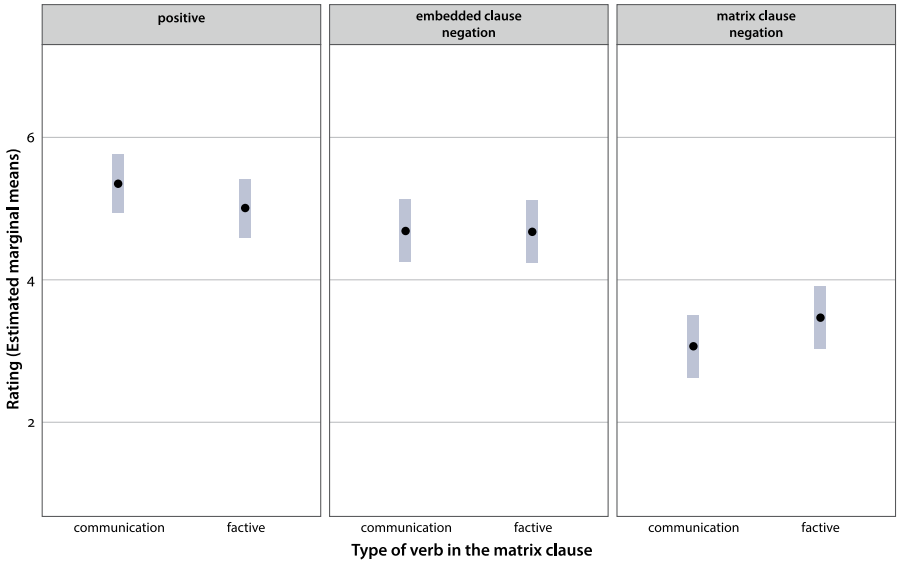

Figure 3. Estimated marginal means (EMMs) for verb type (bridge vs. factive) across the three polarity conditions: Positive, embedded clause negation, and matrix clause negation. Error bars represent 95% confidence intervals

4. Discussion

Our experimental results confirm Baunaz & Puskás' (2008) observation that long-construed wh in-situ is not sensitive to c-commanding clausemate negation but only to negation in the higher clause. In the grammatical (a) examples in (8) and (9), negative *pas* is in the embedded clause; the same clause from which wh is extracted or appears in situ. In the ungrammatical (b) examples, *pas* is in the matrix clause.

(8) a. *Tu crois [qu' elle a* ***pas*** *vu quel film]?*
you think that she has not seen what/which film
'Which film do you think she has not seen?'

b. **Tu crois* ***pas*** *[qu' elle a vu quel film]?*
you think not that she has seen what/which film
'Which film don't you think she has seen?'

(Baunaz & Puskás 2008: Example (5)))

(9) a. *Avec quel artiste t'as dit [que Marie avait déjeuné]?*
with which artist you-have said that Marie had lunched
'With which artist did you say that Mary had lunch?'

b. ??*Avec quel artiste t'as* ***pas*** *dit [que Marie avait déjeuné t]?*
with which artist you have not said that Marie had lunched
'With which artist didn't you say that Mary had lunch?
(Baunaz & Puskás 2008: Example (16))

There are a number of ways one could approach this pattern. We first present the direction taken by Baunaz & Puskás (2008), pointing out some of its limitations and problems, and then turn to a line of thinking emerging from Pesetsky's (2000) analysis of multiple wh questions, specifically Kotek (2016) and Abels & Dayal (2023), pointing out to some potential problems with this family of analyses when applied to the data at hand. In § 4.2, we suggest an alternative analysis.

