Hyperraising and Logical Form: evidence from Buryat

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Introduction Languages like Buryat (Mongolic) allow hyperraising to object (see Bondarenko 2017 for arguments against prolepsis for Buryat), languages like English don't:

(1) a. bair **badm-i:jə**$_1$ [$_{CP}$ **t**$_1$ sajan-i:jə zura-xa gə-žə] han-a:
Bair.NOM **Badma-ACC** Sajana-ACC draw-FUT say-ADV think-PST
'Bair thought that Badma will draw Sajana.'

b. *Bair thought **Badma**$_1$ [$_{CP}$ that **t**$_1$ will draw Sajana].

The question: What determines whether a language allows hyperraising to object?

Hyperraising is raising into a θ-position: Following Deal (2017, 2018), I take hyperraising to involve raising of the embedded subject into a Theme θ-position. Buryat provides evidence for this: hyperraised subjects can be further promoted into matrix subject position.

(2) **bi**$_1$ badma-da t$_1$ [t$_1$ sajan-i:jə zura-xa gə-žə] hana-**gd**-a:-**b**
1SG.NOM B.-DAT S.-ACC draw-FUT say-CONV think-**PASS**-PST-**1**
'Badma thought that I will draw Sajana.'

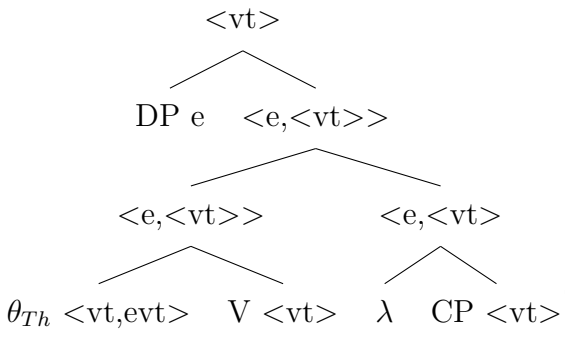
Control structures in Buryat require agreement on the embedded predicate; its absence in (2) indicates a raising derivation. Passivization in Buryat targets only same-clause direct objects. Unless we want to stipulate an exception to this passivization rule just for hyperraising, we can conclude that the landing cite of hyperraised subjects is the direct object position.

Preview: I propose that CPs come in two kinds: some, like Buryat CPs, denote properties of events (<vt>-CPs), others, like English CPs, denote properties of individuals (<et>-CPs). I argue that **only <vt>-CPs can be hyperraised out of**: due to the semantics of movement into θ-position, hyperraising out of <et>-CPs creates a type mismatch.

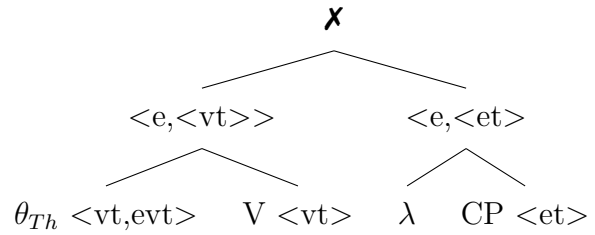
Assumptions: I follow Kratzer's (2013) approach to semantics of attitude verbs. I assume neo-Davidsonian representations for all arguments, including Theme (introduced by θ_{Th}).

The proposal: I propose that movement into a θ-position leaves a trace and creates an abstractor, just like other kinds of movement (Heim & Kratzer 1998). However, it is different in that the abstractor is separated from the DP's landing site by other material (see Deal 2018). LF with hyperraising is in (3): the DP is separated from its abstractor by the verb.

(3) **Hyperraising (<vt>-CPs)**



(4) ***Hyperraising (<et>-CPs)**



(5) $[\![\ \theta_{Th}\ \mathrm{V}\ \lambda\ \mathrm{CP}_{vt}]\!]^{w,g}$=$\lambda \mathrm{y}_e.\lambda \mathrm{e}_v.$ think(e) & Th_{res}(e)=y & Cont(e)=y draws S.

(6) a. $[\![\mathrm{CP}_{vt}]\!]^{w,g}$=$\lambda \mathrm{e} \in \mathrm{D}_v$. Content(e) = Badma will draw Sajana.

b. $[\![\mathrm{CP}_{et}]\!]^{w,g}$=$\lambda \mathrm{x} \in \mathrm{D}_e$. Content(x) = Badma will draw Sajana.

c. $[\![\text{think}]\!]^{w,g}$= $\lambda \mathrm{e} \in \mathrm{D}_v$.think(e)

d. $[\![\theta_{Th}]\!]^{w,g}$= $\lambda \mathrm{f}_{vt}.\lambda \mathrm{y}_e.\lambda \mathrm{e}_v.$f(e)&Theme(e)=y.

