Session 5A Abstracts

The A-/A′-distinction in scrambling revisited
Akihiko Arano and Hiromune Oda
University of Connecticut

Synopsis: The standard assumption regarding the A-/A′-distinction in Japanese scrambling (SCR) is that only SCR that crosses CP must be A′-movement. We provide new data which show that this standard position is incorrect. In particular, we show that SCR out of noun phrases and a coordinate structure also necessarily exhibits A′-properties. We then argue that the A-/A′-distinction of SCR correlates with whether it takes place within a transfer domain.

Clause-internal vs. long-distance SCR: As Saito (1992), Tada (1993), a.o. argue, clause-internal and long-distance SCRs show different properties. The contrast between (1b) and (2) indicates that clause-internal SCR may create a new scope relation, whereas long-distance SCR cannot:

(1) a. Dareka-ga   minna-e   tegami-o kaita.
someone-NOM everyone-to letter-ACC wrote
'Someone wrote a letter to everyone.'
$\exists > \forall$; $*\forall > \exists$

   b. Minna-e$_1$ dareka-ga t$_1$ tegami-o kaita.
everyone-to someone-NOM letter-ACC wrote
'[To everyone]$_1$ someone wrote a letter t$_1$.'
$\exists > \forall$; $\forall > \exists$

(2) Minnna-e$_1$ dareka-ga   [John-ga   t$_1$ tegami-o okutta to] itta.
everyone-to someone-NOM John-NOM   letter-ACC sent   that said
'[To everyone]$_1$ someone said that John sent a letter t$_1$.'
$\exists > \forall$; $*\forall > \exists$

This contrast has been taken as indicating that long-distance SCR is necessarily A′-SCR, with A′-SCR taken not to affect scope, while clause-internal SCR can be A-SCR, which affects scope. That is, whether SCR crosses the clause-boundary or not has been considered to be crucial in determining the A-/A′-properties of scrambled elements. Against this background, this paper shows there are two cases of SCR which are clause-internal but necessarily exhibit A′-properties as in (2b), arguing that the clause-boundary is not the only factor relevant to the A-/A′-distinction.

SCR out of noun phrases: Though Japanese has been regarded as a language which disallows Left-Branch Extraction (LBE), Takahashi and Funakoshi (2013) and Shiobara (2017) show that there are acceptable cases of LBE in Japanese. Thus, they show that LBE is possible when an extracted element is PP. Given this, consider (3b), where PP-LBE takes place:

(3) a. Dareka-ga   [minna-e-no   tegami]-o kaita.
someone-NOM everyone-to-GEN letter-ACC wrote
'Someone wrote [a letter to everyone].'
$\exists > \forall$; $*\forall > \exists$

   b. ?Minna-e-no$_1$ dareka-ga   [t$_1$ tegami]-o kaita.
everyone-to-GEN someone-NOM   letter-ACC wrote
'lit. [To everyone]$_1$ someone wrote [a letter t$_1$].'
$\exists > \forall$; $*\forall > \exists$

What is important here is that (3b) is unambiguous, just like (3a). This means LBE does not affect scope. Note that movement of the PP in general can in principle affect scope. In fact, NP-internal movement of the PP can affect scope, as shown in (4), in contrast to movement out of noun phrases.

(4) a. [Dareka-kara-no   minnna-e-no   tegami]-o John-ga   uketotta.
someone-from-GEN everyone-to-GEN letter-ACC John-NOM received
'John received [a letter from someone to everyone].'
$\exists > \forall$; $*\forall > \exists$

   b. [Minnna-e-no$_1$ dareka-kara-no   t$_1$ tegami]-o John-ga   uketotta.
everyone-to-GEN someone-from-GEN   letter-ACC John-NOM received
'lit. John received [a letter [to everyone]$_1$ from someone t$_1$].'
$\exists > \forall$; $\forall > \exists$

This means whether SCR affects scope depends on whether it occurs out of or within noun phrases.

SCR out of coordinate structure: Although it has been widely assumed since Ross (1967) that extraction out of a coordinate structure is banned (the Coordinate Structure Constraint: CSC), Oda (2017) shows extraction of a conjunct out of a coordinate structure is allowed in Japanese. Thus, (5b), where a first conjunct undergoes SCR out of the coordinate structure, is acceptable.