4.1 Approaches to the selective intervention problem

The core idea of Baunaz & Puskás' (2008) analysis is that, apart from so-called 'aggressively non-d-linked' wh elements, wh expressions can be equipped with an extra feature, in addition to the quantificational wh or Q feature that serves to attract them to the wh/Q head in the matrix. They take this extra feature to be +presuppositional, in the sense of Starke (2001) and Baunaz (2011). When a wh in-situ undergoes covert movement, they argue, this extra feature protects it from intervening negation. Under featural Relativized Minimality (Starke 2001, Rizzi 2004), an element endowed with the feature set {F1, F2} can licitly form a chain over an intervener endowed with only one member of the set (either {F1} or {F2}). Intervention effects arise when the movement target and the intervener have identical feature sets (Friedmann, Belletti & Rizzi 2009). Although covert wh movement can cross over clausemate negation, it cannot licitly form a chain over an occurrence of matrix negation. This, Baunaz & Puskás (2008) argue, is because the presuppositional feature of the wh element is obligatorily valued in the CP of the embedded clause. Once valued, this feature is *stripped* from wh, which now retains only its quantificational feature. Chain formation over negation by a "pure" quantifier, e.g., a wh with only a wh/Q feature, is blocked by Relativized Minimality, as argued by Rizzi (2004). The presuppositional feature is stripped, in the Baunaz & Puskás (2008) analysis, under non-factive verbs like 'think' and 'say' but fails to be stripped and is retained when the matrix verb is factive. Consequently, they predict that a sentence like (9b) should be grammatical when the matrix verb is factive and they provide the following pair to illustrate this point.

(10) a. **Tu crois* ***pas*** *[que Jean a invité quelle célébrité]?*
you think not that Jean has invited which celebrity
'Which celebrity don't you think that Jean invited?'

b. *T'admets* ***pas*** *[que Jean a invité quelle célébrité]?*
you-admit not that Jean has invited which celebrity
'Which celebrity don't you admit that Jean invited?'

As Figure 3 shows, matrix negation with factive verbs yields a higher level of acceptability than with (non-factive) communication verbs. However, the ameliorating effect observed with factive verbs is relatively small; the ratings for interrogatives with matrix negation like (10b) are still way below the ratings for embedded clause negation. This leads us to conclude that even if we experimentally find that matrix negation gives rise to a less pronounced degradation with a factive verb than with a communication verb, as Baunaz & Puskás (2008) observe, the presence of a factive verb in the matrix clause does not suspend the vitiating impact of negation in the matrix clause. The small, but systematic difference observed between communication and factive verbs could be linked to the accessibility for the participant to a d-linked interpretation for the wh phrase across conditions. It is conceivable that our participants found it easier to accommodate a d-linked interpretation in our out-of-context stimuli with factive verbs than with communication verbs, thus improving the score of such sentences.

Contrasts very reminiscent of those in (4) and (5) (= (8) and (9)) are discussed by Kotek (2016). She notes that a pair list (PL) reading for the wh elements in an English multiple wh question is possible with clausemate negation in (11a) but unavailable with negation in the matrix clause, (11b).[3]

(11) a. *Which protester shouted [that we didn't invite which politician]?*
b. $*^{PL}$*Which protester didn't shout [that we invited which politician]?*
(Kotek 2016, Example (17))

Kotek (2016) argues that this asymmetric intervention effect holds of wh in-situ in islands and considers the clausal complement of manner of speaking (non-bridge) verbs like *shout* to be an island. She adopts Pesetsky's (2000) view that covertly *moved* wh can cross an intervenor and only a wh element that must remain in-situ is subject to intervention by negation.[4] Kotek surmises that wh can covertly move *within* an island but cannot cross the island and move to the matrix. In her view, wh remains in this "intermediate" position and is interpreted there by focus semantics.

The judgments in Baunaz & Puskás (2008), confirmed by our experimental results detailed in Section 3, clearly show that it is not the fact that the com-

3. Why a single pair answer to (11b) does not manifest an intervention effect is an independent issue, that Kotek (2016) puts aside.

4. Recall that Pesetsky (2000) argued that in multiple wh questions, wh must remain in-situ and cannot move covertly if its movement would violate Superiority.

plement clause is an island that prevents wh movement from proceeding to the matrix. High negation blocks wh expressions extracted from complement clauses to bridge verbs such as the communication verbs we tested (e.g., 'say' and 'declare').

The observation that it is not islandhood of the embedded CP as such that blocks or alters the trajectory of wh movement is fundamental to Abels & Dayal's (2023) analysis of intervention effects in multiple sluicing. These authors conjecture that covert wh movement is clause-bounded by default and argue that a wh that moves from an embedded clause halts in that clause's left periphery. They argue that single pair readings of multiple wh questions in English are obtained through choice functions and propose a functional analysis for pair list readings.

