

Focus Matters: Two Types of Intervention Effect

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1 Introduction

- There are two intervention constraints which are proposed independently: (i) Beck’s (1996) *Minimal Quantified Structure Constraint* on LF movement of *wh*-in-situ elements¹ and (ii) Linebarger’s (1987) *Immediate Scope Constraint* on negative polarity item (NPI) licensing.
- Both types of intervention constraint postulate that no LF dependency may cross a quantificational barrier.
- I point out some problems with both analyses and try to identify a natural class of expressions which show the intervention effects in both cases across different languages.

2 LF Intervention Effects on *Wh*-in-situ

2.1 German – Beck 1996

- (1) Wen hat Karl *wo* gesehen?
whom has Karl where seen
‘Where did Karl see whom?’
- (2) a. *Wer hat **niemanden** *wo* angetroffen?
who has nobody where met
b. Wer hat *wo* **niemanden** angetroffen?
who has where nobody met
‘Who didn’t meet anybody where?’
- (3) a. *Wen hat **fast jeder** *wo* getroffen?
whom has almost everyone where met
‘Who did almost everyone meet where?’
b. *Wen hat **nur Karl** *wo* getroffen?
whom has only Karl where met
‘Who did only Karl meet where?’

¹Beck’s (1996) intervention constraint applies not only to *wh*-in-situ elements, but also to the stranded restriction of the overtly moved *wh*-phrases and *wh*-scope marking constructions. In this paper, however, I will only concentrate on *wh*-in-situ cases.

- c. *Wen hat sogar Karl wo getroffen?
 whom has even Karl where met
 ‘Who did even Karl meet where?’

- An intervening quantifier blocks LF *wh*-movement.

(4) * $[\dots X_i \dots [\text{QP} \dots [\dots t_i^{LF} \dots]]]$

(5) a. *Quantifier-Induced Barrier (QUIB)*

The first node that dominates a quantifier, its restriction, and its nuclear scope is a Quantifier-Induced Barrier.

b. *Minimal Quantified Structure Constraint (MQSC)*

If an LF trace β is dominated by a QUIB α , then the binder of β must also be dominated by α .

- (6) a. $[\text{CP } \text{wer}_i \text{ wo}_j [\text{IP } t_i [\text{VP } \text{niemanden } t_j^{LF} \text{ angetroffen hat}]]]$ (LF for (2-a))
 b. $[\text{CP } \text{wer}_i \text{ wo}_j [\text{IP } t_i [\text{VP } t_j^{LF} [\text{VP } \text{niemanden } t_j \text{ angetroffen hat}]]]]$
 (LF for (2-b))

2.2 Korean – Beck & Kim 1997

- (7) a. Suna-ka *mwues-ul* sa-ss-ni?
 Suna-NOM what-ACC buy-PAST-Q
 b. *mwues-ul*_i Suna-ka t_i sa-ss-ni?
 what-ACC Suna-NOM buy-PAST-Q
 ‘What did Suna buy?’
- (8) a. ?***amwuto** *mwues-ul* sa-ci anh-ass-ni?
 anyone what-ACC buy-COMP not do-PAST-Q
 b. *mwues-ul*_i **amwuto** t_i sa-ci anh-ass-ni?
 what-ACC anyone buy-COMP not do-PAST-Q
 ‘What did no one buy?’
- (9) a. ?***Minsu-man** *nwukwu-lul* manna-ss-ni?
 Minsu-only who-ACC meet-PAST-Q
 b. *nwukwu-lul*_i **Minsu-man** t_i manna-ss-ni?
 who-ACC Minsu-only meet-PAST-Q
 ‘Who did only Minsu meet?’
- (10) a. ?***Minsu-to** *nwukwu-lul* manna-ss-ni?
 Minsu-also who-ACC meet-PAST-Q
 b. *nwukwu-lul*_i **Minsu-to** t_i manna-ss-ni?
 who-ACC Minsu-also meet-PAST-Q
 ‘Who did Minsu, too, meet?’

