

High applicatives in Mandarin: Licensing constraints on non-canonical arguments

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Introduction: In Mandarin, agent and theme arguments occur in complementary distribution with so-called “non-canonical” arguments (NCAs) that realize oblique thematic roles, including instrument and time (1/2) (Li 2022, Li 2014, Lin 2001 among others). Without derivational morphology, such alternations challenge traditional approaches to argument structure as Mandarin verbs seem to freely assign thematic roles to their arguments (e.g. Larson and Zhang 2022, Williams 2014, 2008), challenging traditional approaches to argument structure building.

Proposal: We revisit the status of NCAs in Mandarin and demonstrate that the observed alternations can be derived naturally from the combination of independent and cross-linguistically well-established mechanisms, including (i) (non-)recursive applicative heads (Nie 2020), (ii) anti-agentivity (Martin et al. 2023), and (iii) pseudo-noun incorporation (PNI; Massam 2001). We argue that NCAs are introduced by (silent) high applicative heads that fail to syntactically license the DP arguments in their specifier (Pylkkänen 2008) which, in the absence of an additional licenser, effectively limits the number of DP arguments within the VoiceP domain to two (cf. Lin 2001). Mandarin verbs therefore follow general principles of argument structure, in particular with respect to nominal licensing, even if free omission of agent and theme arguments gives rise to the illusion of free argument structure.

(Multiple) NCAs: In Mandarin, transitive verbs like *he* ‘drink’ combine not only with agent and theme arguments (1/2) but also with NCAs, such as the instrumental argument *xiao-bei* ‘small cups’, without derivational morphology (Y. Li 2022, Barrie & A. Li 2015, A. Li 2014; cf. Lin 2001 for pragmatic contexts and dialectal variation). Yet, NCAs do not alter the transitivity of transitive verbs but are in complementary distribution with themes (1) or agents (2). NCA constructions also show word order alternations in which themes can be subjects (2), which gives the impression of free word order. Finally, multiple NCAs can co-occur in the same clause if both agent and themes are absent, see (5) below.

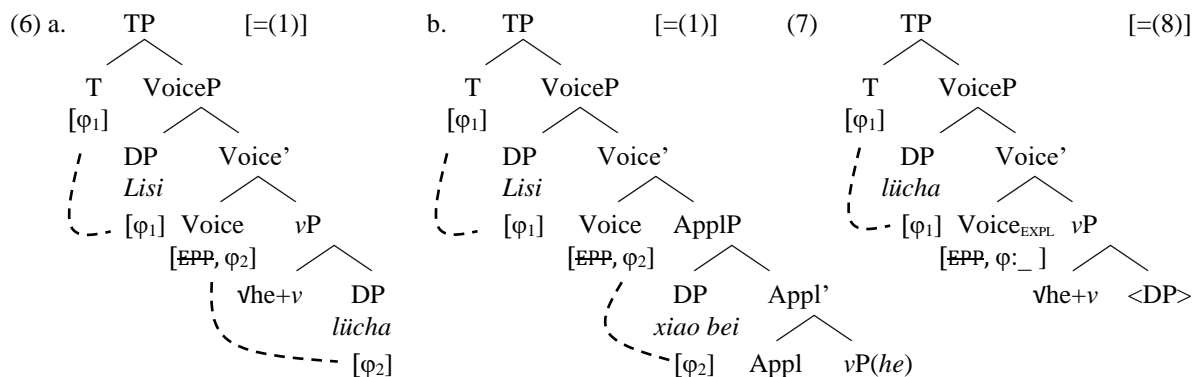
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| (1) <i>Lisi he</i> { <i>lücha</i> / <i>xiao-bei</i> } Lisi drink tea small-cup ‘Lisi drinks {tea /with small cups}.’ | (2) { <i>Lisi</i> / <i>nei-ge</i> <i>xiao-bei</i> } <i>he</i> <i>lücha</i> . Lisi DEM-CL small-cup drink tea ‘Lisi drinks tea.’ / ‘These small cups are used to drink tea.’ | (3) <i>Lücha he</i> <i>xiao-bei</i> . tea drink small-cups ‘Tea is drunk with small cups’ |
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High applicatives: Despite their oblique semantics, Barrie and Li (2015) convincingly show that NCAs have argument status and are not nominal adjuncts. Although NCAs in object position seem to replace the theme argument in its vP -internal position, Zhang (2022, 2018) demonstrates that NCAs are base-generated vP -externally. We therefore propose that NCAs are introduced by a silent high applicative head above the vP and below Voice, a position that has been argued to host various semantically oblique arguments cross-linguistically (Li 2022, Larson and Zhang 2022, cf. Jerro 2021, Pylkkänen 2008). Yet, high applicatives in Mandarin differ from applicatives in languages like Kinyarwanda (4), as they do not alter the transitivity of the verb recursively.