(1) In languages with <vt>-CPs (Buryat) CPs specify the Content of the eventuality described by the verb (6a), and the hyperraising derivation is available because abstraction at the edge of CP creates a function of the same type as the function created by combining

the verb with the object-introducing θ_{Th} – <e,<vt>>. These two functions can combine by Generalized Conjunction (Partee & Rooth 1983), resulting in (5). The moved DP saturates both the Theme variable (= res argument (Heim 1994)) and the embedded Agent variable:

(7) $[\![(3)]\!]^{w,g}$= λe_v. think(e) & Th_{res}(e)=Badma & Content(e) = Badma will draw Sajana.

(2) In languages with <et>-CPs (English), (6b), the hyperraising derivation will create a type mismatch: creating abstraction at the edge of this CP will make it <e,<et>>, and it will not be able to combine with the <e,<vt>>-type verb by Generalized Conjunction (4).

In the absence of hyperraising, <vt>-CPs (Buryat) can combine with the verb by Generalized Conjunction before the verb has merged with θ_{Th}. However, from what we have said so far it is not clear how <et>-CPs (English) can ever combine with the verb.

Combining <et>-CPs I propose that languages like English combine their CPs with attitude verbs through a functional head θ_{Cont}, (8), which takes a predicate P, a property of individuals Q = CP, and an event, and returns true if the predicate is true of e and the content of e is the unique proposition such that it is the Content of all the individuals of which CP is true of. The result of *think* combining with CP through θ_{Cont} is in (9).

(8) $[\![\theta_{Cont}]\!]^{w,g}$= $\lambda P_{vt}.\lambda Q_{et}.\lambda e_v$. P(e) & CONT(e) = ιp [$\forall$x $\in$ Q[CONT(x)=p]]].

(9) $[\![$think θ_{Cont} CP$]\!]^{w,g}$= λe_v. think(e) & CONT(e) = ιp [$\forall$x $\in$ {y: Content(y) = Badma will draw Sajana}[CONT(x)=p]]].

Note that combining CPs via θ_{Cont} does not give rise to availability of hyperraising: abstracting at the edge of CP will still lead to a type mismatch. To sum up, while a functional head like θ_{Cont} could be in principle available in all languages, only languages that have <vt>-CPs have the privilege of being able to combine them with the verb via Generalized Conjunction, which is a necessary requirement for a hyperraising derivation.

How to know the type of your CP I propose that the semantic type of a CP is reflected in the complementizer's morphology (ex., COMPs that look like adverbial forms of verbs like 'say' -vs- nominal-looking COMPs based on demonstratives, relativizers, wh-words) and in its syntactic distribution (ex., whether CP can be a subject or not), table 1.

Morphology	Syntax	Semantics	Hyperraising	Languages
nominal	nominal-like distribution	<et> type	no	English, Russian
adverbial	adverbial-like distribution	<vt> type	yes	Buryat, Tatar

Table 1: Correlations between the type of CP and its morphosyntax

Thus, learning the basic facts about CP's morphosyntax should make one be able to infer its semantic type, and, consequently, infer whether it's OK to hyperraise from this CP or not.

Consequence As in Nez Perce (Deal 2018), hyperraised subjects in Buryat are obligatorily interpreted *de re*; also, they never undergo indexical shifting. These properties of ACC subjects are automatically captured by the proposed semantics for hyperraising: in (3) accusative subjects are above the source of intensionalization and the operator responsible for indexical shifting (Shklovsky & Sudo 2014, a.o.). Reconstructing them in order to get *de dicto*/shifted readings is impossible: they need to saturate the verb's Theme argument. Note that this also rules out the possibility of semantic reconstruction: the ACC subject cannot make the position of the Theme argument of the attitude verb be of a higher type.

Can one do hyperraising without abstracting at CP's edge? It is not possible to both have regular predicate abstraction and interpret the hyperraised DP twice (as both Theme and Agent), which is what we want in order to (i) explain obligatoriness of *de re*; (ii) account for the fact that the ACC DP is interpreted as *about*-argument of the attitude verb.

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