- (11) a.^{?(?)} **nwukwuna-ka** *enu kynoswu-lul* conkyengha-ni?
 everyone-NOM which professor-ACC respect-Q
 b. *enu kynoswu-lul_i* **nwukwuna-ka** *t_i* conkyengha-ni?
 which professor-ACC everyone-NOM respect-Q
 ‘Which professor does everyone respect?’

In Korean, too, quantifiers seem to block LF *wh*-movement.

2.3 Intervention Effects Crosslinguistically

Dutch (de Swart 1992), English (Pesetsky 2000), French (Cheng & Rooryck 2000), Hindi, Turkish (Beck & Kim 1997), Japanese (Hagstrom 1998)

3 Another Intervention Effect: NPI Licensing

3.1 English

- (12) Nobody gave John/***most people** *a red cent*.

- (13) *Immediate Scope Constraint* (Linebarger 1987)

A negative polarity item is acceptable in a sentence S if in the LF of S the subformula representing the NPI is in the immediate scope of the negation operator. An operator is in the immediate scope of NOT only if (i) it occurs in a proposition that is the entire scope of NOT, and (ii) within this proposition there are no logical elements intervening between it and NOT.

3.2 German

- (14) *weil niemand für Otto einen Finger gerührt hat*
 because nobody for Otto a finger lifted has
 ‘because nobody lifted a finger for Otto’

- (15) a. [?]**weil niemand nur für Otto einen Finger gerührt hat*
 because nobody only for Otto a finger lifted has
 b. *weil nur für Otto niemand t einen Finger gerührt hat*
 because only for Otto nobody a finger lifted has
 ‘because nobody lifted a finger only for Otto’

- (16) a. *weil niemand den Hans je eingeladen hat*
 because nobody the Hans ever invited has
 ‘because nobody ever invited Hans’

- b. ?*weil niemand **jeden** je eingeladen hat
 because nobody everyone ever invited has
 ‘because nobody ever invited everybody’

4 A Unified Analysis?

- Both the Minimal Quantified Structure Constraint (MQSC) and the Immediate Scope Constraint (ISC) postulate that no LF dependency may cross a quantificational barrier.
- Is it possible to give a unified analysis of these two intervention effects?
- And more importantly, *why* should this kind of intervention constraint hold?

5 Some Problems with the MQSC and the ISC

- The data from various languages suggest that both constraints, as they stand, are too strong in the sense that not every quantifier shows the intervention effect.
- There is some crosslinguistic variation among the interveners. For example, universal quantifiers or negation are interveners in German, but do not show any intervention effects in Chinese (cf. Huang 1982a and Aoun & Li 1993a,b). And quantifiers like *most NP* or *always/often* do not show intervention effects for the licensing of *wh*-in-situ and NPI in Korean and Malayalam.

Chinese

- (17) **meige ren** dou mai-le *shenme*?²
 every man all buy-ASP what
 ‘What did everybody buy?’
- (18) Zhangsan **changchang** mai *shenme*?
 Zhangsan often buy what
 ‘What does Zhangsan often buy?’
- (19) Zhangsan **bu** xiang mai *shenme*?
 Zhangsan not want buy what
 ‘What doesn’t Zhangsan want to buy?’

²According to Aoun & Li (1993a), (17) is ambiguous. Both a pair-list answer and a single answer are allowed. This implies that the Chinese universal quantifier *meigeren* (unlike German universal quantifier *jeder* or Japanese *daremo* ‘everyone’) does not exhibit an intervention effect.