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| (4) <i>Umagabo y-a-tem-esh-er-eje</i> <i>umugore igiti ishooka</i> . KIN. man ISM-PST-cut-APPL-APPL-ASP woman tree axe ‘The man cut the tree for the woman with an axe.’ (Ngoboka 2005: 92) | (5) <i>Xiawu he xiao-bei</i> . afternoon drink small-cup ‘In the AN., it was drunk with SC.’ |
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Nominal licensing: Adopting the view that nominal arguments must be syntactically licensed within the syntactic derivation via abstract ϕ -agreement (Nie 2020, cf. Sheehan and van der Wal 2018, Sigurdsson 2012), we assume that T and Voice function as potential licensers in Mandarin. As such, they carry a licensing feature [ϕ : _] and an EPP which probes first, if not satisfied by external merge (Pietraszko 2023, cf. Georgi 2014). In canonical transitive clauses, the externally-merged agent in Spec, VoiceP is licensed by T while the vP -internal theme is licensed by Voice (6a). In contrast to Kinyarwanda, we propose that Appl is not a nominal licenser in Mandarin, i.e. does not carry a licensing feature [ϕ : _]. Appl is thus unable to license the additional DP argument in Spec, ApplP, which is instead licensed by the transitive Voice head (cf. Nie 2023). As a result, the theme cannot be licensed and must be omitted (6b) (Zhang 2022). As for linearization, we assume that the subject moves (at least) to Spec, TP and v (via Appl) to Voice (not shown in the structures below).

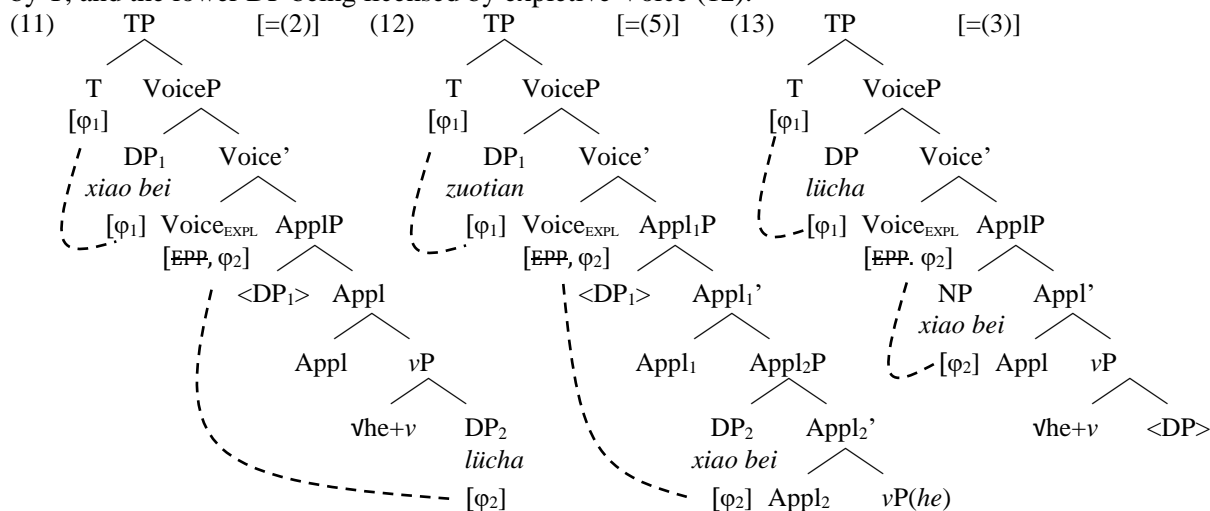
Anti-agentivity: In addition to the omission of theme arguments, Mandarin verbs like *he* ‘drink’ can occur in agentless, anti-agentive, constructions, as indicated by the infelicity of agent-oriented modifiers like *guyi* ‘volitionally’ (8) (Martin et al. 2023). We assume that semantically vacuous, but syntactically transitive, expletive Voice is merged instead of agentive Voice (7) (cf. Schäfer 2008). In intransitive configurations, the theme moves to Spec, VoiceP to satisfy the EPP, before it gets licensed by T, leaving



