

# Effects of Information Structure on Pronoun Resolution: A Crosslinguistic Study on French and Mandarin Chinese

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Pronoun resolution is influenced by multiple interacting factors. In the present study, we focus on the effects of information structure (IS) on pronoun resolution in French and Mandarin Chinese. Previous research suggests that topicalized antecedents are generally preferred across languages, whereas focalized ones tend to be disfavored within the same discourse unit [1–4].

Previous psycholinguistic research on IS effects in pronoun resolution has largely focused on Indo-European languages. The present work aims to extend the comparison to two typologically different languages, Mandarin Chinese and French, which have distinct pronominal systems and have been argued to exhibit different degrees of topic-prominence [5]. Earlier studies examined pronoun resolution in sentences containing an adjunct clause. Given that Mandarin Chinese requires adjunct clauses to precede the matrix clause, we examine pronoun resolution in complement clauses, which allow for structurally parallel stimuli across the two languages. Moreover, most existing studies manipulate IS solely through syntactic means, which fails to capture finer IS distinctions arising from discourse context. To address this limitation, we examine a broader range of IS conditions elicited through a combination of syntactic constructions and discourse contexts. In addition to the widely studied effects of topic and focus, we also examine a third IS component, contrast [6, 7]. Specifically, we test five conditions: broad focus (baseline), narrow focus, contrastive focus, given topic, and contrastive topic. We predict a pro-topic effect and an anti-focus effect in both languages, with a stronger pro-topic effect in Chinese, consistent with its characterization as a topic-prominent language [5]. We further expect contrast to amplify both topic and focus effects.

We report results from two forced-choice experiments in French and Mandarin Chinese conducted on Ilex Farm [8], in which the IS status of the matrix subject (Experiment 1) and object (Experiment 2) was manipulated, respectively. Statistical analyses were performed in R, employing logistic and ordinal mixed-effects models, followed by post-hoc pairwise comparisons. Anti-focus effects proved to be generally robust, emerging in both languages in Experiment 1 and in French in Experiment 2. By contrast, the pro-topic effect was observed only in Chinese in Experiment 2. Its absence in the remaining experiments may be attributed to our experimental design, in which the marking in the given topic condition may not be explicit enough to consistently activate a topic interpretation. In addition, choices for contrastive topic antecedents decreased significantly in Chinese in Experiment 1 and in French in Experiment 2. This pattern, similar to the effects of focus, may be accounted for by the alternative-evoking mechanism shared by both focus and contrastive topic [9, 10]. The absence of comparable contrastive topic effects in the remaining experiments may likewise be attributed to limitations in our design, which may fail to reliably evoke a contrastive interpretation. In French in Experiment 1, this may stem from the relatively weak markedness and potential ambiguity of French subject left dislocation used to encode contrastive topics [11]. In Chinese in Experiment 2, the absence of such an effect may result from the lack of explicit syntactic marking, as object left dislocation was avoided due to its reduced naturalness.

## References

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## Figures

Figure 1 presents an experimental item across the five conditions in Experiments 1 and 2. The example is shown in French and Mandarin Chinese, together with English translations. Names in bold denote the matrix subjects or objects whose information structural status is manipulated; pronouns highlighted in red represent the ambiguous subordinate subjects.

Figure 2 shows the proportions of participants’ preferences in both languages, when the information structural status of the matrix subject or object is manipulated.

