

RECONSTRUCTION AND SCOPE OF NEGATION IN KOREAN (AND JAPANESE)*

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1. Introduction

SOV languages such as Turkish, Japanese and Korean express negation as part of the verb or as an auxiliary-like construction involving the main verb. From its clause-final position, negation can take scope over different clause-level constituents, but the default scope of negation is low (Turkish, Butler 2002; Korean, Sells and Kim 2006, Sells 2010; Japanese, Kuno 1980, Yatabe 1996, Shimoyama 2009). Starting from the assumption that the scope of negation is low, in this paper we look at how the scope of negation may ‘stretch up’ to take arguments in its scope, and/or how certain phrases may apparently reconstruct from a high position, to be interpreted within the scope of negation. At the end of the paper we will consider the implications of our observations for two different models of the mapping from syntax to semantics.

Sohn (2004) discussed the behavior of certain contrastive phrases in Korean, marked with *ta-nun*, and showed that these must be interpreted within the scope of negation, as in (1). In (1) the subject is in the scope of negation, minimally contrasting with (2), which lacks the extra morpheme *ta*, and where the scope relations are reversed:¹

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¹ The morpheme *ta*, corresponding to *all* in English, can appear with numerals or nouns to give a collective reading:

- | | | |
|----------------|-------------|--------------------|
| (i) a. twul-ta | b. seys ta | c. haksayng-tul ta |
| two-all | three all | student-PL all |
| ‘both’ | ‘all three’ | ‘all the students’ |

- (1) twu salam ta-nun o-ci anh-ass-ta²
 two person all-FOC come-COMP NEG-PAST-DEC
 ‘It is not the case that BOTH of them came.’ (i.e., Only one of them came.)
 *‘Both of them didn’t come.’ (i.e., None of them came.)
- (2) twu salam-un o-ci anh-ass-ta
 two person-TOP come-COMP NEG-PAST-DEC
 *‘It is not the case that two people came.’
 ‘There were two people who didn’t come.’

The contrastive focus phrase in (1) must associate with negation by being in its scope, a property we motivate in section 2. The only interpretation of the example is *Neg > both*. This interpretation is not possible in (2), and that example only has the interpretation *two > Neg*. Unless the subject has a contrastive marker, as in (1), the only way to have negation scope over the subject is to use the wide-scope construction in (3), where the focus marker on the content verb signals that negation takes wide scope over the whole proposition:

- (3) twu salam-i o-ci-nun anh-ass-ta
 two person-NOM come-COMP-FOC NEG-PAST-DEC
 ‘It is not the case that two people came.’ (*Neg > two*)

Evidence that the contrastive phrase in (1) really is in the scope of negation can be seen in the interaction with other quantifiers – (4) has only the interpretation shown, where the adverbial quantifier *cacwu* is also in the scope of negation:

- (4) twu salam ta-nun cacwu o-ci anh-ass-ta
 two person all-FOC often come-COMP NEG-PAST-DEC
 ‘It is not the case that BOTH of them came often.’ (*Neg > both > often*)

In simple examples, it is somewhat hard to interpret negation with scope over the subject (compare (5) with (3), which has only the wide scope negation interpretation):

- (5) twu salam-i o-ci anh-ass-ta
 two person-NOM come-COMP NEG-PAST-DEC
 ?‘It is not the case that two people came.’
 ‘There were two people who didn’t come.’ (*two > Neg*; preferred)

Our starting point in this paper is the observation that negation does not easily take scope over the subject position in Korean. However, negation can take scope over the subject for the specific purposes of licensing a phrase in that position, as in (1).

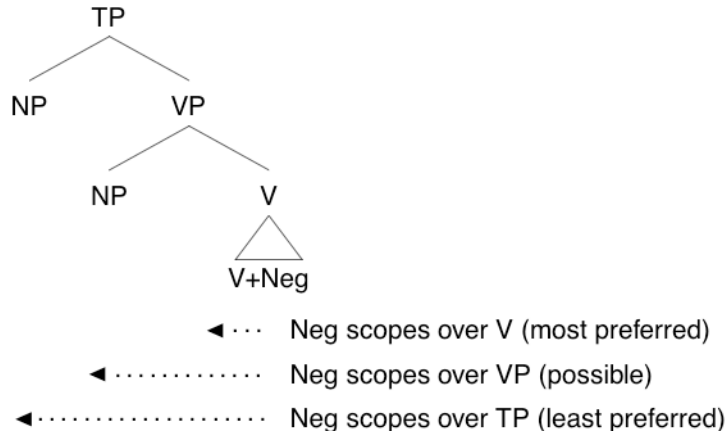
In the rest of the paper, we first discuss contrastive phrases and the scope of negation (section 2); in section 3, we consider the scope of negation in examples with two QPs, and the relation between surface order and scope relations; finally, in section 4 we consider the implications of our observations for the syntax-semantics mapping.