(5) a. Dareka-ga   [san-bon-izyoo-no   ronbun-to hon]-o   yonda.
someone-NOM three-CL-more.than-GEN paper-and book-ACC read
'Someone read [[more than three papers] and books].' $\exists >$ more than 3; *more than $3 > \exists$

   b. ?[San-bon-izyoo-no   ronbun-to]$_1$ dareka-ga   [t$_1$ hon]-o   yonda.
three-CL-more.than-GEN paper-and   someone-NOM   book-ACC read
'[More than three papers and]$_1$ someone read [t$_1$ books].' $\exists >$ more than 3; *more than $3 > \exists$

Crucially, (5b) is unambiguous, just like (5a), even though the first conjunct is scrambled clause-internally; in other words, SCR out of a coordinate structure is necessarily A′-SCR like LBE.

Given that the whole coordinate structure coordinating the noun phrases is also a noun phrase, (5b) provides another piece of evidence that SCR out of noun phrases does not affect scope.

To summarize so far, we have provided the data which lead us to the new generalization that not only SCR out of clauses but also SCR out of noun phrases is necessarily A′-SCR.

Proposal: We argue that the generalization established above can be deduced based on the notion of phases (Chomsky 2000, 2001). Specifically, we propose that SCR shows A-properties when it takes place within a transfer domain, while SCR shows A′-properties when it crosses a transfer domain (see Miyagawa 2010:115-116 for a similar idea and its rationale). This is illustrated in (6), where H is a phase head and its sister (shaded) is a transfer domain:

(6)a. $[_{HP}$ H $[\ldots XP \ldots t_{XP} \ldots]]$ b. $[_{HP}$ XP H $[\ldots t_{XP} \ldots]]$

Following Bošković (2014) we adopt a contextual approach to phasehood, and assume that within the extended projection of lexical categories, the highest phrase constitutes a phase.

Consider first the case of LBE. Following Takahashi (2011), we assume that noun phrases in Japanese have the structure in (7), where K(=Case)P is a phase. Separate projections for NP and KP in Japanese are motivated by Particle-Stranding Ellipsis, where noun parts are deleted with a Case-particle surviving the ellipsis, as shown in (8) (Sato and Ginsburg 2007, Goto 2012).

(7) $[_{KP} [_{NP}$ (PP) N]K]

(8) A. John-o   doo sita no?   B. $[e]$-o   kubinisita-yo.
      John-ACC how did Q   -ACC fired-SFP
      'What did you do to John?'   'I fired him.'   (adapted from Goto 2012)

LBE then necessarily involves SCR out of a transfer domain (i.e. NP), as shown in (9b). Therefore, LBE shows A′-properties, and scope does not change in (3b). On the other hand, SCR within noun phrases in (4b) involves SCR within NP, as shown in (9b), and it does affect scope.

(9)a. $[_{CP} \ldots$ PP Subj $\ldots [_{KP} t_{PP}$ $[_{NP} t_{PP}$ N]K] $\ldots$ C] [=(3b)]   b. $[_{KP}$ $[_{NP}$ PP$_2$ PP$_1$ t_{PP2} N]K] [=(4b)]

Consider next SCR out of a coordinate structure. We assume the coordinated NPs (ConjP) to be the complement of a phase head K, as in (10a). We also assume, following Oda (2017), that the Conj head *to* 'and' encliticizes to the first conjunct NP$_1$ as in (10b). SCR first moves NP$_1$-*to* to the edge of KP out of ConjP and then to the clause initial position as in (10c) (see Oda 2017 for an analysis of circumvention of the CSC). SCR out of the coordinate structure thus has to cross a transfer domain (ConjP) and hence is necessarily A′-SCR, which does not affect scope.

