

The definiteness effect in *wh*-fronting and *wh*-in situ languages

Intro Subextraction from definite NPs is degraded. However, in English at least, this “definiteness effect” seems to be sensitive to the choice of main verb; Davies & Dubinsky (2003) report that verbs of creation (VOC) exceptionally allow subextraction from a demonstrative-marked NP object (1).

(1) Who did Mary {write/??read} that book about? (*write*: VOC; *read*: not VOC)

We investigate whether this “VOC effect” holds in a *wh*-in situ language, taking Chinese as a test case. We do so because Chinese is said to also have a definiteness effect, disallowing in situ *wh*-phrases within definite NPs (Huang, 1982); one might expect Chinese to also have a VOC effect.

We present novel experimental evidence that subextraction from demonstrative NPs show a definiteness effect in both languages, while finding a VOC effect in English but not Chinese. This poses a challenge for the information structure approach. We propose that what is usually described as the definiteness effect actually has two sources: 1. a Specificity Condition on binding, shared by English and Chinese (Fiengo & Higginbotham, 1981), 2. the PIC, which applies to English subextraction but not Chinese. In other words, the definiteness effects cannot be solely attributed to either Specificity or a structural constraint like DP phasehood (contra e.g. Davies & Dubinsky, 2003; Matushansky, 2006, Huang, 2022).

Experiments We conducted two parallel acceptability judgment experiments in English and Chinese (56 participants each). As (2) and (3) show, both experiments used the same $2 \times 2 \times 2$ factorial design: DEPENDENCY LENGTH (long, short), NP TYPE (indefinite, definite), VERB TYPE (VOC, non-VOC).

(2) a. She wants to know who read/wrote a book about dinosaurs. (nVOC/VOC | ind | short)
 b. She wants to know what Tom read/wrote a book about. (nVOC/VOC | ind | long)
 c. She wants to know who read/wrote that book about dinosaurs. (nVOC/VOC | def | short)
 d. She wants to know what Tom read/wrote that book about. (nVOC/VOC | def | long)

(3) a. wo xiangzhidao shui jingchang du/xie guanyu lishi de shu
 I wonder who often read/write about history DE book
 ‘I wonder who often reads/writes books about history.’ (nVOC/VOC | ind | short)
 b. wo xiangzhidao huanglaoshi jingchang du/xie guanyu shenme de shu
 I wonder Prof. Huang often read/write about what DE book
 ‘I wonder what Huang often writes books about.’ (nVOC/VOC | ind | long)
 c. wo xiangzhidao shui du/xie le na-ben guanyu lishi de shu. (*le*: perfective; *na-ben*: that-CL)
 ‘I wonder who wrote/read that book about history.’ (nVOC/VOC | def | short)
 d. wo xiangzhidao Huanglaoshi du/xie le na-ben guanyu shenme de shu.
 ‘I wonder Huang wrote/read that book about what.’ (nVOC/VOC | def | long)

We define the definiteness effect as the degradation of the def+long conditions, i.e. an interaction between NP TYPE and DEPENDENCY LENGTH. The VOC effect is defined as a three-way interaction between NP TYPE, DEPENDENCY LENGTH, and VERB TYPE; i.e. a smaller definiteness effect with VOCs.