² As is well known, the suffix (*n*)*un* has a variety of uses. We gloss it somewhat according to its function in each example, though for simplicity, we gloss its contrastive focus uses simply as FOC.

2. Scope of Negation and Contrastive Phrases

Here we look in more detail at the scope of negation, showing that it prefers to scope low (cf. Kuno 1980 for Japanese), but may ‘stretch up’ its scope, either over the VP, or over the whole TP. The progressively wider scopes of negation are shown schematically in (6):

(6) Scope of Negation



Examples like (5) above show that negation does not easily scope over a subject. In previous work we have documented this fact extensively (Sells and Kim 2006, Sells 2010).

Now (7) shows that with a contrastive *ta-nun*-marked subject as in (1), negation scopes over it, and the scope order of subject and object mirrors the surface order:

- (7) [twu salam ta-nun]_{SU} [manhun chayk-ul]_{DO} ilk-ci anh-ass-ta
 [two person all-FOC] [many book-ACC] read-COMP NEG-PAST-DEC
 ‘It is not the case that BOTH of them read many books.’
 (Only scope order is *Neg* > *both* > *many*.)

However, if the initial *ta-nun*-marked phrase is a scrambled object, it may be reconstructed under the scope of negation. (8) thus allows two different scope interpretations:

- (8) [twu salam ta-nun]_{DO} [manhun salam-i]_{SU} t_{DO} chotayha-ci anh-ass-ta
 [two person all-FOC] [many person-NOM] invite-COMP NEG-PAST-DEC
 ‘It is not the case that BOTH of them are invited by many people’ (*Neg* > *both* > *many*)
 ‘Many people did not invite BOTH of them.’ (*many* > *Neg* > *both*)

In the first interpretation, negation scopes wide and the initial phrase does not reconstruct. In the second, the initial phrase reconstructs to its base position (‘t_{DO}’) and negation scopes over that position. The unscrambled version (9) is of course more natural for the second interpretation, where the order of quantifier phrases matches the surface order and negation only scopes over the *ta-nun*-marked object.

- (9) [manhun salam-i]_{SU} [twu salam ta-nun]_{DO} chotayha-ci anh-ass-ta
 [many person-NOM] [two person all-FOC] invite-COMP NEG-PAST-DEC
 ‘Many people did not invite BOTH of them.’ (*many* > *Neg* > *both*)

Negation preferentially scopes under the subject. Only in (7) and (8) does negation scope over the subject and then even higher up over the scrambled object, in order to license the contrastive *ta-nun*-phrase. This suggests a conclusion which we will confirm later in the paper, which is that the scope of negation is variable, due to the necessity of entering into various licensing relations.

In the rest of this section we discuss how contrastive phrases enter into a semantic relation with negation. Then we introduce negative polarity items (NPIs), which allow us to diagnose where the scope of negation is. In the final subsection, we consider again whether negation ‘stretches up’ to license contrastive phrases or whether they have a low(er) position to reconstruct into.

2.1 Semantics of Contrastive Phrases

Here we discuss the semantics of contrastive phrases and why some of them are only felicitous in the scope of negation. In this sense contrastive phrases have to be associated with negation.

Vallduví and Vilkuna (1998) emphasized the contrastive aspect of certain kinds of phrases, and showed this to be orthogonal to the traditional Topic/Focus classification (see also Vermeulen 2009 for discussion of contrastive phrases in Japanese). In what follows we will largely concentrate on the contrastive aspect of the phrases in question – in other words, phrases whose interpretation is relative to a set of alternatives of some kind.

The observation that negation associates with contrastive focus phrases is not new. McGloin (1986: 52) presents the Japanese examples in (10), to show that negation associates with focus. Negation takes narrow scope with respect to *minna* ‘all’ in (10a), but scopes over ‘all’ in (10b) by associating with focus, or in (10c) (cf. (3) above), due to the syntactic construction marking wide-scope negation:

- (10) a. gakusei-wa minna ko-na-katta
 student-TOP all come-NEG-PAST
 ‘All the students did not come. (None of the students came.)’ (*all* > *Neg*)
 b. gakusei-wa minna-wa ko-na-katta
 student-TOP all-FOC come-NEG-PAST
 ‘Not all the students came.’ (*Neg* > *all*)
 c. [gakusei-ga minna ki]-wa si-na-katta
 [student-NOM all come]-FOC do-NEG-PAST
 ‘Not all the students came.’ (*Neg* > *all*)

Hara (2008) discusses the semantic nature of this association of negation and contrast. She uses the simple examples in (11) to illustrate the semantic analysis. (11b) is effectively the relevant part of (10b), and it contrasts with the non-negative example (11a), which is pragmatically very marked. She considers *wa* in both examples to be a Contrastive Topic (CTOP):

- (11) a. #minna-wa ki-ta
 all-CTOP come-PAST
 ‘Everyone came.’
 b. MINNA-wa ko-na-katta
 all-CTOP come-NEG-PAST
 ‘Not everyone came.’
 (Implicature: Probably some people came.)

