

Preverbal Negative Polarity Items in Cantonese

Problem: This paper solves an apparent scope paradox while simultaneously clarifying the properties of preverbal indefinites in Cantonese. Wh-words in this language may function as negative polarity items (NPIs) when they occur within the scope of an appropriate licenser (1). I focus on preverbal NPIs associated with *dōu* (2), which are puzzling because they do not occur within the scope of negation and are subsequently predicted not to be licensed. Negation in Cantonese cannot normally take scope over preverbal NPs (3), in keeping with Huang's (1982) observation that scopal relations in Chinese are reflected at surface structure. In this study I address the question of how the forms in (2) are to be analyzed. My solution is to link the behaviour of preverbal NPIs to preverbal indefinites containing *yāt* "one". In negative sentences containing *dōu* "even", *yāt* indefinites only allow a reading in which the NP is interpreted below negation (4). I argue *dōu* forces lowering of the indefinite at LF to satisfy its presuppositions. I show how extending this analysis to preverbal NPIs is empirically superior to an alternative proposal which extends the work of Cheng (1991) and treats *dōu* as a universal "all" in (2).

Proposal: My analysis of preverbal NPIs draws heavily upon the behaviour of preverbal indefinites containing *yāt* "one". I argue LF lowering of the *yāt* indefinite in (4) is forced by the presuppositional requirements of *dōu*. Building on Lahiri (1998), I show the presuppositions of *dōu* are coherent when the indefinite is lowered, but become unsatisfiable if the indefinite is interpreted above negation. The problem with interpreting the indefinite outside the scope of negation is the effect on the scalar presupposition introduced by *dōu* (5). According to this presupposition, the asserted proposition is less likely than its focal alternatives. Assuming the alternatives contain higher numerals, each alternative entails the asserted proposition, but is not entailed by it. For example, the alternative "There are two people who didn't eat" entails the asserted proposition "There is one person who didn't eat". This is a problem because entailment relations are the inverse of likelihood relations. If p entails q, then q is weaker and more likely than p. Consequently, the presupposition in (5) cannot be satisfied because the asserted proposition containing *yāt* "one" is more likely than its alternatives. This problem does not arise if the indefinite lowers, because then negation takes scope over the entire proposition. The result is that entailment relations among the alternatives are reversed (Fauconnier 1978). For example, "There isn't one person who ate" entails "There aren't two people who ate". Since the asserted proposition entails its alternatives, it is less likely than them. This matches the presupposition of *dōu* in this sentence (6). I conclude that lowering of the indefinite at LF is forced on semantic grounds, and for this reason (4) is a principled exception to the generalization that scopal relations are reflected at surface structure. Since this mechanism of lowering is already available in the language for examples like (4), I argue that it is also available for the preverbal wh-phrases in (2). This follows if these wh-words are regarded as focussed low-scalar NPIs which denote very general properties and which are entailed by their more specific alternatives, as in Lahiri's (1998) analysis of Hindi NPIs.

Predictions: Treating the preverbal wh-words as indefinites in (2) is empirically stronger than an alternative analysis which maintains that these are not indefinites at all, and that it is simply an artefact of translation that they appear to be existentials within the scope of negation. This would follow if *dōu* were treated as a universal meaning "all" which quantifies over the wh-word to its left, as described by Cheng (1991) for Mandarin. In this case, the preverbal wh-phrase functions as the restriction of a universal quantifier. The universal takes scope over negation which gives rise to the illusion of a negative existential reading due to the law of quantifier negation, whereby $\forall x[\neg\phi(x)]$ is truth conditionally equivalent to $\neg\exists x[\phi(x)]$. Although superficially elegant, this analysis is empirically weaker than my proposal which treats *dōu* as "even". First, the use of focus and the scalar semantics of *dōu* "even" accounts for why the preverbal wh-phrases in (2) are emphatic, which is not captured in the universal analysis. Second, the "even" analysis successfully predicts these forms can only be used in rhetorical questions (7a) but not unbiased questions (7b), which is a well known feature of NPIs which incorporate *even* (Heim 1984). Finally, speakers report that preverbal wh-phrases in negative sentences do not presuppose that members of the set denoted by the wh-word actually exist (8). This presupposition would be expected if *dōu* were a strong universal quantifier here. In examples with genuine universal quantification, such as with reduplicated classifiers (9), speakers do report such a presupposition.

Data:

- (1) Ngóh móuh gin bīngo.
I neg.pfv see who
'I didn't see anyone.'
- (2) a. Ngóh bīngo dōu móuh gin.
I who dōu neg.pfv see
'I didn't see ANYBODY at all.'
b. Bīngo dōu móuh gin ngóh.
who dou neg.pfv see me
'NOBODY saw me.'
- (3) Go-go dōu mh jūngyi sihk gāt.
cl-cl all neg like eat tangerine
(i) $\forall \neg$ 'Everyone doesn't like to eat tangerines.'
(ii) $\neg \forall^*$ 'Not everyone likes to eat tangerines.'
- (4) Yāt go yàhn dōu móuh sihk.
one cl person even neg.pfv eat
(i) $\exists \neg$ * 'Even one person didn't eat.'
(ii) $\neg \exists$ 'Not even one person ate.'
- (5) $\forall q[[q \in C \wedge q \neq \wedge \exists x[|person(x)|=1 \wedge \neg eat(x)]] \rightarrow \wedge \exists x[|person(x)|=1 \wedge \neg eat(x)] <_{\text{likely}} q]$
= All salient unasserted alternative propositions are more likely than the proposition "There is one person who didn't eat".
- (6) $\forall q[[q \in C \wedge q \neq \wedge \neg \exists x[|person(x)|=1 \wedge eat(x)]] \rightarrow \wedge \neg \exists x[|person(x)|=1 \wedge eat(x)] <_{\text{likely}} q]$
= All salient unasserted alternative propositions are more likely than the proposition "There is not one person who ate".
- (7) a. Léih mātyéh dōu móuh góng mē?
you what even neg.pfv say rhet-Q
'Didn't you say ANYTHING at all?'
b. * Léih mātyéh dōu yáuh-móuh góng?
you what even pfv-neg.pfv say
'You didn't say anything?'
- (8) Gāmyaht bīngo dōu móuh wán léih.
today who even neg.pfv contact you
'NOBODY found you today.' (\neq 'None of them found you today.')
- (9) Gāmyaht go-go dōu móuh wán léih.
today cl-cl all neg.pfv contact you
'Everybody didn't find you today.' (= 'None of them found you today')

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