the licensing feature on Voice unchecked (cf. Preminger 2014). If an instrumental DP is added to this configuration in Spec, ApplP, it moves to Spec, VoiceP to satisfy the EPP where it is licensed by T. The lower theme argument is licensed by Voice (11) (cf. Pietraszko 2023 on movement bleeding licensing).

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| (8) <i>Lücha</i> (#guyi) <i>he-le</i> . tea volitionally drink-ASP 'Tea got drunk (#volitionally).' | (9) <i>Xiao-bei</i> (#guyi) <i>he lücha</i> . small-cups volitionally drink tea 'Small cups are (#volitionally) used to drink tea.' | (10) <i>lücha he</i> (* <i>nei-ge</i>) <i>xiao-bei</i> . tea drink DEM-CL small-cup 'Tea is drunk with small cups.' |
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Recursion: Due to its limited licensing capacities, Mandarin allows applicative recursion only in contexts where both agent and theme are syntactically absent, i.e. in simultaneously anti-agentive and theme-less constructions (5). Here, two ApplPs are stacked with the higher applied DP being licensed by T, and the lower DP being licensed by expletive Voice (12).



PNI: NCA constructions in reversed order with theme subjects and NCA objects are also agentless (10). Crucially, post-verbal NCAs in such constructions differ from their preverbal counterparts in showing properties of PNI (cf. Massam 2001): they reject A'-movement, are non-anaphoric, and lack a DP-layer (10). We therefore analyze post-verbal NCAs as structurally-reduced applied NPs that are unable to move but require nominal licensing (13) (cf. Dayal 2011), i.e. as defective intervener. As such, they allow the lower theme to be promoted to subject but block ditransitive NCA constructions.

Outlook: We sketch out further implications for a typology of (non)recursive high applicatives (Nie 2023). On the one hand, ditransitive NCA constructions become available if one of the arguments is topicalized (cf. Li 2022), i.e. appears in the preverbal topic position (14) (Paul 2005). Our findings highlight the role of information structural heads in the licensing capacities of non-recursive applicatives cross-linguistically (cf. van der Wal 2022 on Bantu). On the other hand, NCA applicatives differ from malefactive applicatives which do allow ditransitive structure with the applied object in post-verbal position (Tsai 2018), suggesting that thematically distinct (high) applicative heads may vary according to their licensing properties even with the same language (15) (cf. Nie 2023, van der Wal 2022 on asymmetries in applicative constructions).

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| (14) <i>Zhangsan</i> [<i>zhe-ge xiao-bei</i>] _{TOP} <i>he lücha</i> . Zhangsan DEM-CLsmall-cup drink green.tea 'These small cups, Z. drinks green tea with.' | (15) <i>Akiu he-le Xiao-di san-ping jiu</i> . Akiu drink-ASP Xiadoi three-CLF wine 'Akiu drank three bottles of wine on Xiaodi.' |
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