| Condition                | Context Sentence                                                                                                                                                                                                                                                                                                                                                                            | Target Sentence                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Broad Focus</b>       | Que se passe-t-il dans les vestiaires ?<br>更衣室里发生了什么?<br>'What's going on in the locker room?'                                                                                                                                                                                                                                                                                              | Cédric dit à Mathis qu' <b>il</b> va gagner la course.<br>小壮对书豪说, <b>他</b> 将赢下比赛。<br>'Cédric tells Mathis that he's going to win the race.'                                                                                                                                                                                                                                      |
| <b>Narrow Focus</b>      | <b>Exp1:</b> Quelqu'un parle avec Mathis de la course. Mais je ne sais pas qui.<br>有人跟书豪谈论比赛的事, 但我不知道是谁。<br>'Someone talks with Mathis about the race. But I don't know who.'<br><b>Exp2:</b> Cédric parle avec quelqu'un de la course. Mais je ne sais pas avec qui.<br>小壮和某人谈论比赛的事, 但我不知道是跟谁。<br>'Cédric talks with someone about the race. But I don't know who.'                        | <b>Exp1:</b> C'est <b>Cédric</b> qui dit à Mathis qu' <b>il</b> va gagner.<br>是 <b>小壮</b> 对书豪说, <b>他</b> 将赢下比赛。<br>'It's Cédric who tells Mathis that he's going to win.'<br><b>Exp2:</b> C'est à <b>Mathis</b> que Cédric dit qu' <b>il</b> va gagner.<br>小壮是对 <b>书豪</b> 说, <b>他</b> 将赢下比赛。<br>'It's to Mathis that Cédric says he's going to win.'                             |
| <b>Corrective Focus</b>  | <b>Exp1:</b> Quelqu'un parle avec Mathis de la course. Je pense que c'est Quentin.<br>有人跟书豪谈论比赛的事, 我觉得是子游。<br>'Someone talks with Mathis about the race. I think it's Quentin.'<br><b>Exp2:</b> Cédric parle avec quelqu'un de la course. C'est avec Quentin, je pense.<br>小壮跟某人谈论比赛的事, 我觉得是跟子游。<br>'Cédric talks with someone about the race. I think it's with Quentin.'                  | <b>Exp1:</b> Non, c'est <b>Cédric</b> qui dit à Mathis qu' <b>il</b> va gagner.<br>不是的, 是 <b>小壮</b> 对书豪说, <b>他</b> 将赢下比赛。<br>'No, it's Cédric who tells Mathis that he's going to win.'<br><b>Exp2:</b> Non, c'est à <b>Mathis</b> que Cédric dit qu' <b>il</b> va gagner.<br>不是的, 小壮是对 <b>书豪</b> 说, <b>他</b> 将赢下比赛。<br>'No, it's to Mathis that Cédric says he's going to win.' |
| <b>Given Topic</b>       | <b>Exp1:</b> Je me demande si Cédric parle avec Mathis de la course.<br>我不知道小壮有没有跟书豪谈论比赛的事。<br>'I wonder if Cédric talks with Mathis about the race.'<br><b>Exp2:</b> Et Mathis? Je me demande si Cédric lui parle de la course.<br>那书豪呢? 我不知道小壮有没有跟他谈论比赛的事。<br>'What about Mathis? I wonder if Cédric talks to him about the race.'                                                        | <b>Exp1:</b> Oui, <b>Cédric</b> dit à Mathis qu' <b>il</b> va gagner.<br>有的, <b>小壮</b> 对书豪说, <b>他</b> 将赢下比赛。<br>'Yes, Cédric tells Mathis that he's going to win.'<br><b>Exp2:</b> Oui, Cédric <b>lui</b> dit qu' <b>il</b> va gagner.<br>有的, 小壮对 <b>他说</b> , <b>他</b> 将赢下比赛。<br>'Yes, Cédric tells him he's going to win.'                                                      |
| <b>Contrastive Topic</b> | <b>Exp1:</b> Je me demande si les autres candidats parlent avec Mathis de la course.<br>我不知道其他参赛者有没有跟书豪谈论比赛的事。<br>'I wonder if the other candidates talk with Mathis about the race.'<br><b>Exp2:</b> Et tes coéquipiers? Je me demande si Cédric leur parle de la course.<br>那你的队友们呢? 我不知道小壮有没有跟他们谈论比赛的事。<br>'What about your teammates? I wonder if Cédric talks to them about the race.' | <b>Exp1:</b> Oui, <b>Cédric</b> , il dit à Mathis qu' <b>il</b> va gagner.<br>有的, <b>小壮</b> 他对书豪说, <b>他</b> 将赢下比赛。<br>'Yes, Cédric he tells Mathis that he's going to win.'<br><b>Exp2:</b> Oui, <b>Mathis</b> , Cédric lui dit qu' <b>il</b> va gagner.<br>有的, 小壮对 <b>书豪</b> 说, <b>他</b> 将赢下比赛。<br>'Yes, Mathis, Cédric tells him he's going to win.'                           |

Figure 1: Example item in French and in Mandarin Chinese

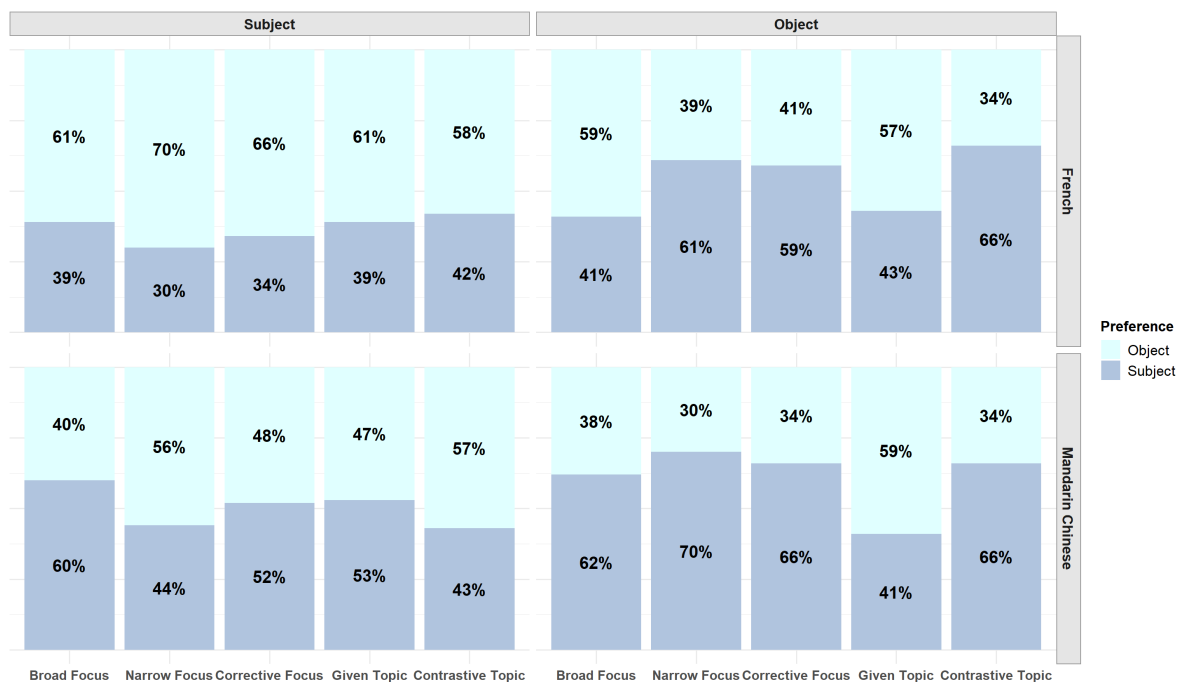


Figure 2: Preference Proportions