(10)a. $[_{KP} [_{ConjP}$ NP$_1$ $[to$ NP$_2$]]K]   b. $[_{KP} [_{ConjP}$ NP$_1$-*to* $[t_{to}$ NP$_2$]]K]

    c. $[_{CP} \ldots$ NP$_1$-*to* Subj $\ldots [_{KP} t_{NP1}$ $[_{ConjP} t_{NP1} [t_{to}$ NP$_2$]]K] $\ldots$ C] [=(5b)]   encl

Finally, consider (1b), the fact that clause-internal SCR affects scope. We assume there is an extended projection of the verb above vP (e.g. VoiceP or AspectP), and this phrase constitutes a phase since it is the highest in the extended domain. We suggest clause-internal SCR can affect scope, being A-SCR, since a scrambled phrase can move to the edge of the highest extended projection through the edge of vP, as in (11b). When PP moves to the edge of vP, PP is scrambled within a transfer domain (vP) and c-commands Ext(ernal argument), being able to scope over it:

(11)a. $[_{XP} [_{vP}$ Ext $[_{VP}$ PP V]v]X]   b. $[_{XP}$ PP $[_{vP} t_{PP}$ Ext $[_{VP} t_{PP}$ V]v]X] [=(1b)]

Note that the current analysis also allows SCR of an internal argument to directly target the edge of XP. It is then predicted that clause-internal SCR can be A′-SCR since it crosses a transfer domain in one step. This prediction is borne out (Saito 1992, Tada 1993). (12) would be incorrectly ruled out as a violation of Condition C if clause-internal SCR were necessarily A-SCR.

(12) [Zibunzisin$_i$]-o$_1$ John$_i$-ga   t$_1$ hihansita.
      self-ACC   John-NOM   criticized
      'Himself$_i$, John$_i$ criticized.'

In sum, we have argued for a new characterization of A′-SCR: not just SCR out of a CP but also out of noun phrases (including a coordinate structure) is necessarily A′-SCR. To explain the new data as well as the traditional distinction between clause-internal and long-distance SCR, we have proposed the phase-based characterization of the A-/A′-distinction with scrambling.

Selected ref: Bošković, Ž. 2014. Now I'm a phase, now I'm not a phase. *LI*. Miyagawa, S. 2010. *Why Agree? Why Move?* Oda, H. 2017. Two types of the Coordinate Structure Constraint and rescue by PF-deletion. *NELS*. Takahashi, M. 2011. Some theoretical consequences of Case-marking in Japanese. UConn diss. Takahashi, M. and Funakoshi, K. 2013. On PP Left-branch Extraction in Japanese. *PLC*. Saito, M. 1992. Long distance scrambling in Japanese. *JEAL*.

Two types of preverbal movement and duration/frequency phrases in Mandarin Chinese

Hsin-Lun Huang
University of Massachusetts Amherst

Introduction: In Mandarin (Chinese), there are (at least) two ways of object displacement to the preverbal position (i.e. immediately preceding the aspectually marked main verb): (i) *bare object-preposing*, (1a), and (ii) *verb-copying*, (1b), which can both be found in the presence of a duration/frequency phrase (DFP):

(1) a. Lisi **zhe-ben shu** <u>nian-le</u> *san tian*   b. Lisi <u>nian</u> **zhe-ben shu** <u>nian-le</u> *san tian*
      Lisi this-CL   book read-ASP 3   day   Lisi read this-CL   book read-ASP 3   day
      'Lisi read this book for 3 days.'   'Lisi read this book for 3 days.'

For convenience, I will term (i) as Type I, and (ii) as Type II. Traditionally, the two types are considered independent constructions with no derivational relationship. Type I is usually analyzed as focus movement to a sentence-internal functional projection (Ernst and Wang, 1995; Shyu, 1995; Tsai, 1994; Zhang, 1997; a.o.), whereas Type II is deemed to be a rescue mechanism (Huang, 1988; Cheng, 2007; Tieu, 2008; a.o.) for satisfying both the theta-requirement of verbs and a phrase structural constraint in Mandarin that limits VPs to having only one syntactic complement (Huang, 1982), provided that the internal argument and the DFP compete for the complement position. By showing that Type I & II exhibit a tremendous distributional overlap, in addition to Paul (2002, 2005) and Badan's (2008) observation that the preposed object in Type I patterns the same with sentence-initial topics, but not with foci, I will argue for a unified analysis that Type I & II involving DFPs be categorized as one general movement type, i.e. IP-internal topicalization, moving different items (nominals in Type I & *copied* verbal constituents in Type II). **The distributions of Type I & II:** In addition to (1), Type I & II are also found in post-verbal manner adverbial/resultative constructions, (2), as well as in the case of 'argument split topics' (Liu, 2000), (3). Moreover, the displaced constituents (the DP in Type I & VP in Type II) can alternate between the preverbal and sentence-initial topic position:

