

Two Types of Floating Quantifiers and their A/A-bar Properties

Many current analyses of floating quantifiers (FQs) view FQs as either initially adnominal (with movement of the associated NP/DP away from the FQ; Sportiche 1988), or adverbial (with no syntactic relation to the associated nominal; Dowty & Brodie 1984). I propose that *both* adnominal and adverbial FQs exist. These two possibilities are distinguishable within and across languages based on their A/A-bar properties. I propose that an adverbial FQ can occur only with an A-moved nominal associate. In contrast, an adnominal FQ can be stranded only under A-bar movement, *contra* Sportiche 1988. I show that there are three types of languages with respect to FQs. These are exemplified by Standard English (which allows only adverbial, A-related FQs), Japanese (where FQ stranding always exhibits A-bar properties), and West Ulster English and Korean (which I claim contain both adnominal and adverbial FQs).

Adverbial A-related FQs in Standard English. The adverbial nature of Standard English FQs (1) has been defended extensively (Bobaljik 1995, Brisson 1999). I show that these FQs cannot be related to phrases that have (only) undergone A-bar movement (2). This restriction is due to what I analyze as a hidden bound pronoun within the quantificational adverb (following Doetjes 1997). This pronoun would lead to a cross-over problem under A-bar (but not A) movement of a nominal that binds it.

A-bar stranding of Japanese FQs. I argue that fronted objects (e.g., in OSV order) and passive and unaccusative subjects begin as deep objects (Kuroda 1983, Miyagawa 1989). Somewhat surprisingly, weak cross-over (WCO) and scope facts show that FQs occur only with A-bar fronting in these cases. WCO only arises with A-bar movement (3). In Japanese, short A-scrambling (4b) obviates WCO (4a) (Hoji 1985). But OSV order in (4b) could also in principle be derived through A-bar object scrambling. Though the pattern in (4) holds even with the addition of a numeral quantifier (5a-b), quantifier float produces WCO (5c). (A hanging-topic type pause after the object ameliorates the WCO effect.) Therefore, though the derivation of OSV order is ambiguous between A and A-bar movement of the object, an FQ disambiguates in favor of A-bar. Disambiguation holds even with the subject of a transitive (6; sentence acceptable with unbound *pro*), and with passive and unaccusative subjects, all of which would normally be assumed to be A-moved. A second argument that adnominal FQs can be stranded only under A-bar movement comes from the scope of the subject with respect to negation. Miyagawa (2001) argues that short A-scrambling satisfies the EPP by moving an element (not necessarily the subject) to Spec-TP. Thus a sentence with OSV order could in principle be derived in two ways: The object could be A-scrambled to Spec-TP (7a), or A-bar scrambled to a position above a subject in Spec-TP. (8a) shows that this structural ambiguity does arise: The subject can scope both below and above negation. However, if the object's adnominal quantifier is stranded, the subject must scope over negation (8b; following Yamashita 2001), indicating that it occupies Spec-TP, with the scrambled object in a higher position (7b). Again, the same effect arises with unaccusatives (9) and passives (10). As in the WCO case, these scope facts show that adnominal quantifier stranding disambiguates in favor of A-bar movement.

Two FQs in West Ulster (WU) English. WU English (McCloskey 2000) shows a clearly dual FQ pattern: FQs with A-moved DPs behave exactly as in Standard English (1), but new FQ positions are possible with *wh*-movement (11; examples unacceptable in Standard English). Evidence that these FQs are adnominal includes their appearance in argument base position (11b) and in intermediate trace position (11c), neither of which is a possible adverb position. (These same arguments apply for Japanese.) The A/A-bar distinction plays a key role here: FQs associated with A-moved DPs appear only in adverb position, while A-bar movement allows FQs in argument and intermediate positions (compare 1d and 11b). Therefore, WU English shows that both Standard English-type adverbial FQs, which are A-related, and Japanese-type adnominal FQs, which are A-bar related, can appear in the same language.

FQs and Case-marking in Korean. Ko (2004) argues that Korean FQs are de-adnominal and that restrictions on subject scrambling follow from a theory of cyclic linearization. However, when these FQs are case marked, ordering restrictions disappear. As an explanation, Ko proposes that case-marked FQs are adverbial (adverbial case-marking is independently possible in Korean), while bare FQs are adnominal. If this is true, then Korean bare-FQ stranding should show the same pattern as Japanese FQs with respect to WCO, but case-marking should eliminate WCO. This prediction is borne out (12). Thus, if Ko's characterization is correct, Korean WCO facts support the A-bar restriction on adnominal FQs.