The contrast between these examples shows that somehow the *wa*-marking has to be licensed by negation. Hara presents the possible interpretations of (11b) in terms of the scopal relations: either \forall scopes over \neg , or \neg scopes over \forall . In the former case, when \forall has widest scope, she shows that there is never a felicitous interpretation. With the $\neg\forall$ scoping, a felicitous interpretation is possible.³

Hara argues that the *wa*-marked phrase is a contrastive phrase, and then refers to the proposals of Büring (1997), who himself proposes that a contrastive phrase is only felicitous if the example generates a set of meaningful (non-trivial) entailments or implicatures – specifically, that the contrastive phrase must entail or imply a set of meaningful alternative sets of propositions, which can be taken up in following discourse. Büring assumes a semantics of the form given in (13) for the German example in (12). The example is presented to show its intonation contour, with an initial rise and a fall before the predicate.

- (12) /ALLE Politiker sind NICHT\ korrump.
 all politicians are not corrupt
 ‘Not all politicians are corrupt.’

The semantics may leave open the sets of alternative propositions as in (13). The first set in the interpretation is struck out, as this is the regular semantic meaning, but the rest survive:

- (13) a. $\neg\forall$ scoping corresponds to: [not [[all politician] corrupt]]
 $\{\neg\text{all}(\text{politician})(\lambda x.\text{corrupt}(x)), \text{all}(\text{politician})(\lambda x.\text{corrupt}(x))\}$,
 $\{\neg\text{most}(\text{politician})(\lambda x.\text{corrupt}(x)), \text{most}(\text{politician})(\lambda x.\text{corrupt}(x))\}$,
 $\{\neg\text{some}(\text{politician})(\lambda x.\text{corrupt}(x)), \text{some}(\text{politician})(\lambda x.\text{corrupt}(x))\}$,
 $\{\neg\text{one}(\text{politician})(\lambda x.\text{corrupt}(x)), \text{one}(\text{politician})(\lambda x.\text{corrupt}(x))\}$
 b. $\forall\neg$ scoping corresponds to: [[all politician] [not corrupt]]
 $\{\text{all}(\text{politician})(\lambda x.\neg\text{corrupt}(x)), \text{all}(\text{politician})(\lambda x.\text{corrupt}(x))\}$,
 $\{\text{most}(\text{politician})(\lambda x.\neg\text{corrupt}(x)), \text{most}(\text{politician})(\lambda x.\text{corrupt}(x))\}$,
 $\{\text{some}(\text{politician})(\lambda x.\neg\text{corrupt}(x)), \text{some}(\text{politician})(\lambda x.\text{corrupt}(x))\}$,
 $\{\text{one}(\text{politician})(\lambda x.\neg\text{corrupt}(x)), \text{one}(\text{politician})(\lambda x.\text{corrupt}(x))\}$

The first scoping, $\neg\forall$, leaves some alternatives open – a discourse could continue on the topic of ‘most politicians’, ‘some politicians’, or ‘one politician’, for instance. The second scoping, $\forall\neg$, is not available for (12) as there are no alternatives left in this reading. If all politicians are such that they are not corrupt, all alternative sets of propositions are either entailed or contradicted: all

³ Hara’s argument is that it is not strictly true that negation and contrast necessarily associate, but rather, that no felicitous interpretation arises unless negation scopes over the contrastive phrase.

the alternatives in (13b) are struck through as none of them is disputable. Accordingly, the quantifier wide scope reading of (12) is not available. The quantifier narrow scope reading is possible as (13a) has disputable propositions.

With regard to the Japanese examples in (11), assume a predicate P (“came”, or “not came”), scoping under the subject. This leads to the interpretive situation outlined in (14a). However, if negation scopes over the subject, the situation is as in (14b):

- (14) a. “All P”, if true, entails “Most P”, “Some P”, and so on, leaving no meaningful alternatives open (along the lines of (13b)).
 b. “Not all P” leaves open the possible truth of “Most P” or “Some P”, and so on (along the lines of (13a)).

Only (11b) has any meaningful alternatives, and for this reason only the $\neg\forall$ scoping is felicitous. With regard to these interpretive properties, Korean *ta-nun* is like Japanese *minna-wa*, and therefore must be interpreted in the scope of negation in order to be felicitous.