(2) ([<u>(Nian)</u> **zhe-ben shu**]), Lisi ([<u>(nian)</u> **zhe-ben shu**]) <u>nian-*de*</u> *hen kuai/lei*
      read   this-CL   book   Lisi   read   this-CL   book   read-DE very fast/tired
    'Lisi read this book very fast.'/'Lisi got tired from reading this book.'

(3) ([<u>(Mai)</u> **lan chenshan**]), wo ([<u>(mai)</u> **lan chenshan**]) <u>mai-le</u> *san-jian*
      buy   blue shirt   I   buy   blue shirt   buy-ASP 3-CL
    'I bought three blue shirts.'   (Adapted from Liu (2000))

(4) ([<u>(Nian)</u> **zhe-ben shu**]), Lisi ([<u>(nian)</u> **zhe-ben shu**]) <u>nian-le</u> *san tian/ci*   (cf. (1))
      read   this-CL   book   Lisi   read   this-CL   book   read-ASP 3   day/time
    'Lisi read this book for three days/three times.'

The topical properties: Paul (2002, 2005) and Badan (2008) refute the traditional focus analysis for Type I by showing that the preverbal object exhibits similar properties to those of sentence-initial topics, as opposed to those of (sentence-initial or preverbal) foci: **I. Questionability of the verb:** The main verb can be questioned in Type I and sentence-initial topicalization, but not in focus-constructions. **II. No indefiniteness:** Indefinite DPs cannot be sentence-initial topics, nor can they be preverbal in Type I, but they can be sentence-initial and preverbal foci. **III. Same hierarchical restriction:** The preverbal object in Type I can co-occur with a preverbal focus, and when it does, it must occur higher than the focus; whereas a focus cannot co-occur with another focus. The same pattern is found between sentence-initial topics and sentence-initial foci. This observation leads Paul (2002, 2005) and Badan (2008) to propose for Mandarin an IP-internal functional domain that parallels the IP-external (sentence-initial) functional domain: CP > TopP* > FocP > IP > **inner TopP** > FocP > *v*P. Type II also distributionally overlaps with Type I in being subject to the same hierarchy, i.e. the preverbal [V + Obj] constituent can co-occur with and must be higher than a focus. **Analysis:** Given their overlap-

ping distributions, we will hypothesize that Type I & II with DFPs involve topicalization of DPs and VPs respectively to the inner TopP. In the process of Type II, we will hold the *heterogeneous* view that treats Type II as involving different derivations in the DFP- and the post-verbal adverbial/resultative constructions due to their different underlying structures (Bartos, 2003), as opposed to the *homogenous* view, which gives the same underlying structure to both constructions, from which Type II is derived. Under the *homogenous* view, both the DFP and the adverbial/resultative phrase (AdvP/RsltP) occupy the complement position to the verb (Comp.V) (Huang, 1988; Cheng, 2007; Tieu, 2008): [$_{VP}$ read [$_{AdvP/RsltP}$ very fast/tired]/[$_{DFP}$ 3 days/times]]. Given the phrase structural constraint in (10), and assuming that direct objects also occupy Comp.V, the object and the DFP/AdvP/RsltP cannot co-occur post-verbally.

(10) Phrase Structure Constraint (PSC) (Huang, 1982):

Within a given sentence in Chinese, the head (the verb or VP) may branch to the right only once, and only on the lowest level of expansion.

