

Post-verbal non-referential NPs in Mandarin: A case of Pseudo-Incorporation

Introduction: Different from English, Mandarin allows non-referential bare NP arguments not involving any functional projections or plural marking. In the presence of an adverbial duration phrase (DrP), post-verbal bare NPs are limited to the lowest position, i.e. to the right of the DrP (Huang, Li, & Li, 2009; Li, 2013; Liao, 2013, a.o.). DPs (e.g. Dem(onstrative)Ps, Num(eral)Ps, Cl(assifier)Ps, etc.), on the other hand, are required to be in a position higher than the DrP:

- (1) a. Zhangsan mai-le san nian **che**
 Zhangsan sell-ASP three year car
 'Zhangsan sold cars for three years.'
 b. *Zhangsan mai-le **che** san nian
 Zhangsan sell-ASP car three year
 'Zhangsan sold cars for three years.'
- (2) a. Lisi nian-le **zhe yi-ben shu** san tian
 Lisi read-ASP this one-CL book three day
 'Lisi read this book for three days.'
 b. *Lisi nian-le san tian **zhe yi-ben shu**
 Lisi read-ASP three days this one-CL book
 'Lisi read this book for three days.'

Huang, Li, and Li (2009) propose a Mandarin VP structure where the direct object of transitive verbs can compose either as the complement of V or in Spec.VP, and the DrP left-adjoins to V'. To derive the contrast in (1), they posit a constraint on the composition of non-referential NPs:

- (3) A non-referential constituent which bears a theta-relation with a head H should be combined with H to form the smallest possible constituent. (Huang, Li, and Li, 2009: 95)

However, the cause of (3) is unclear, and (3) remains agnostic about the occurrence of DPs, allowing for the ungrammatical ordering possibility in (2b). By showing that Mandarin bare NPs are a case of pseudo-incorporation, I will propose an argument structure that can explain the ordering pattern in (1) and (2), as well as language variation in allowing pseudo-incorporated NPs, aiming to unify the accounts of pseudo-incorporation from a pure syntactic point of view.

Characteristics of Pseudo-Incorporation (P-I): According to Dayal (2011, 2015), in Hindi, pseudo-incorporated NPs (P-I NPs) are non-Case-marked and can only occur in the object position. They show the following properties which Mandarin bare NPs also show.

I. Number neutrality: P-I NPs are number neutral (aspect-dependent in Hindi & Mandarin):

- (4) a. Lisi mai-le yi tian che [Atelic] b. Lisi zai yi tian nei mai-chu-le che [Telic]
 Lisi sell-ASP one day car Lisi at one day in sell-out-ASP car
 'Lisi sold (one or more) cars for a day.' 'Lisi sold out a car (exactly one) in a day.'

II. Obligatory narrow scope: P-I NPs obligatorily take narrow scope.

- (5) Lisi **bixu/meiyou** mai san nian **che** ✓'Lisi must/did not sell cars for three years.'
 Lisi must/not sell three year car (□ > ∃; ¬ > ∃)
 'There some cars such that Lisi must/did not sell them for three years.' (∃ > □; *∃ > ¬)

III. Inability of discourse anaphora: P-I NPs cannot antecede a discourse anaphor.

- (6) a. Zhangsan bu-le san nian yu b. #Ta/Tamen mai-le hen hao-de jiaqian
 Zhangsan catch-ASP three year fish It/They sell-ASP very good price
 'Zhangsan fished for three years.' #'It/They sold for a very good price.'

Analysis: Given Lin (2001) and Williams' (2005, 2008) observation that thematic relations in Mandarin are flexible, which leads to their conclusion that Mandarin arguments are introduced syntactically, I encode the internal theta-roles in a syntactic head Θ^0 that immediately dominates the VP, similar to v (Kratzer, 1996): (7) [_{OP} [_{Θ⁰} [_{DrP} *t-time*] [_{Θ¹} Θ [_{VP} [_{V'} V NP]]]]].

(i) Verbs only denote eventualities: $\llbracket V \rrbracket = \lambda e . V(e)$. (*V is assumed to undergo movement to v*)

(ii) Non-referential bare NPs are arguments of property-type: $\llbracket NP \rrbracket = \lambda x \lambda e . NP(x, e)$.

(iii) Θ^0 probes down the structure and agrees with V to pick out the relevant θ -role specified in the event denoted by V: $\llbracket \Theta \rrbracket = \lambda x \lambda e . \theta(x, e)$ (θ being a variable for θ -roles).

(iv) NPs compose with the V via Event Identification (Kratzer, 1996) and modify the event by restricting the properties of its internal arguments: $\llbracket VP \rrbracket = \lambda x \lambda e . V(e) \wedge NP(x, e)$.

(v) A slightly modified version of Predicate Modification that conjoins two "eventized" relations