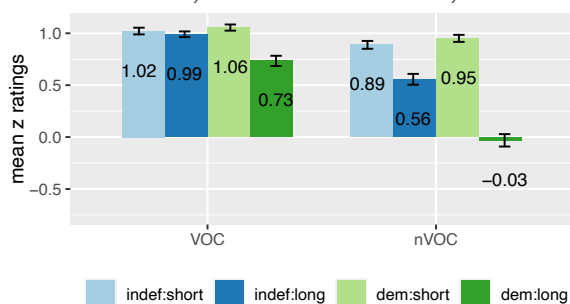


Figure 1: English

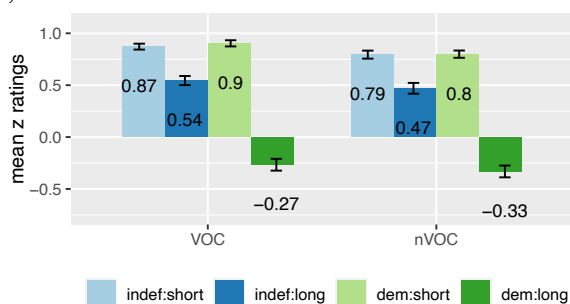


Figure 2: Chinese

Results Z-scored mean ratings show that subextraction from English demonstrative NPs are not as acceptable as sometimes claimed in the literature (Fig. 1). We observed interactions between NP TYPE and DEPENDENCY LENGTH (a definiteness effect) for both VOC ($p < .001$) and nVOC ($p < .0001$). However, the definiteness effect is smaller for VOC (DD score = 0.29) than for nVOC (DD = 0.65), supporting prior claims of a VOC effect; statistically, there was a three way interaction for VERB TYPE, NP TYPE and DEPENDENCY LENGTH ($p < .002$).

For Chinese (Fig. 2), we only observed a definiteness effect (interaction between NP TYPE and DEPENDENCY LENGTH, $p < .001$). VOCs did not affect the definiteness effect in Chinese: DD scores are similar for VOCs (0.81) and nVOCs (0.84), and no three-way interaction was found ($p = .77$).

Problems for existing accounts These results are problematic for information structure accounts, which claim that definite NPs have information structure properties that are incompatible with wh-extraction or an in situ wh-phrase (Goldberg, 2006, cf. Erteschik-Shir & Lappin, 1979, Erteschik-Shir 1981). These accounts incorrectly predict that English and Chinese should have the same acceptability profiles. Our results are also challenging for existing syntactic accounts of subextraction from NPs, e.g. Davies & Dubinsky (2003) and Huang (2022) predict that English VOC should show no definiteness effect. Moreover, these accounts also do not make clear predictions about whether VOCs should produce amelioration effects in wh-in situ languages.

Proposal We propose that the definiteness effect, as described for languages like English, has not one but two sources. The **first source** is the PIC/a ‘filled phase-edge’ effect on movement. Assuming that the phasehood of DPs and the PIC, subextraction from DPs must go through Spec,DP. However, following Jenks & Konate (2022), we assume that Spec,DP positions of definite DPs are already filled by an IdxP. Subextraction would therefore violate the PIC. VOCs, however, can neutralize this PIC/filled edge problem: following Uriagereka 1988 and Davies & Dubinsky 2003, one possibility is that under certain conditions, a definite D head can covertly incorporate into V when V is a VOC, cancelling the phasehood of DP. In VOC cases, subextraction can bypass Spec,DP.

The **second source** is the Specificity Condition (Fiengo & Higginbotham, 1981): variables inside specific NPs cannot be bound by operators outside (see Li, 1992 for independent support from Chinese wh-indefinites). In English, the condition blocks the wh-phrase from binding its trace (lower copy) inside a definite DP. As for Chinese, we assume, following Aoun & Li, 1993, that a higher question operator binds an in-situ wh-phrase. This binding is sensitive to specificity, but not the presence/absence of VOCs (since the Specificity Condition is not a condition on movement).

Put differently, the smaller definiteness effect in English VOC sentences reflects only a violation of the Specificity Condition, while the larger definiteness effect in English nVOC reflects violations of both Specificity and PIC. In Chinese, both VOC and nVOC sentences incur comparable definiteness effects because they violate the same condition – Specificity.

	English VOC	English nVOC	Chinese VOC	Chinese nVOC
PIC/filled edge	No	Yes	No	No
Specificity	Yes	Yes	Yes	Yes

Table 1: Sources of unacceptability of subextraction/wh-in situ

To summarize: experimental results show that the definiteness effect varies across English and Chinese. We argue that this variation reflects both the Specificity Condition and PIC, contrary to recent proposals that strongly suggest analyzing the definiteness effect only in terms of Specificity or the PIC (e.g. Matushansky, 2006, Huang, 2022, cf. Davies & Dubinsky, 2003).

Selected references: Aoun, J. & Li, Y.-H. A. 1993. LI. Bošković, Z. 2015. TLR. Davies, W. & Dubinsky, S. 2003. NLLT. Goldberg, A. 2006. OUP. Huang, J. 1982. TLR. Huang, N. 2022. LI.