Cheng (2007) then proposes that the verb undergoes Sideward Movement (Nunes, 2004), where it copies and merges with the object, as a *last resort* to satisfy the theta-requirement of the verb: [$_{VP_3}$ [$_{VP_2}$ read$_2$ this book] [$_{VP_1}$ read$_1$ [$_{AdvP/RsltP}$ very fast/tired]/[$_{DFP}$ 3 days/times]]], hence the verb-copying effect. However, unlike with the AdvP/RsltP, the object *can* co-occur with the DFP post-verbally. If we maintain the PSC, DFPs should be treated as syntactic adjuncts for not competing with the object for Comp.V. Moreover, the functional morpheme *de* (see (2)) only occurs with the AdvP/RsltP, but never with the DFP, also suggesting some structural differences between the two constructions. Based on these facts, Type II in the DFP-case should not be derived via Sideward Movement. Therefore, taking the *heterogenous* view, we will propose a different derivation mechanism for Type II in the DFP-case. Since preverbal displacement shows the distribution of topicalization, we will assume that the *trigger* for Type II in the DFP-case is information-driven, i.e. the VP, as a conversational topic, copy-and-moves to the inner TopP. Following Gouguet (2006), we will also hypothesize that Type II involves head-movement of the verb to Asp^0 (hence the aspectual marking on the main verb):

(12) [$_{IP}$ Lisi$_j$ [$_{TopP}$ __ [$_{FocP}$ [$_{AspP}$ -le [$_{vP}$ t$_j$ [$_{VP}$ [$_{DFP}$ 3 days/times] [$_{VP}$ read [$_{DP}$ this book]]]]]]]]].

Both heads of the movement chains are pronounced due to their non-c-command relation, giving rise to the verb-copying effect (Gouguet, 2006). As for the process of Type I, in the DFP-case, Type I involves the same operation that moves simply the object to the inner TopP from Comp.V:

(13) [$_{IP}$ Lisi$_j$ [$_{TopP}$ __ [$_{FocP}$ [$_{AspP}$ -le [$_{vP}$ t$_j$ [$_{VP}$ [$_{DFP}$ 3 days/times] [$_{VP}$ read [$_{DP}$ this book]]]]]]]]].

However, in the AdvP/RsltP-case, since the object can only merge via the verb's Sideward Movement, Type I is viewed as a derived case from Type II: The object topicalizes to the inner TopP from the *sideward moved* VP. And then one of the verb copies is deleted at PF due to some distinctness condition that disfavors two adjacent identical verbs (Tieu, 2008):

(14) [... [$_{TopP}$ __ ... [$_{VP_3}$ [$_{VP_2}$ read$_2$ [$_{DP}$ this book]] [$_{VP_1}$ ~~read$_1$~~ [$_{AdvP/RsltP}$ very fast/tired]]]]].

Word order predictions: The *heterogeneous* treatment of Type II accounts for the ditransitive word order differences between the DFP- and AdvP/RsltP-cases. The VP-copying analysis in the former case allows for copy-and-moving different verbal constituents, leading to various attested word orders where both objects move forward with the verb ([...[$_{TopP}$ [$_{VP}$ V IO DO]...[$_{AspP}$ V-Asp^0...[$_{VP}$ DFP]]]]), or only the DO does so, stranding the IO behind ([...[$_{TopP}$ [$_{VP}$ V DO]...[$_{AspP}$ V-Asp^0...[$_{VP}$ IO DFP]]]]). The latter order is not possible in the AdvP/RsltP-case due to the PSC, i.e. the IO has to merge in the *sideward moved* VP: ✔[...[$_{VP_3}$ [$_{VP_2}$ V$_2$ IO DO] [$_{VP_1}$ V$_1$ AdvP/RsltP]]]/*[...[$_{VP_3}$ [$_{VP_2}$ V$_2$ DO] [$_{VP_1}$ V$_1$ (IO) AdvP/RsltP (IO)]]]. Our analysis also rules out in the DFP-case the ungrammatical ditransitive word order of a stranded DO (*[...[$_{TopP}$ [$_{VP}$ V IO]...[$_{AspP}$ V$_i$-Asp^0...[$_{VP}$ DFP [$_{VP}$ t$_i$ DO]]]]]), since the moved [V IO] is not a constituent.