- (20) a. ^{??}**lian Lili ye** kan de dong *na-ben shu*?
 even Lili also read DE understand which-CL book
 b. *na-ben shu* **lian Lili ye** kan de dong?
 which-CL book even Lili also read DE understand
 ‘Which book could even Lili understand?’
- (21) a. ^{??}**zhiyou Lili** kan-le *na-ben shu*?
 only Lili read-ASP which-CL book
 b. *na-ben shu* **zhiyou** Lili kan-le?
 which-CL book only Lili read-ASP
 ‘Which book did only Lili read?’
- (22) a. ***shei ye** kan bu dong *na-ben shu*?
 who also read not understand which-CL book
 b. *na-ben shu* **shei ye** kan bu dong?
 which-CL book who also read not understand
 ‘Which book could no one understand?’
 (*shei ye* ‘who also’ meaning *anyone*)
- (23) ***shi** Zhangsan da-le *shei*?
 FM Zhangsan beat-ASP who
 ‘*Who is it Zhangsan that beat t?’ (Huang 1982b)

Korean

- (24) a. **taypwupwun-uy haksayng-tul-i** *nwukwu-lul* hoycang-ulo
 most-GEN student-PL-NOM who-ACC president-as
 chwuchenha-ess-ni?
 recommend-PAST-Q
 ‘Who did most students recommend as president?’
 b. Minsu-nun **hangsang/cacwu** *nwukwu-lul* party-ey teyliko ka-ss-ni?
 Minsu-TOP always/often who-ACC party-to take-PAST-Q
 ‘Who did Minsu always/often take to the party?’
- (25) *amwuto* kukos-ey **cacwu** an ka-ss-ta
 anyone that.place-to often NEG go-PAST-DEC
 ‘No one went there often.’
- (26) a. *amwuto* i chayk-ul an ilk-ess-ta
 anyone this book-ACC NEG read-PAST-DEC
 ‘No one read this book.’
 b. ***amwuto i chayk-man** an ilk-ess-ta
 anyone this book-only NEG read-PAST-DEC
 ‘No one read only this book.’

- c. **i chayk-man** *awmuto* t an ilk-ess-ta
 this book-only anyone NEG read-PAST-DEC
 ‘Only this book is what no one read.’

Malayalam (M.T. Hany Babu, p.c.)

- (27) Lili eetə pustakam-aanə waayicc-atə
 Lili which book-be read-NOMINALIZER
 ‘Which book did Lili read?’
- (28) ellaawarum eetə pustakam-aanə waayicc-atə
 everyone which book-be read-NMZ
 ‘Which book did everyone read?’
- (29) a. *Lili-yum eetə pustakam-aanə waayicc-atə
 Lili-also which book-be read-NMZ
 b. eetə pustakam-aanə Lili-yum waayicc-atə
 which book-be Lili-also read-NMZ
 ‘Which book did Lili, too, read?’
- (30) a. *Lili-maatram eetə pustakam-aanə waayicc-atə
 Lili-only which book-be read-NMZ
 b. eetə pustakam-aanə Lili-maatram waayicc-atə
 which book-be Lili-only read-NMZ
 ‘Which book did only Lili read?’
- (31) a. *aarum eetə pustakam-aanə waayikk-aa-te irunn-atə
 anyone which book-be read-NEG-AUG AUX-NMZ
 b. eetə pustakam-aanə aarum waayikk-aa-te irunn-atə
 which book-be anyone read-NEG-AUG AUX-NMZ
 ‘Which book did no one read?’
 (*aar-um* = *aar* ‘who’ + *um* ‘also’)
- (32) a. *LILI-aanə eetə pustakam waangi-yatə
 LILI-be which book bought-NMZ
 b. eetə pustakam-aanə LILI waangi-yatə
 which book-be LILI bought-NMZ
 ‘Which book did LILI buy?’
 (‘For which *x*, *x* a book: it is Lili that bought *x*.’)
- (33) *aarum* ellaa pustakawum waayicc-itt-illa
 anyone all book read-PERF-NEG
 ‘No one read every book.’
- (34) a. **aarum ii pustakam-maatram* waayicc-itt-illa
 anyone this book-only read-PERF-NEG
 ‘No one read only this book.’