2.2 NPI Licensing and the Generalized Immediate Scope Constraint

As mentioned above, we use negative polarity items (NPIs) to diagnose where the scope of negation is. As far as the scope properties of NPIs are concerned, there is clear evidence that NPIs in Korean (and Japanese and Turkish) are of the ‘universal’ type, in that they outscope negation (see e.g., Lee 1996, Kim 1999, Sells and Kim 2006, Shimoyama 2009); in fact, they immediately outscope it (the scoping is $\forall\neg$, with no intervening quantifier). This is direct contrast to English, for which it is now standard to assume the existential-in-the-scope-of-negation account of NPIs ($\neg\exists$) (e.g., Ladusaw 1979, Carlson 1980).

Illustrating briefly, (15) shows that the NPI *amwu-to* is licensed in a position over which negation cannot scope (the Korean NPIs are underlined in each example):

- (15) a. mina-man an o-ass-ta
 Mina-only NEG come-PAST-DEC
 ‘Only Mina didn’t come.’ (the only scope order is *only* > *Neg*)
 b. amwu-to an o-ass-ta
 anyone NEG come-PAST-DEC
 ‘No one came.’ (*NPI* > *Neg*)

Linebarger (1987) proposed the Immediate Scope Constraint as a condition on the semantic relation between \neg and \exists with respect to English NPIs. Sells and Kim (2006) generalized this to the case of Korean, arguing that the same immediacy holds in that language between \forall and \neg :

- (16) *Generalized Immediate Scope Constraint* (GISC) (Sells and Kim 2006):
 An NPI and negation are in an immediate scope relation with each other.

Hence we might hypothesise that the GISC holds in all languages, regardless of the particular semantic nature of the NPIs. Further, we have observed in this work that when negation

outscores a contrastive *ta-nun*-phrase, it must immediately outscope it. The GISC appears to apply to all licensing relations involving negation.⁴

Our data also show that for most quantifiers, scope order is frozen as surface order. This has the consequence that in order for the GISC to be respected, the scope of negation is effectively variable, scoping under or over NPIs and *ta-nun*-phrases as necessary, in order to enter into the correct licensing relationships with them. We will show below that negation can enter into two simultaneous licensing relations, both respecting the GISC, which is only possible if one licensed element (an NPI) takes scope just over negation and the other licensed element (a contrastive phrase) takes scope just under negation. The facts of Korean are incompatible with an existential analysis of Korean NPIs, as negation cannot immediately scope over both an NPI and a contrastive phrase at the same time.

2.3 Contrastive Phrases and ‘Reconstruction’

As we have seen, a *ta-nun*-phrase must be within the scope of negation. The *ta-nun*-marked **object** in (17a) is licensed in situ, with no change in acceptability or interpretation if preposed as in (17b), in which the *ta-nun*-phrase is interpreted as if it were in its base position, indicated by t_i .

- (17) a. amwu-to [twu salam ta-nun] chotayha-ci anh-ass-ta
anyone two person all-FOC invite-COMP NEG-PAST-DEC
 ‘No one invited BOTH of them.’ (*NPI* > *Neg* > *both*)
- b. [twu salam ta-nun]_i amwu-to t_i chotayha-ci anh-ass-ta
 two person all-FOC *anyone* invite-COMP NEG-PAST-DEC
 ‘No one invited BOTH of them.’ (*NPI* > *Neg* > *both*)

Hence, there is some kind of reconstruction effect – the contrastive phrase lowers back into negation scope. It is of course possible that the relevant semantic interpretation is provided in another way – if the NPI were to undergo some kind of LF covert movement or QR in order to scope higher than its surface position. We will show that this is not what is happening. And if we assume that negation scopes over the scrambled object *ta-nun*-phrase instead of the object being reconstructed under negation, the overall account would incorrectly predict (17b) to be ungrammatical: there would be a GISC violation for the NPI with the scoping *Neg* > *both* > *NPI*.

The further evidence for reconstruction comes from a kind of subject/non-subject asymmetry in the data: if the **subject** of the clause is *ta-nun*-marked, it cannot precede an NPI, and the example must involve scrambling as in (18b):

- (18) a. ?*[twu salam ta-nun]_{SU} amwukes-to_{DO} cohaha-ci anh-ass-ta
 [two person all-FOC] *anything* like-COMP NEG-PAST-DEC
 Intended: ‘It’s not the case that BOTH of them liked anything.’ (*Neg* > *both* > *NPI*)
- b. amwukes-to_i [twu salam ta-nun]_{SU} t_i cohaha-ci anh-ass-ta
anything [two person all-FOC] like-COMP NEG-PAST-DEC
 ‘There was nothing that BOTH of them liked.’ (*NPI* > *Neg* > *both*)

⁴ An NPI and its licensing negation must also be clause-mates in Korean (see Sells and Kim 2006). This might be due to a syntactic licensing condition, or might follow from the GISC if appropriately formulated.