P-Stranding When a CP Has Shifted Rightward is Not Ungrammatical

Benjamin Bruening, University of Delaware

It has long been claimed that shifting a CP complement rightward across a PP makes stranding the P head of that PP impossible (Kuno 1973, 382, Wexler and Culicover 1980, Stowell 1981:

(1) a. * Who did you say to that I would buy the guitar?

    b. * Who will Andrews disclose to that he is married?   (Stowell 1981, 208, (177))

Moulton (2015) has recently proposed an account of this effect. Importantly, no one has ever questioned this judgment. I show here, however, that this judgment is actually only shared by 20% of the population, while an equal number find such examples fully grammatical. The rest of the population finds them marginal. This speaker variability leads me to propose that the judgments are about acceptability, not grammaticality.

    First, my own judgment as a native speaker of English is that the sentences in (1) are indeed unacceptable, but simply adding material in between the stranded P and the CP improves them considerably:

(2) a. Who did she say to on Tuesday that she would leave on Thursday?

    b. Who did she hint to in a very subtle way that she wanted to dance?

I checked this and the original judgment in a small survey, following the guidelines in Mahowald *et al.* (2016). I was surprised to find that the original judgments in (1) were not shared by all speakers of English. Two of six respondents actually found such sentences entirely well-formed (4 or 5 on a scale of 1 to 5). The others ranged all over the scale of acceptability. I therefore decided to do a large-scale acceptability survey using Amazon Mechanical Turk.

    I made use of the free tools described in Gibson *et al.* (2011) and available at `http://tedlab.mit.edu/software/`, modified for the purposes of this experiment. The experiment used a 2x2 design with factors *Preposition Stranding (Strand)* versus *Pied-Piping (PPipe)* (the literature universally judges pied-piping to be completely acceptable), and *Extra Material (Extra)* versus *No Extra Material (None)*. Sentences were constructed in sets of four, on the following paradigm:

(3) a. Strand-Extra: I don't know who she said to on Tuesday that she would leave on Thursday.

    b. Strand-None: I don't know who she said to that she would leave on Thursday.

    c. PPipe-Extra: I don't know to whom she said on Tuesday that she would leave on Thursday.

    d. PPipe-None: I don't know to whom she said that she would leave on Thursday.

    Twelve sets of sentences were constructed. Each subject saw only one member of each set. Subjects answered a comprehension question about every sentence and also rated every sentence on a scale of one to five, as follows: 1: Extremely unnatural, 2: Somewhat unnatural; 3: Possible, 4: Somewhat natural, 5: Extremely natural. The survey also included 24 filler or control sentences, half of which were grammatical and half of which were not, for reasons of word order.

    100 subjects were recruited from within the USA. Three subjects were discarded from the analysis for getting less than 75% of the comprehension questions correct. Mean ratings and standard deviations are shown below for the remaining 97:

(4)

	PPipe-Extra	PPipe-None	Strand-Extra	Strand-None	ctrl-gramm	ctrl-ungramm
mean	2.947368	3.225352	2.670175	2.915789	4.340650	2.184211
SD	1.1721692	1.1272053	1.1336661	1.1808015	0.9382648	1.2135161

Statistical analysis was run using R (R Core Team 2012). Responses were analyzed by means of linear mixed-effect modeling using the R-package lme4 (using lmer). The two fixed effects in the analysis were

Table 1: Summary of fixed effects in the mixed-effects model for the experiment

	Estimate	Std. Error	t value
(Intercept)	2.95399	0.11807	25.018
Strand	-0.28878	0.08042	-3.591
None	0.27082	0.08048	3.365
Strand:None	-0.02096	0.11379	-0.184

stranding vs. pied-piping (Strand) and extra material vs. none (None). The analysis included random intercepts for both subjects and items. Table 1 shows the results.

An exact p-value cannot be calculated, but we can take a t-value whose absolute value is greater than 2 to be statistically significant (Baayen 2008, 248). Both main effects are significant, but there is no interaction. Basically, pied-piping increases mean acceptability by 0.3 points over P-stranding, while adding extra material decreases it by 0.3. The effect of extra material is probably just an effect of length: longer sentences are generally rated lower.