While Abels & Dayal's approach can make some sense of the French in-situ data exemplified by (4), neither their analysis nor Kotek's sheds light on our robust observation, illustrated in (5), that ex-situ or *overtly moved* wh in French is also sensitive to non-clausemate negation.

Extending Abels & Dayal's proposal to overt movement would entail that wh movement stops in the embedded clause in cases of overt movement like (5). This would require an explanation of why the wh is linearized at PF in the matrix and not in the embedded clause (and why, conversely, it *cannot* be linearized in the left periphery of the embedded clause, where, according to both Kotek and Abels & Dayal, movement presumably halts).

4.2 An alternative analysis

The recent work summarized in the preceding paragraphs relegates to the interpretive component the degraded status of long-construal (in-situ) wh questions with negation in the matrix clause. We believe that our experimental results vindicate the basic insight of Baunaz & Puskás (2008), namely, that matrix negation intervenes syntactically and obstructs chain-formation in long-construal with both ex-situ and in-situ wh (and any analysis that invokes special properties of covert movement is not adequate). We argue below that the chain whose tail is in the embedded Spec/CP has adjunct-like properties and as such, it is subject to Relativized Minimality.

Rizzi's (1990) theory of Relativized Minimality provides a unified explanation for the adjunct-argument asymmetry in extraction from wh islands (Huang 1982) and for what Ross (1984) named inner islands. The relevant patterns are illustrated in (12) and (13), from Rizzi (1990).

(12) a. ?*Which problem do you wonder how to solve <which problem>?*
b. **How do you wonder which problem to solve <how>?*

(13) a. *What do you believe he weighed <what> (last week)?*
b. *What do you not believe he weighed <what> (last week)?*

Argument extraction in (12a) is typically judged as marginal or slightly degraded in English while adjunct extraction in (12b) is excluded. (13a), as Rizzi (1990:16) writes, "allows both "Potatoes" and "200 pounds" as possible answers", but (13b) "seems to naturally allow only the first answer, in the appropriate context (that is, the direct object of agentive 'weigh' can be extracted from the domain of negation, whereas the adverbial measure phrase selected by stative 'weigh' cannot)." Note, in passing, that argument wh movement over negation is not marginal but fully acceptable, unlike argument extraction from a wh island, a point that has rarely been noted in the literature on these topics ((12a) vs. (13a)).

The striking similarity of the patterns in (12) and (13) strongly suggests that the class of possible extractions can be defined in the same way: an argument can be extracted, an adjunct cannot. Rizzi's (1990) theory holds that chains of non-arguments are subject to intervention locality while movement of arguments is exempt.

There are a number of ways to characterize the difference between arguments and non-arguments (see e.g., Rizzi 1990, 2001, 2004). For our purposes, the relevant distinction is the one proposed in Rizzi (1990): An argument is a category in an A position, while a non-argument category is everything else. Adverbials, parts of arguments and predicates are non-arguments, movement of which is constrained by Relativized Minimality.[5]

With these assumptions in mind, consider the syntactic configurations that underlie our empirical generalizations. (14a) schematizes long wh construal with negation in the embedded clause. Wh_1 is the base or external merge position, wh_2 is the intermediate copy/trace in the specifier of the embedded clause and wh_3 is the interpreted or criterial copy. Since speakers judge the impact of negation on par in in-situ and in ex-situ interrogatives, we assume that the structures in (14) are valid for both, the difference being whether the pronounced copy is wh_3 or wh_1.[6]

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5. In Rizzi (1990) and much of the work of the period, Relativized Minimality violations were taken to be violations of proper government. Rizzi (2001) restates Relativized Minimality as a well-formedness condition on chains and it is this characterization that we adopt.

6. We abstract away here from the syntactic differences between wh in-situ and wh ex-situ:

a. The ungrammaticality of wh in-situ in indirect questions,
b. The impossibility of combining wh in-situ and subject clitic inversion,
c. The incompatibility of wh in-situ with *est-ce que*.

We assume that these differences are not related to the *movement* of wh in-situ, which our experimental data lead us to believe follows the same trajectory as overt wh movement (ex-situ).