- b. **ii pustakam-maatram** *aarum* t waayicc-itt-illa
 this book-only anyone read-PERF-NEG
 ‘Only this book is what no one read.’
- (35) a. **aarum* **ii pustakam-yum** waayicc-itt-illa
 anyone this book-also read-PERF-NEG
 ‘No one read also this book.’
- b. **ii pustakam-yum** *aarum* t waayicc-itt-illa
 this book-also anyone read-PERF-NEG

- The interveners for licensing of *wh*-in-situ elements in one language seem to be the same interveners which block licensing of NPIs in that language. This is manifest in languages like German, Korean and Malayalam. If this generalization holds, it suggests the need for a unified analysis of the two intervention phenomena.
- Faced with the overgeneralization problem, one question is whether it is possible to distinguish a natural class of the interveners which show intervention effects across different languages.
- Crosslinguistic data from Chinese, German, Korean and Malayalam seem to suggest that focus phrases generally inhibit the relation between the licenser (Q/NEG) and the licensee (*wh*-in-situ/NPI) in both constructions.

6 Proposal

6.1 Focus Intervention Effect

Both the licensing of *wh*-in-situ and NPI licensing are focus-sensitive and an intervening independent element with the feature [+Focus] blocks the licensing.

(36) *Focus Intervention Effect*

In a focus-sensitive licensing construction, no independent focus phrase may intervene between the licenser and the licensee.

Wh-in-situs and NPIs are dependent focus elements which have to be associated with a licensing operator in order to be interpreted.

6.2 Negation, Q-Operator, and Association with Focus

- Jackendoff (1972) proposes a general rule *association with focus*, which applies to negation, focus-sensitive particles (like *only* or *even*) and yes-no ques-

tions. There is a close connection between focus and the interpretation of these “focus-sensitive” expressions.

- In many languages, *wh*-phrases are marked with [+Focus] feature which is realized either morpho-syntactically or phonologically (or both). For Malayalam, Jayaseelan (2001) argues that the abstract question (Q-) operator (in the sense of Baker 1970) is a focus-sensitive disjunction operator and it applies to *wh*-in-situ by “association with focus” (Rooth 1985, 1992). The idea is that a *wh*-word (being a focus) introduces alternatives and the Q-operator operates on those alternatives. See Hong (1995) for a similar analysis. Ramchand (1997) and Shimoyama (1999) also extend Rooth’s “alternative semantics” to interpretation of *wh*-words in Bengali and Japanese respectively.
- According to recent analyses of NPIs (e.g., Lee & Horn 1994, Krifka 1995, Lahiri 1998), NPIs can be analyzed as focus phrases, supported by the fact that NPIs consist of an indefinite NP and an overt focus particle meaning “even, also” in many languages (cf. Haspelmath 1997). NPI licensing is also a case of focus-sensitive quantification.
- We could assume that both Q-operator and NEG are focus-sensitive operators which undergo association with focus. It is natural that the necessary licensing relationships are interrupted by another element with the same feature [+Foc], and this can be considered as an instance of the “defective intervention effect” of Chomsky (2000, 2001).

6.3 Focus Intervention Effect as Defective Intervention Effect

(37) *The Defective Intervention Constraint* (Chomsky 2000:123, 2001:13)

$$\alpha > \beta > \gamma$$

(*AGREE (α, γ), β and γ are matching goals for the probe α , and β is inactive due to a prior AGREE with some other probe.)

Both the independent focus phrase and the licensee (*wh*-in-situ/NPI) match the probe of the licenser (Q/NEG), but the intervening [+Foc] feature of the already (independently) checked focus phrase bars licensing of the licensee.