Further analysis reveals no clear item differences. However, analysis of the participants reveals that there are subjects like me who rate Strand-Extra better than Strand-None: 29 out of 97, or 30%, patterned in this way. There are also subjects who rate Strand-None very high: 21 rated Strand-None 3.667 or higher, and 14 of those rated it 4 or higher. This means that 22% of the population does not find P-stranding unacceptable in the presence of a rightward-shifted CP, as the literature has unanimously claimed. That is, 22% of the population finds examples like those in (1) fully acceptable. Almost the same number (22) rated Strand-None 2 or lower. That is, the number of people who find such sentences fully acceptable is approximately equal to the number of people who find them fully unacceptable. The majority of speakers are somewhere in the middle, rating them just below 3 on a 5-point scale. There is only a small (but significant) difference between P-stranding and pied-piping, contrary to the stark contrast reported in the literature.

I therefore propose that the judgments here are about processing, complexity, familiarity, and tolerance for deviation from base and canonical ordering, all of which differ from speaker to speaker. I propose that the grammar permits extraction from all phrases within the VP. However, acceptability of extraction will depend on several factors. The two that are important for the case at hand are (i) whether all phrases are in their base positions within VP, and (ii) whether all phrases within VP are in their canonical order with respect to each other. I assume that CPs start to the left of PPs, so in (1) the CP has moved to the right. However, the order PP-CP, while derived, is also the most frequent and therefore the canonical order of the two in English. Speakers who find (1) unacceptable rank factor (i) over factor (ii). A phrase within VP is not in its base position, and so extraction (even extraction from a different phrase) is degraded. Speakers who find (1) acceptable instead rank factor (ii) over factor (i). The two phrases are in their canonical order in VP, and so extraction is acceptable. The majority of speakers who find (1) marginal rank the two factors approximately equally: they conflict, and marginal acceptability is the result. As for speakers like me who find that extra material improves acceptability in (2), the extra material comes before the dislocated CP, so the parser sees that the stranded P is in its canonical position with respect to the following material before it ever encounters the CP. The filler-gap dependency can be successfully resolved before the parser ever gets to a dislocated CP, and so factor (i) becomes irrelevant. For other speakers, it does not, either because they are slower to close off the dependency, or because they have already started another dependency, that of the missing CP object of the verb and the CP that must be coming later.

Note that this account predicts that P-stranding in the presence of heavy NP shift, as in *Who will he disclose to his marriage with Jane?* (from Stowell), will be degraded for all speakers, since the word order deviates from both base order and canonical order. Informal polling indicates that this is correct.

An important implication of this work is that the judgments in (1) cannot be used to support Moulton's leftward remnant movement analysis of apparent rightward displacement of CPs.

A passive analysis of morphological causatives in Korean

Jinwoo Jo, *University of Delaware*

Introduction: Morphological causatives in Korean show some intimate correlations with the passive across different domains of the grammar. Morphologically, the passive allomorphs, often represented as *-Ci* (i.e., *-i*, *-hi*, *-li*, *-ki*), constitute a subset of the set of the causative allomorphs, which include *-Cwu* (i.e., *-wu*, *-kwu*, *-chwu*) in addition to *-Ci*. Syntactically, the Agent argument of the stem verb is assigned dative Case in both the causative and the passive (in the causative, it may be assigned accusative Case alternatively; see below). This is shown in (1a) and (1b).

(1) a. Swuni-ka   kangaci-**eykey** son-ul   mwul-li-ess-ta.   (Causative)
     Swuni-NOM puppy-DAT   hand-ACC bite-CI-PST-DECL
     'Swuni had the puppy bite the hand.'

    b. Son-i   kangaci-**eykey** mwul-li-ess-ta.   (Passive)
     hand-NOM puppy-DAT   bite-CI-PST-DECL
     'The hand was bitten by the puppy.'

And semantically, an apparent causative construction like (1a) may also have a passive interpretation if there is a close (mostly inalienable) possession relation between the surface subject and the surface object. That is, sentence (1a) is in fact ambiguous between (2a) and (2b).

(2) a. Swuni had the puppy bite {her/someone's} hand.
    b. Swuni was affected by the puppy's biting {her/*someone's} hand.

