REFLEXIVE REFERENCE RESOLUTION IN MANDARIN: AN EYE-TRACKING STUDY

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Introduction: Despite the general impression that reflexives like *himself* predominantly obey Chomskyan locality condition[1,2], Mandarin complex reflexive *ta-ziji* is more liberal to long-distance binding (LDB)[3,4]. A LDB reflexive could be modulated by discourse factors such as logophoricity (logo) and as such termed a *logophor* associated with the center of consciousness/perspective[5]. Previous research[6,7] has looked into syntax-discourse interface in processing reflexives, but not in the context of *ta-ziji*. In this project, we examine how syntax-discourse factors affect the processing of Mandarin complex reflexive *ta-ziji* by manipulating logo contexts and *forced* (non)local bindings, using the timing-sensitive eye-tracking paradigm.

Design & Predictions: Here we report a 2x2 design (32 experimental stimuli per subject) as shown in the Table for our inquiry, in which we leave out the control groups (2x2) where the relative clause part is replaced by *ta-ziji* due to space limits. Culy's[8] logophoricity hierarchy of predicates is the basis to manipulate the logo factor, according to which we use *say* and its variants for the high logo condition (**H**) and *see* and its variants for lowness (**L**). Matrix verbs like *say* create a high logo context for the reflexive in its domain to be bound by the (long-distance) matrix subject. Binding effect is modulated by the post-reflexive disambiguating verb (V3) that s-selects its subject and thus forces local or distant binding (**Loc** vs. **Dist**). For the eye-tracking data, we focus on those reflecting a range of processing stages: initial processing (Gaze duration, **Gaze;** first-pass integration (Regression path duration), **RPD**; Rereading time, **RRT**, i.e., **RPD-Gaze**), and late processing measurements (Second-pass duration; **SPD**, i.e., Total reading time-**Gaze**). The high logo is expected to create a competition with the default local antecedent in and/or after the ***Reflexive*** region, causing longer reading time (RT). In the ***V3*** disambiguating region, we anticipate a binding effect in late integration stages, where a local antecedent forced by the verb causes shorter RT as it conforms with locality.

Results and Discussion: The eye-tracking data from 100 valid subjects were analyzed using linear mixed-effects regression models, with maximal random effects constructed unless their presence is vacuous in model comparisons. The results show that: (1) a main effect of logo is observed (**H>L**) in the post-reflexive spillover region ***Adv*** w.r.t. **Gaze** ($t(961.6)=-2.883$, $p=.004$), with longer Gaze in high logo contexts. This suggests that logo plays a significant role in the early processing stage of *ta-ziji* that it competes with the default local preference. (2) Also at ***Adv*** region, an interaction effect is observed w.r.t. **RPD** ($t(915.8)=-2.067$, $p=.039$) and **RRT** ($t(967.8)=-2.477$, $p=.013$), most plausibly to reflect the effect of parafoveally previewing the following verb ***V3***. The interaction suggests that logo has a stronger effect when the semantics of the verb forces a nonlocal antecedent thus causes longer RT in **H-Dist**, indicating that the competition between local/nonlocal binding is escalated in **H-Dist** compared with **L-Dist** as more semantic factors in the former compete with locality. (3) no main effect of locality in ***V3*** found anywhere, suggesting that binding effect does not strongly predict first-pass/late integration ease, indicating that local and nonlocal binding are most likely equally competitive. Note that in this project, we assume that *ta-ziji* inherently prefers a local binding and as such still find that semantic-pragmatic factors like logophoricity compete with locality even in early processing stages. We are also in progress of follow-up experiments using *ziji* to compare if the competition disappears when the locality requirement becomes weaker[2].

Table. Sample stimulus*

Condition (Logo-Locality)				Reflexive	Adv	V3 Disambiguating			English translation:
H-Loc	護工 hùgōng carer	說 shuō say	醫生 yīshēng doctor	幫助了 bāngzhùle help	他自己 tā-zìjǐ him-self	今天 jīntiān today	診治 zhěnzhì diagnose	的 de DE	患者。 huànzhě patient	"The {carer[i]/doctor[j]} {said/saw} that the {doctor[j]/carer[i]} helped a patient whom he himself[i/#j] diagnosed today." NB: *diagnose* s-selects for *the doctor* as its subject and the sole binder of the reflexive.
H-Dist	醫生 yīshēng		護工 hùgōng							
L-Loc	護工 hùgōng	看到 kàndào see	醫生 yīshēng							
L-Dist	醫生 yīshēng		護工 hùgōng							

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