6.3.1 *Wh*-In-Situ Licensing

(38) $*[_{CP} Q_i [\text{FocP}_{[+Foc]} [\dots \text{wh}_{i[+Foc]} \dots]]]$

- (39) a. ?***Minsu-man** *nwukwu-lul* manna-ss-ni? [Korean]
 Minsu-only who-ACC meet-PAST-Q
 ‘Who did only Minsu meet t?’
 b. [CP Q_i [IP **Minsu-man**_[+Foc] *nwukwu-lul*_{i[+Foc]} manna-ss]-ni]

6.3.2 NPI Licensing

- (40) *[NEG [FocP_[+Foc] [... NPI_[+Foc] ...]]]
-

- (41) ?*weil niemand **nur für Otto** *einen Finger gerührt* hat [German]
 because nobody only for Otto a finger lifted has
 ‘because nobody lifted a finger only for Otto’

6.3.3 Multiple AGREE

- MULTIPLE AGREE for multiple *wh*-in-situ/NPIs: Intervention effects hold only if the intervening element is not rendered inactive by the same probe P (Chomsky 2001, see also Hiraiwa 2001 for MULTIPLE AGREE).

- (42) [CP Q_{i,j} [wh_{i[+Foc]} [... wh_{j[+Foc]} ...]]]
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- (43) Mira-nun *eti-eyse* *nwukwu-lul* manna-ss-ni? [Korean]
 Mira-TOP where-LOC who-ACC meet-PAST-Q
 ‘Where did Mira meet whom?’

6.4 More Evidence for Focus Intervention – Alternative Questions

Han & Romero (2001): Alternative questions necessarily involve focus on each disjunct.

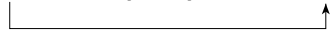
- (44) Did John drink COFfee or TEA?
 a. (John drank) coffee.
 b. (John drank) tea.

The alternative question (44) has the same answer condition as the constituent question *What did John drink, coffee or tea?* (cf. Bäuerle 1979). An extra focus phrase c-commanding the disjunctive XP’s renders the sentence ungrammatical.

German (Sigrid Beck, p.c.)

- (45) a. Hat Hans [TEE oder KAFfee] getrunken?
 has Hans tea or coffee drunk
 ‘Did Hans drink TEA or COFfee?’
- b. ?*Hat **nur/auch Hans** [TEE oder KAFfee] getrunken?
 has only/also Hans tea or coffee drunk
 ‘Did only/also Hans drink TEA or COFfee?’
- c. ?*Hat **HANS** [TEE oder KAFfee] getrunken?
 has Hans tea or coffee drunk
 ‘Did HANS drink TEA or COFfee?’
- d. Hat [MARIA oder HANS] **nur Harry Potter** gelesen?
 has Maria or Hans only Harry Potter read
 ‘Did MARIA or HANS read only Harry Potter?’

Korean

- (46) a. Minsu-ka SUNA-lul chwuchenha-ess-ni (animyen) MIRA-lul
 Minsu-NOM Suna-ACC recommend-PAST-Q (if not) Mira-ACC
 chwuchenha-ess-ni?
 recommend-PAST-Q
 ‘Did Minsu recommend SUNA or MIRA?’
- b. ?***Minsu-man/to** SUNA-lul chwuchenha-ess-ni (animyen)
 Minsu-only/also Suna-ACC recommend-PAST-Q (if not)
 MIRA-lul chwuchenha-ess-ni?
 MIRA-ACC recommend-PAST-Q
 ‘Did only/also Minsu recommend SUNA or MIRA?’
- (47) *_{[CP Qi [FocP_[+Foc] [... [A or B]_{i[+Foc]} ...]]]}


6.5 Extension to NPI Licensing in Korean

Some properties of Korean negation and NPIs (cf. Sells 2001)

- Two types of negation in Korean: Short-Form Negation (SFN) involving the preverbal negative adverb *an* ‘not’ and Long-Form Negation (LFN) with the negative verb *anh-ta* ‘not do’ taking a content verb as its complement.
- Syntactic licensing of Korean NPIs: The NPI should be “commanded” by a negative element, where command is essentially the clause-mate relation (see Langacker 1969).