(14) a. $[_{CP}\ wh_3 \ldots\ [_{CP}\ wh_2 \ldots neg \ldots wh_1]]$
b. $[_{CP}\ wh_3 \ldots neg \ldots\ [_{CP}\ wh_2 \ldots wh_1]]$

The chain connecting wh_1 and wh_2 is an A' chain but its tail is in an A position. Hence, it should be unaffected by Relativized Minimality. This is why the presence of negation in the embedded clause in (14a) does not lead to any deterioration in acceptability, just as it fails to do so in the argumentative interpretation of 'what' in (13b). The tail of the chain connecting wh_2 and wh_3, however, is in an A' position and movement from Spec/CP is akin to movement of a non-argument, as in (12b) and (13b). We hence predict adjunct-like sensitivity to intervenors in this chain's path. This is indeed what the data reveal: Sentences conforming to the configuration in (14b) are significantly degraded as compared with those that follow the pattern in (14a).

Formulating the A/A' distinction in terms of positions (A vs. A'), as in Rizzi (1990), delivers a straightforward explanation of the basic empirical observation in this chapter. Two important theoretical issues arise at this point, however, that we briefly develop in the following paragraphs.

The first issue relates to the adoption of a featural rather than a positional distinction between arguments and non-arguments, as in Rizzi (2004), Starke (2001). In featural Relativized Minimality, the condition on non-intervention in chain formation is phrased in terms of the relation between features of constituents, rather than between the type of constituents or the type of position they occupy. The classic distinction between arguments and adjuncts can be straightforwardly expressed in this system: Rizzi (2004) distinguishes a +Q(uantificational), +N(oun) argument like 'which problem' in (12a) from the +Q adjunct 'how'. It is not clear, however, how to featurally characterize an *argument* in an A' position. The relevant case is that of a wh in Spec/CP, through which it transits in successive cyclic movement. Consider the chains with the tail wh_2 in Spec/CP in the ex-situ (15a) and the in-situ (15b).

(15) a. *[Quel film]*$_3$ *t' as dit <quel film>*$_2$ *qu' elle a vu*
what/which film you have said <what/which film> that she has saw
<quel film>$_1$
<what/which film>
b. *<Quel film>*$_3$ *t'as dit <quel film>*$_2$ *qu'elle a vu*
what/which film you have said <what/which film> that she has saw
[quel film]$_1$
<what/which film>
'Which/what film did you say that she saw ?'

Wh_2 is an argument — in terms of its featural content — in a non-argument position, and we have seen that the wh_2-wh_3 chain displays sensitivity to intervention. We cannot see any natural way to distinguish — in terms of features — a wh argument from an intermediate copy of a wh argument. Note that Baunaz & Puskás (2008) grapple with this issue precisely and their proposed feature-stripping mechanism in Spec/CP has the result of rendering an argument wh sensitive to intervention effects when it moves into the matrix clause. However, what forces a +N feature, for example, to delete in Spec/CP remains obscure. It seems, rather, that positional Relativized Minimality needs to be maintained, perhaps alongside the featural approach.

The second issue arises when we take into consideration the view of successive cyclicity and cyclic Spellout embodied in Phase theory (Chomsky 2001 and subsequent work). In this body of work, wh movement moves not only through the edge of CP but also through the edge of vP. Our explanation for the contrast between (14a) and (14b) ignored, however, the vP edge; we assumed that a clause-internal argument, say a direct object, moves directly to Spec/CP of the embedded clause and from there directly to the matrix left periphery. If we now systematically add a wh copy to every vP edge in (14), we end up with (16), in which wh_1 is the argumental external merge position, wh_2 and wh_4 (in bold) are vP edge positions, wh_3 is on the edge of the embedded CP and wh_5 is the criterial position, the final landing site of wh movement.