(18b) has the expected scope relations; negation takes intermediate scope between the NPI and *both*, licensing both elements. Interestingly, the unacceptability of (18a) shows that the subject has no position below the in-situ object to reconstruct into; the scope of negation is below the NPI, and too low to license the subject *ta-nun*-phrase. And as (18a) is ungrammatical, it shows that the NPI is not scoping higher than its surface position (which would give an LF similar to (18b)). The subject does not have a position for interpretation lower than its surface position. If negation outscopes the subject to license the *ta-nun*-phrase in (18a), the resulting scope order would be *Neg > both > NPI* and the NPI would not be licensed (due to the violation of the GISC). The interesting fact in (18b) is that the scope of negation is even higher than the subject, to license the scrambled object NPI. So the scrambled NPI does not reconstruct, but rather pulls up the scope of negation. If the NPI were to reconstruct in (18b), the example would end up being the same as the unacceptable (18a).

To summarize, the facts above have several significant consequences: they show that NPIs in Korean must be of the universal type, scoping over negation, and that NPIs never scope higher – or lower – than their surface position; and that contrastive phrases may reconstruct in order to be interpreted within the scope of negation, but that subjects do not have this possibility.

The fact that subjects do not reconstruct holds for all subjects – including potentially derived subjects of unaccusatives (see (19)) and passives (see (20)). The data show that negation cannot scope over the subject in the presence of an object NPI (a-examples); that the order *ta-nun-phrase > NPI* is unacceptable (b-examples); and that scrambling the NPI over the *ta-nun*-phrase leads to full acceptability (c-examples):

- (19) a. twul ta amwu pyeng-ulo-to cwuk-ci anh-ass-ta
 two all *any* *disease-by* die-COMP NEG-PAST-DEC
 ‘Both of them didn’t die from any disease.’ (*both > NPI > Neg*)
 (Neither of the two died from any disease.)
- b. ?*twul ta-nun amwu pyeng-ulo-to cwuk-ci anh-ass-ta
 two all-FOC *any* *disease-by* die-COMP NEG-PAST-DEC
- c. amwu pyeng-ulo-to twul ta-nun cwuk-ci anh-ass-ta
any *disease-by* two all-FOC die-COMP NEG-PAST-DEC
 ‘There was no disease from which BOTH of them died.’ (*NPI > Neg > both*)

- (20) a. twu salam ta amwu-eykey-to sokaytoy-ci anh-ass-ta
 two person all *anyone-DAT* be.introduced-COMP NEG-PAST-DEC
 ‘Both of them weren’t introduced to anyone.’ (*both > NPI > Neg*)
 (Neither of the two was introduced to anyone.)
- b. ?*twu salam ta-nun amwu-eykey-to sokaytoy-ci anh-ass-ta
 two person all-FOC *anyone-DAT* be.introduced-COMP NEG-PAST-DEC
- c. amwu-eykey-to twu salam ta-nun sokaytoy-ci anh-ass-ta
anyone-DAT two person all-FOC be.introduced-COMP NEG-PAST-DEC
 ‘There was no one to whom BOTH of them were introduced.’ (*NPI > Neg > both*)

Japanese examples from Shimoyama (2009) also show that a *wa*-marked subject cannot be associated with negation in the presence of an NPI. (21) and (22b) are unacceptable with *wa*-marked subjects; (22a) is acceptable as the *ga*-marked subject need not associate with negation (and hence scopes over the NPI and negation, respecting the surface order, parallel to the Korean

examples (19a) and (20a) above):

- (21) ?*zennin-wa omiyage-o nani-mo motteko-na-katta
 all-FOC souvenir-ACC *anything* bring-NEG-PAST
 Intended: ‘It is not the case that everyone brought some or other souvenir.’
- (22) a. zennin-ga it-teki-mo kobos-ana-katta
 all-NOM *one-drop-even* spill-NEG-PAST
 ‘All of them didn’t even spill a single drop.’ (*all > Neg > one*)
 b. *zennin-wa it-teki-mo kobos-ana-katta
 all-FOC *one-drop-even* spill-NEG-PAST
 ‘Not all of them spilled a single drop.’ (*Neg > all > one*)

3. The Relative Scopes of QPs and Negation

3.1 Contrastive Phrases and NPIs

Going back to Korean, let us take the example in (17b) and add in *cacwu* ‘often’ to diagnose where the scope of negation is:

- (23) [twu salam ta-nun]_i cacwu amwu-to t_i chotayha-ci anh-ass-ta
 [two person all-FOC] often *anyone* invite-COMP NEG-PAST-DEC
 ‘It was often the case that no one invited BOTH of them.’