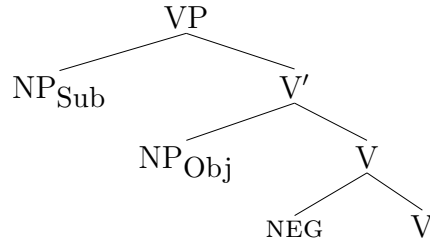
- Even though SFN cannot take scope over a quantifier in the subject position ((48)), it can license an NPI in that position via command ((51-a)).
- A focus phrase on the “upwards” licensing path of SFN induces the intervention effect ((51-b)), i.e., *NPI > FocP > SFN. But this is the mirror image of Chomsky’s configuration (37), with the probe (NEG) c-commanded by its goals.

- (48) manhun salam-tul-i Seoul-ey an ka-ss-ta (SFN)
 many people-PL-NOM Seoul-to NEG go-PAST-DEC
 a. There are many people who did not go to Seoul. (*many > neg*)
 b. *It is not the case that many people went to Seoul. (**neg > many*)
- (49) manhun salam-tul-i Seoul-ey ka-ci anh-ass-ta (LFN)
 many people-PL-NOM Seoul-to go-COMP NEG-PAST-DEC
 a. There are many people who did not go to Seoul. (*many > neg*)
 b. ?It is not the case that many people went to Seoul. (*?neg > many*)
- (50) LFN with the contrastive marker *nun* attached to VP:
 [_{VP} manhun salam-tul-i Seoul-ey ka-ci]-nun anh-ass-ta
 many people-PL-NOM Seoul-to go-COMP-CM NEG-PAST-DEC
 ‘It is not the case that many people went to Seoul.’ (*neg > many*)
- (51) a. *amwuto* i chayk-ul an ilk-ess-ta
 anyone this book-ACC NEG read-PAST-DEC
 ‘No one read this book.’
 b. **amwuto* i **chayk-man** an ilk-ess-ta
 anyone this book-only NEG read-PAST-DEC
 ‘No one read only this book.’
 c. i **chayk-man**_i *amwuto* t_i an ilk-ess-ta
 this book-only anyone NEG read-PAST-DEC
 ‘Only this book is what no one read.’

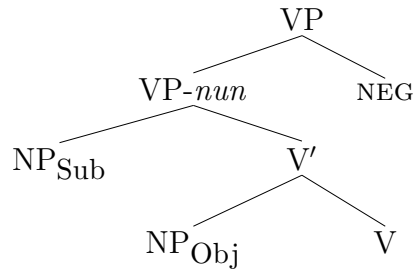
- Long-Form Negation with *nun*:

- (52) a. [_{VP} *amwuto* i **chayk-man** ilk-ci]-nun anh-ass-ta
 anyone this book-only read-COMP-CM NEG-PAST-DEC
 ‘It is not the case that anyone read only this book.’
 (*neg > anyone > only*)
 b. *_{VP} i **chayk-man**_i *amwuto* t_i ilk-ci]-nun anh-ass-ta
 this book-only anyone read-COMP-CM NEG-PAST-DEC
 ‘It is not the case that only this book, anyone read.’ (*neg > only > any*)

(53) a. Short-Form Negation



b. Long-Form Negation with *nun*



7 Conclusion

- I have shown that not every quantifier shows the intervention effect and that there is some crosslinguistic variation among the interveners.
- But it seems that focus phrases quite generally induce an intervention effect on two different types of licensing (for *wh*-in-situ and NPI). I have argued that this can be explained if we assume that *wh*-in-situ and NPIs are focus elements which need a proper licenser in order to be interpreted, and that both the Q-operator and the negation operator are sensitive to focus for interpretation. An intervening focus phrase blocks the focus-sensitive licensing.
- The focus intervention effect can be considered as a case of the Defective Intervention Effect in the sense that a focus-sensitive probe cannot AGREE with its goal across a potential goal which carries the matching feature [+Foc].
- Remaining questions and problems: How to formalize this effect semantically? How to explain the intervention effects induced by other quantifiers? (see Honcoop's 1998 dynamic semantic approach for a possible account)

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