Quantifier Induced Barriers and Wh-movement

Wh-quantifier interactions represent an area where natural languages show interesting subject/object asymmetries. Thus where English shows asymmetry with scope (1), Hindi shows asymmetry in acceptability (2). This paper attempts to explore this asymmetry in relation to the properties of Wh-movement in Hindi and English.

To account for the ambiguity in (1a), Sloan (1991) and Lasnik and Saito (1992) argue that the relevant relation is the one between the quantifier and the **trace** (or **an indefinite**) of the Wh. The distributed reading in (1a) then is the interaction between the universal quantifier and the existential, the former taking scope over the latter. An interesting fact about cases like (2a) is the apparent presence of a Quantifier Induced Barrier Effect (Beck 1996). QUIB effects show up when an intervening quantifier blocks the LF movement of Wh in-situ to an operator position, as in (3). Pesetsky (2000) modifies (3) into a constraint on Wh-feature movement at LF, ascribing the intervention effect to the illegitimate separation of the restriction of the Wh from the moved feature by the Q element. The unacceptability of (2a) can then be understood as an interaction between the quantifier and the restriction of the Wh. Thus instances of asymmetry in both English and Hindi can be accounted for in terms of the interaction between the quantifier and the "stuff" left by the Wh-movement, with two differences, (i) in Hindi movement is covert and English overt and (ii) In English movement is phrasal while in Hindi it is head/feature movement.

This paper attempts to further minimize the differences and argues that both languages involve overt Wh-movement, the only difference being phrasal or head movement. This calls for a reanalysis of QUIB effects and an alternative Wh-movement account for "Wh in-situ" languages like Hindi. Though the Wh-term appears in-situ, something else (a Wh operator) moves overtly in these languages (4), as in Watanabe (1992) for Japanese. Evidence in favor of this comes from island effects (5a) visible in many Wh in-situ languages (with the exception of Chinese (6a), which also doesn't show QUIB effects (6b)). Furthermore these island violations are repairable under sluicing (5b) which implicates overt movement (cf. Merchant (2001)). More evidence comes from "Wh scope marking" constructions (as in (7)), where a *Wh*-element adjoined to the matrix verb marks the scope of another *Wh*-element in the embedded finite clause. Malhotra & Chandra (2007) show that the wh-operator starts inside the Wh-DP and undergoes Wh-head movement to the matrix clause. This operator can only be phonologically realized when adjoined to a morphologically rich head (*v* in Hindi/Urdu). This paper extends this analysis to Wh-movement in general in many "in-situ" languages (like Japanese and Korean), and proposes that instead of the phrasal Wh-movement, a Wh-operator (a head) undergoes overt Wh-movement in these languages.

On this proposal, Beck Effects are a consequence of overt Wh-movement of the Wh-head. Assume that in Hindi, the Quantifier head, e.g. *har* "every" is adjoined to the DP. In this configuration (8) the adjoined head c-commands whatever the DP c-commands (Chomsky 1986). The c-commanding Q head thus acts as an intervener in the overt movement of the Wh-head. Focus particles (like "only " and "also") in Hindi, which adjoin to the DPs they focus, behave similarly in inducing intervention effects for Wh-movement across them (9). Evidence for the adjoined structure comes from considering quantifier interpretations in Hindi and English. For example, Hindi only allows the distributive reading (10a), as opposed to both "distributive" and "group" reading in English (10b). This paper also provides other independent arguments to show that Quantifier head is not internal to the associated DP in Hindi.

These facts suggest that QUIB results from the overt movement of the Wh-head across an intervening Q head. Empirical support in favor of this idea is provided by (i) "Wh scope marking constructions" in languages like Hindi, German and Hungarian, where overt movement of the Wh-head induces QUIB Effects (11). (ii) The fact that sluicing can repair QUIB effects in Hindi (12), and (iii) the absence of QUIB effects in Hindi when a Wh-phrase is scrambled across a quantifier (13) and in English (and also French and German) when a Wh-phrase moves across a Quantifier. As a consequence QUIB effects are visible in languages like Hindi, Japanese and Korean, which involves **overt Wh-head movement** and not in Chinese (with **no overt Wh-movement**) and English (where the quantifier **head** doesn't qualify as a potential intervener for the movement of the **Wh-phrase).**

Examples

(1) a. What did everyone buy? (ambiguous : Wh>∀ or ∀>Wh)
b. Who bought everything? (unambiguous : Wh>∀ or *∀>Wh)

(2) a. ???har-kisi-ne kyaa kharida
everyone-Erg what bought "What did everyone buy?"
b. kis-ne har cheez kharidi
who-Erg everything bought "Who bought everything?"

(3) *[…..Wh_i….[$_{Barrier}$ Q….[….t_i^{LF} ….]]]]

(4) [Q [……..t_Q –WH…….]

(5) a. *raam-ne pucha ki agar mohan kis-ko pyaar karta hai
Ram-Erg asked that if Mohan who-with love does is
"Who did Ram ask if Mohan loves?"
b. raam-ne pucha ki agar Mohan kisi-ko pyaar karta hai par mai-ne nahi bataya ki kis-ko
Ram-Erg asked that if Mohan someone-with love does is but I-Erg not tell that who-with
"Ram asked if Mohan loves someone but I didn't tell who."

(6) a. Ni xiang-xhidao [Lisi weisheme mai-le sheme]?
You wonder Lisi why bought what "What did you wonder why Lisi bought?"
b. mei-ge-ren mai-le shenme
every-CL-person bought what "What did everyone buy?"

(7) John-ne **kyaa** sochaa ki $t_{\mathbf{kyaa}}$ -kaun siitaa-se mila
John-erg what thought that who Sita-with met "Who did John think met Sita?"

(8)


(9) *John-hi kyaa khaaye-gaa
John-only what eat-will "What will only John eat?"

(10) a. har kisi-ne tofa kharida
every one-Erg gift bought
"Everyone bought a gift." [Reading: Everyone bought a different gift]
b. Everyone bought a gift.

(11) *John-ne kyaa sochaa ki har kisi-se kaun mila
John-erg what thought that everyone whom met "Who did John think everyone met?"

(12) har kisi-ne kuch kharida , par mai nahi jaanta ki kyaa ~~[har kisi-ne t kharidaa]~~
everyone-Erg something bought, but I not know that what everyone-Erg bought
"Everyone bought something, but I don't know what."

(13) kyaa har-kisi-ne kharida
what everyone-Erg bought "What did everyone buy?"

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