The obligatory and only scope order of this example is (24a), which shows that quantifiers are interpreted in their surface order, where possible. The exception is *ta-nun*, which reconstructs. Negation scope is just below the NPI and just above *ta-nun*. All readings shown except (24a) violate the GISC, with regard to the NPI in (b–c) and the *ta-nun*-phrase in (d). Even though there are 4 scopal elements, *NPI > Neg > ta-nun* is a necessary part of any well-formed interpretation, to respect licensing conditions and the GISC.

- (24) a. *often > NPI > Neg > ta-nun*
 b. **Neg > ta-nun > often > NPI* (*NPI* violates the GISC)
 c. **NPI > often > Neg > ta-nun* (*NPI* violates the GISC)
 d. **NPI > Neg > often > ta-nun* (*ta-nun* violates the GISC)

We have assumed here that the adverbial ‘often’ and the NPI are fixed in their (surface) scope order, leading to the interpretation schematized in (24a). This assumption is confirmed by moving the adverbial after the NPI, as in (25a), which only has the scope order in (25b):

- (25) a. [twu salam ta-nun]_i amwu-to t_i cacwu chotayha-ci anh-ass-ta
 [two person all-FOC] *anyone* often invite-COMP NEG-PAST-DEC
 ‘No one invited BOTH of them often.’
 b. *NPI > Neg > ta-nun > often* (to respect the GISC)

Taking stock so far, we know that contrastive phrases have to associate with negation, and

we know that in some cases, they can apparently reconstruct for this purpose. We also know that NPIs ‘fix’ the scope of negation, in that they must take scope immediately over negation, and there is no evidence that they ever scope wider than their surface position (Kim 2010, Sells 2010). The data here are consistent with an analysis in which there is upwards overt scrambling and optional reconstruction.

Against this background, it must be true that if the surface order ‘*ta-nun-phrase* > *NPI*’ is acceptable, this shows that there is a position below the NPI where the *ta-nun-phrase* can reconstruct. The evidence here concerning reconstruction might bear on the issue of whether there is any evidence for a fixed base order of internal arguments in ditransitive structures in SOV languages (cf. Simpson, Hwang and Ipek 2009). The data from *ta-nun* phrases shows that while the subject precedes all other VP-internal arguments and adjuncts in the base order, there is no fixed order of arguments and adjuncts within VP. For what we find with IO and DO phrases in a ditransitive construction is that the order ‘*ta-nun* > *NPI*’ is always acceptable:

- (26) a. [twu salam ta-eykey-nun]_{IO} John-i amwukes-to_{DO} poye cwu-ci
 [two person all-DAT-FOC] John-NOM *anything* show-COMP
 anh-ass-ta
 NEG-PAST-DEC
 ‘John showed nothing to BOTH of them.’ (*NPI* > *Neg* > *both*)
- b. [twu salam ta-nun]_{DO} John-i amwu-eykey-to_{IO} sokayha-ci
 [two person all-FOC] John-NOM *anyone-DAT* introduce-COMP
 anh-ass-ta
 NEG-PAST-DEC
 ‘There was no one to whom John introduced BOTH of them.’ (*NPI* > *Neg* > *both*)

Each fronted phrase in (26) must reconstruct to a position lower than the NPI. *nun*-marked quantificational adjuncts are also always acceptable when preceding the subject and a VP-internal NPI (and see Shimoyama 2009 for relevant Japanese data). What our data appear to show is that what Simpson et al. (2009) observed about the lack of fixed base order for internal arguments (in Japanese, Korean, and Turkish) in fact holds for all non-subject constituents: there is a fixed base order of ‘Subject > VP’, but no necessary fixed order inside VP.

Further examples illustrate the same properties. The subject in (27a) cannot get into the scope of negation, unless the NPI goal phrase is scrambled above it as in (27b).

- (27) a. ?*[twu salam ta-nun] amwutey-to ka-ci anh-ass-ta
 [two person all-FOC] *anywhere* go-COMP NEG-PAST-DEC
 *‘There was no place where BOTH of them went.’
 *‘It is not the case that BOTH of them went anywhere.’
- b. amwutey-to [twu salam ta-nun] ka-ci anh-ass-ta
anywhere [two person all-FOC] go-COMP NEG-PAST-DEC
 ‘There was no place where BOTH of them went.’