(16) a. $[_{CP}\ wh_5 \ldots \quad [_{vP}\ \mathbf{wh_4} \ldots\ [_{CP}\ wh_3 \ldots\ neg \ldots [_{vP}\ \mathbf{wh_2}\ \ldots wh_1]]]]$
b. $[_{CP}\ wh_5 \ldots neg \ldots\ [_{vP}\ \mathbf{wh_4} \ldots\ [_{CP}\ wh_3 \ldots\ [_{vP}\ \mathbf{wh_2}\ \ldots wh_1]]]]$

The adoption of (16) has the undesirable consequence of eliminating the distinction between the two neg-crossing chains in (14) and (incorrectly) predicting negative intervention in both the embedded and the matrix clause of long-construal wh. This is so because in both (16a) and (16b), negation intervenes between two wh copies in A' positions: wh_2 and wh_3 in (16a) and wh_4 and wh_5 in (16b).

But (16) is not the only phase-theory-compliant derivation of long wh-movement. Recall that for Chomsky (2001), movement through the edge of vP is required for constituents that move directly from inside vP to Spec/CP. At the point at which C is merged, the complement of v undergoes Transfer and becomes unavailable to further computation. Only material that is at the edge of vP at this point in the derivation remains accessible to further operations, such as movement to Spec/CP.

Now if movement from inside vP proceeds to a position below the head of the immediately superior CP phase, it doesn't need to transit through the vP edge. This is so precisely because the complement of v is not transferred before C is

merged. Hence, a probe in the Middlefield, or for that matter any head below the phrasal C, e.g., T, can "see" into vP and attract an argument to its specifier.

Suppose, now, that wh movement can target an "additional" position, above negation but below C. This is at least a theoretical possibility, which we ask the reader to consider, pending a finer cartographic characterization (e.g., Shlonsky 2021 on wh movement transiting through Spec/FinP, generalizing Rizzi & Shlonsky's 2007 analysis of wh movement of subjects. See also Cardinaletti 2010 on wh movement through FinP). Movement to this position from the argument position inside vP would not necessitate transit through the edge of vP and crucially, could cross negation without incurring a violation of Relativized Minimality. Such a derivation is schematized in (17); notice the absence of a vP-edge wh in the embedded clause. Wh_2 here is the "additional" copy above negation and below wh_3, in Spec/CP. Wh_4 corresponds to the matrix vP edge position — in bold — as in (16a). The chain from the external-merge position wh_1 to wh_2 does not violate Relativized Minimality.

(17) $[_{CP}\ wh_5 \ldots\ [_{vP}\ \mathbf{wh_4}\ \ldots\ [_{CP}\ wh_3 \ldots\ wh_2\ \ldots\ neg \ldots\ wh_1]]]$

What about movement above negation in the matrix clause? Here it doesn't matter whether movement of wh_3 from Spec/CP transits through the matrix vP edge, whether there is an "additional" position above negation to which it can move without transiting through the vP edge, or whether it is probed by C and moves directly to Spec/CP. Since the tail of all these chains is in Spec/CP, an A' position, matrix negation predictably intervenes. This is schematized in (18).

(18) $[_{CP}\ wh_6 \ldots\ wh_5 \ldots\ neg \ldots\ \mathbf{wh_4}\ \ldots\ [_{CP}\ wh_3 \ldots\ wh_2\ \ldots\ wh_1]]$

5. Summary of main points

Both long wh movement and embedded wh in-situ with matrix construal are unacceptable in French with negation in the matrix clause. Both are judged acceptable with negation in the embedded clause, that is, with clause-mate negation. We presented experimental data to back this generalization, which corresponds to informal judgments.

We argue that this pattern invites a locality-theory based explanation, where negation is an intervener for chain-formation. We consider a number of analytical options to derive the difference between clause-mate and non-clause-mate nega-

tion. The fact that wh in situ patterns like moved wh with respect to negative intervention argues, inter alia, for a movement-based analysis of French wh in situ (perhaps covert).

We show that the position-based Relativized Minimality theory, developed in Rizzi (1990), is well-adapted to treat this pattern of intervention, since it hinges on a crucial asymmetry between chains formed between an A position and an A' position and chains formed between two A' positions.

The version of Relativized Minimality articulated on sets of features (fRM) is unable, in and of itself, to explain the asymmetry, raising the question of whether UG requires both versions of RM.

Finally, we discuss the consequences of the positional RM for the strict cyclicity imposed by the Phase Interpretability Condition, and suggest that the view that movement out of vP must transit through the vP edge is too strong; the "phasal" edge position is or may be higher in the clause.

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