- (1) **Standard English adverbial FQs.**
- a. All the criminals have been arrested. b. The criminals have all been arrested.
c. *The criminals have been all arrested. d. *The criminals have been arrested all.
- (2) * Who did John all see?
- (3) a. * Who₁ does his₁ mother like t₁? b. Everyone₁ seems to his₁ mother t₁ to be intelligent.
- (4) **Short scrambling obviates WCO in Japanese.**
- a. * [*pro*₁ osieta sensei]-ga dare₁-o yatou no? b. Dare₁-o [*pro*₁ osieta sensei]-ga t₁ yatou no?
pro taught teacher-NOM who-ACC will-hire Q who-ACC *pro* taught teacher-NOM t will-hire Q
‘Who₁ will the teacher who taught (him₁) hire?’
- (5) **Quantifier float forces WCO in Japanese.**
- a. * Rainen [*pro*₁ osieta sensei]-ga donna gakusei₁-o san-nin yatou no?
next-year *pro* taught teacher-NOM which student-ACC 3-CL will-hire Q
b. Donna gakusei₁-o san-nin rainen [*pro*₁ osieta sensei]-ga t₁ yatou no?
which student-ACC 3-CL next-year *pro* taught teacher-NOM t will-hire Q
c. * Donna gakusei₁-o rainen [*pro*₁ osieta sensei]-ga t₁ san-nin yatou no?
which student-ACC next-year *pro* taught teacher-NOM t 3-CL will-hire Q
‘Which three students₁ will the teacher who taught them₁ hire next year?’
- (6) **Subjects show the same WCO effects.**
- a. Donna gakusei₁-ga san-nin [John-ga *pro*₁ asieta ato] t₁ daigaku-o yameta no?
which student-NOM 3-CL [John-NOM *pro* taught after] t university-ACC quit-PAST Q
‘Which three students₁ quit the university after John taught them₁?’
b. Donna gakusei₂-ga [John-ga *pro*_{1/*2} asieta ato] t₁ san-nin daigaku-o yameta no?
which student-NOM [John-NOM *pro* taught after] t 3-CL university-ACC quit-PAST Q
- (7) **Structural ambiguity and the scope of the subject in OSV, unaccusative, and passive sentences.**
- a. [_{TP} Object₁ [_{VP} Subject t₁ V-NEG]] b. [_{CP} Object₂ [_{TP} Subject₁ [_{VP} t₁ t₂ V-NEG]]]
- (8) a. Hon-o 2-satu zen’in-ga kawa-nakat-ta (yo). b. Hon-o zen’in-ga 2-satu kawa-nakat-ta (yo).
book-ACC 2-CL all-NOM buy-NEG-PAST (EXCL) book-ACC all-NOM 2-CL buy-NEG-PAST (EXCL)
‘All didn’t buy two books.’ (∇>NEG, NEG>∇) ‘All didn’t buy two books.’ (∇>NEG, *NEG>∇)
- (9) a. Booru-ga mit-tu zen’in-ni atar-anakat-ta (yo). b. Booru-ga zen’in-ni 3-tu atar-anakat-ta (yo).
ball-NOM 3-CL all-DAT hit-NEG-PAST (EXCL) ball-NOM all-DAT 3-CL hit-NEG-PAST (EXCL)
‘Three balls didn’t hit all.’ (NEG>∇, ∇>NEG) ‘Three balls didn’t hit all.’ (∇>NEG, *NEG>∇)
- (10) a. Teiri-ga mit-tu zen’in-ni syoomei-sare-nakat-ta (yo).
theory-NOM 3-CL all-DAT approve-PASS-NEG-PAST (EXCL)
‘Three theories were not approved by all.’ (∇>NEG NEG>∇)
b. Teiri-ga zen’in-ni mit-tu syoomei-sare-nakat-ta (yo).
theory-NOM all-DAT 3-CL approve-PASS-NEG-PAST (EXCL)
‘Three theories were not approved by all.’ (∇>NEG, *NEG>∇)
- (11) **A-bar movement allows new FQ possibilities in West Ulster English.**
- a. What all did he say that he wanted? b. What did he say that he wanted all?
c. What did he say all that he wanted?
- (12) **WCO with Korean unmarked FQs (12c); No WCO with case-marked (adverbial) FQs (12d).**
- a. *Kutul-ul kaluch-in sensayngnim-i etten haksayng-(tul)-ul sey-myeng koyonghal-kka?
they₁-ACC teach-RC teacher-NOM which student₁-PL-ACC 3-CL hire-Q
b. ?Etten haksayng-(tuk)-ul sey-myeng kutul-ul kaluch-in sensayngnim-i t₁ koyonghal-kka?
which student₁-PL-ACC 3-CL they₁-ACC teach-RC teacher-NOM t hire-Q
c. *Etten haksayng-(tul)-ul kutul-ul kaluch-in sensayngnim-i t₁ sey-myeng koyonghal-kka?
which student₁-PL-ACC they₁-ACC teach-RC teacher-NOM t 3-CL hire-Q
d. ?Etten haksayng-(tul)-ul kutul-ul kaluch-in sensayngnim-i t₁ sey-myeng-**ul** koyonghal-kka?
which student₁-PL-ACC they₁-ACC teach-RC teacher-NOM t 3-CL-ACC hire-Q
‘Which three students₁ would the teachers who taught them₁ hire?’