The XPs in (27b) take relative scope matching the surface order, with negation scoping right between them (*NPI* > *Neg* > *both*). As non-subject XPs may reconstruct, either relative surface order of phrases leads to an acceptable interpretation. The contrastive marked adverbial *cacwu-nun* apparently reconstructs under the goal NPI from any surface position:

- (28) a. John-un cacwu-nun amwutey-to ka-ci anh-ass-ta
 John-TOP often-FOC *anywhere* go-COMP NEG-PAST-DEC
 i. *‘It is not the case that OFTEN, John went to any place.’ (*Neg > often > NPI*)
 ii. ‘There was no place that John went to OFTEN.’ (*NPI > Neg > often*)
- b. cacwu-nun John-i amwutey-to ka-ci anh-ass-ta
 often-FOC John-NOM *anywhere* go-COMP NEG-PAST-DEC
 i. *‘It is not the case that OFTEN, John went to any place.’ (*Neg > often > NPI*)
 ii. ‘There was no place that John went to OFTEN.’ (*NPI > Neg > often*)

The preferred order would be *NPI* preceding *often*, corresponding directly to the interpretation:

- (29) John-un amwutey-to cacwu-nun ka-ci anh-ass-ta
 John-TOP *anywhere* often-FOC go-COMP NEG-PAST-DEC
 ‘There was no place that John went OFTEN.’ (*NPI > Neg > often*)

Shimoyama (2009) has noted a similar effect in Japanese:

- (30) Taro-wa hinpanni-wa doko-e-mo dekake-na-katta
 Taro-TOP often-FOC anywhere-to go.out-NEG-PAST
 a. *‘It is not the case that OFTEN, Taro went out to some place or other.’
 b. ‘There was no place that Taro went out to OFTEN.’

The contrastive phrase *hinpanni-wa* ‘often-FOC’ lowers into the scope of negation, and also under the *NPI*.

3.2 Simple Universals and Contrastive Phrases

Our ideas about how the various phrases enter into their scope relations are supported by data involving simple universals, such as the subject in (31), in construction with a contrastive object. As we discuss presently, such universal QPs do not require any special licensing (such as being in a designated scope relation with negation). (31) also contains a contrastive phrase, and so due to the GISC, negation must scope just over that phrase, and therefore under the universal subject, if negation scopes no higher than is necessary for licensing. With this surface order, the example is somewhat marked:

- (31) ?nwukwuna_{SU} twul ta-nun_{DO} chotayha-ci anh-ass-ta
 everyone two all-FOC invite-COMP NEG-PAST-DEC
 ‘Everyone didn’t invite BOTH of them.’ ($\forall > Neg > both$)

The marked status of (31) reflects a quite common property of simple universal quantifiers such as ‘every’, which is that they are not fully natural if they scope over negation, in many languages (for discussion see Beghelli and Stowell 1997). This holds for all syntactic positions in the clause, but here we focus on (simple) universal subjects. To illustrate the more general pattern, Kelepir (2000) reports that *herkes* (‘everyone’) in Turkish must be in the scope of negation – but not necessarily in its immediate scope.

Hence in Korean, (32a) is somewhat marked, while (32b) is perfectly acceptable. It has the wide-focus negation construction.

- (32) a. ?nwukwuna an o-ass-ta
 everyone NEG come-PAST-DEC
 ‘Everyone didn’t come.’ ($\forall > Neg$)
 b. nwukwuna o-ci-nun anh-ass-ta
 everyone come-COMP-FOC NEG-PAST-DEC
 ‘It is not the case that everyone came.’ ($Neg > \forall$)

What is interesting to note at this point is that if a contrastive *ta-nun* phrase is scrambled over the universal subject, the example sounds very natural, with the scope $Neg > both > \forall$:

- (33) [twul ta-nun]_{DO} [nwukwuna]_{SU} t_{DO} chotayha-ci anh-ass-ta
 [two all-FOC] [everyone] invite-COMP NEG-PAST-DEC
 ‘It is not the case that BOTH of them were invited by everyone.’ ($Neg > both > \forall$)

In (33) there is no reconstruction of the scrambled DO, and negation may scope very wide, over the scrambled object (compare with (31); if there were reconstruction in (33) it should have the status of (31)). (33) is fully acceptable and natural as (i) the *ta-nun* phrase needs to be in the scope of negation, and (ii) ‘everyone’ prefers to be in the scope of negation, but need not be in the immediate scope. The surface order of XPs is preserved in the scope structure and negation scopes very wide. The different surface order of XPs in (31) corresponds to a lower scope for negation; and hence we see again that negation scopes wide only to license a given phrase.

4. Mapping Syntax to Semantics

The data above show that a subject apparently never reconstructs, while any non-subject, including any kind of adverbial, may reconstruct. It also shows that negation may scope over a subject, or over an object scrambled in front of a subject (see (33)), for licensing purposes. There is therefore no fixed position for negation scope. In this section we briefly consider the implications of our observations for the relation between syntax and semantics.

If we begin with a classical mapping-to-LF account, it would have to have the properties we enumerate below. Starting with the scopal interpretations of XP, we would need to say that:

- (34) a. All non-subjects are generated below the surface position of the subject (say, within vP);
 b. Within vP , all non-subject phrases may freely scramble;
 c. Whatever movement promotes the subject to Spec,TP does not leave the kind of trace to which reconstruction may take place.

(34a) is necessary to allow for the fact that any contrastive phrase which precedes the subject in the overt syntax may have a position to reconstruct to, below the subject. (34b) is necessary to allow for the fact that any two non-subject XPs may have either relative scope configuration; the

data in section 3 show that one may be an NPI and the other a contrastive phrase, with negation scoping right between the two. (34c) is necessary to prevent the subject from reconstructing. In GB terms, we might think of scrambling etc. as A'-movement and subject-promotion to [Spec,TP] as A-movement, with both kinds of movement possible within ν P and also from within ν P to some higher position(s), but with only A'-movement having the possibility of reconstruction.

As there is no contrast between subjects of transitives and unergatives, and subjects of unaccusatives and passives – none of them reconstruct (see (18–20)) – it is necessary to distinguish all subjects from all non-subjects, and this is what (34) does. The facts here are similar in one sense to those of a focussing construction in Japanese, discussed by Kishimoto (2010). The construction involves the form *bakari*, which may be attached to a verb and yet may associate its meaning ('only') with some argument or adjunct of the verb. Kishimoto shows that *bakari* may never associate with nominative surface subjects (of transitives, unergatives, unaccusatives or passives), while it may associate with any phrase inside ν P. From this he concludes that nominative surface subjects in Japanese always raise out of ν P, and that the scope and associate of *bakari* are determined in the overt syntactic structure.

Next, we need to consider how negation takes its scope. Han et al. (2007) suggest that different speakers of Korean allow different scopes for negation according to whether they allow verb raising in their grammars or not. This represents an approach to negation scope through the overt syntax. However, it is not clear if such an approach could be generalized to the data here, where the scope of negation needs to be ν P, TP, or even higher. Rather, we would assume that the morphosyntactic expression of negation is uniformly low, and that the semantic scope is determined either by positing an LF raising operation for negation to give it wide(r) scope, or else that there is an abstract negation operator introduced into the structure which is coindexed with the overt expression of negation. The fact that the default scope of negation is low could be captured by assuming that there is a 'cost' to raising negation at LF to assign it wide(r) scope, or that there is a cost if there abstract operator takes scope in a position different from the surface expression of negation. Roughly, in each case, the 'cost' would be greater, the greater the distance between the scope of negation in LF and its surface position.

In an example like (28b), repeated below, we know that the scopal position of the NPI *amwutey-to* is fixed, and that negation must scope right under it. Hence in this example, negation can scope low, perhaps without any need for covert raising or an abstract negation operator, and it would scope right under the NPI. However, to interpret the adverb *cacwu-nun*, there must be a trace position lower than the NPI, to which the adverb reconstructs.

- (28) b. *cacwu-nun* John-i *amwutey-to* ka-ci anh-ass-ta
 often-FOC John-NOM *anywhere* go-COMP NEG-PAST-DEC
 'There was no place that John went to OFTEN.' (NPI > Neg > often)

An example like (33) involves different operations. The natural interpretation here is that negation scopes widest, which would be accomplished by creating an LF in which negation takes scope over the phrase dominating the scrambled object *twul ta-nun*.

- (33) [*twul ta-nun*]_{DO} [*nwukwuna*]_{SU} t_{DO} chotayha-ci anh-ass-ta
 [two all-FOC] [everyone] invite-COMP NEG-PAST-DEC
 'It is not the case that BOTH of them were invited by everyone.' (Neg > both > \forall)

It is difficult to see how an account of the data presented here could work in a system in which the scope of negation is in a fixed position involving a NegP, with upwards overt and covert movement of XPs to ensure the correct scope relations (see e.g., Sohn 1995, An 2007 for analyses with this character). Rather, as we have emphasized here, it seems that these languages with verb-final order and scrambling largely use the possibilities of overt syntax to represent the scope relations of XPs, with negation scope being the variable property.

The aspects of the analysis given in (34) raise further questions about the fine(r) structure of *v*P and VP which should be investigated. The statements in (34) assume a fixed order of non-subject XPs within VP, with the possibility of local reordering, but it is also quite possible that different base orders are available from the beginning, as suggested for internal arguments by Simpson et al. (2009). It could also be the case that there are different base positions for adjuncts. Further, the clear asymmetry between subject and non-subjects (e.g., (17) vs. (18)) would imply that all movements involving the subject are A-movement, as there is never any reconstruction. This implication should be tested in other contexts where it may appear that there is reconstruction for subjects.

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