This paper explores the causative and its correlations with the passive in Korean illustrated above.

Proposal: I propose that the correlations arise because the causative may contain the passive as part of its structure; more specifically, I suggest that (i) the passive involves a variant of agentive Voice (Kratzer 1996) called 'passive Voice' whose function is to demote the Agent argument (Bruening and Tran 2015); and that (ii) the head responsible for causativization, Caus (Pylkkänen 2008), c-selects VoiceP in Korean (Jo and Vu, to appear) including passive VoiceP.

Analysis: First, I assume that the *-Ci* allomorphs are morphological realizations of Voice heads (Kim 2009, 2011), based on the observation that they appear not only in the passive (or in the causative for that matter) but also in the inchoative (3) or in the transitive (4). Example (3) must not be the passive since Agent cannot be realized; example (4) must not be a case of causativization, at least from a synchronic perspective, since the verb does not have an intransitive counterpart.

(3) Menci-ka (*Cheli-eykey) nal-li-ess-ta.
    dust-NOM (*Cheli-DAT)   float-CI-PST-DECL   'Dust floated in the air (*by Cheli).'

(4) Swuni-ney-ka   canchi-lul pel-i-ess-ta.
    Swuni-family-NOM party-ACC set-CI-PST-DECL   'Swuni's family threw a party.'

If so, then the subset-superset relation of the allomorphs can easily be accounted for: the passive contains only VoiceP headed by passive Voice realized as *-Ci*, but the causative contains CausP in addition to VoiceP, and Caus is immediately adjacent to Voice since Caus c-selects VoiceP; therefore, the form of Voice in the causative but not in the passive may undergo additional rules of contextual allomorphy (cf. Embick 2012) resulting in Voice having the form of either *-Ci* or *-Cwu*.

As for Case marking, the alternation between accusative and dative Case in the causative follows from the fact that Caus may take *any* type of VoiceP as its complement. On the one hand, if Caus takes active VoiceP, the Agent argument of the stem verb is not demoted and thus must be assigned structural Case; accordingly, it is assigned accusative Case by a higher Case-assigning head (presumably Voice above CausP; see Pylkkänen 2008). On the other hand, if Caus takes passive VoiceP, the Agent argument is demoted by passive Voice and thus should be realized as an adjunct marked with (oblique) dative Case, just as the Agent argument in the passive.

Finally, the ambiguity of example (1a) disappears if the Agent argument is marked with accusative Case instead of dative Case: the sentence is unambiguously causative. The ambiguity also disappears if the surface object is marked with nominative Case instead of accusative Case: now the sentence is unambiguously passive. What the pattern suggests is that the ambiguity in (1a) is structural in nature. Specifically, the passive interpretation of (1a) in (2b) arises because the surface order can be generated from the structure of the passive derived from a double accusative construction like the following (cf. Tomioka and Sim 2005).

(5) Kangaci-ka Swuni-lul son-ul mwul-ess-ta.
    puppy-NOM Swuni-ACC hand-ACC bite-PST-DECL   'The puppy bit Swuni's hand.'

If example (5) is passivized, demoting 'puppy' and promoting 'Swuni', then the resulting structure produces the same linear order with example (1a). That is, although the two interpretations in (2a–b) share the same surface order (1a), they are read off from two different structures: (2a) from the structure involving CausP and passive VoiceP, and (2b) from the structure involving only passive VoiceP. Under this view, example (1a) is unambiguously causative if the Agent argument is marked with accusative Case, because only in the causative the argument can be not demoted (by Caus selecting active VoiceP) and so receives structural Case. And the example is unambiguously passive if its surface object is marked with nominative Case, because object promotion takes place only in the passive. The current view may also be supported by the fact that the close possession relation required between the surface subject and object in (1a) in order to be interpreted as the passive as in (2b) holds between the two accusative objects in (5) as well. Also, there are cases where the ambiguous sentence describes two distinct events in the causative and passive interpretations.

(6) Swuni-ka Pwuni-eykey cec-ul mwul-li-ess-ta.
    Swuni-NOM Pwuni-DAT breast-ACC bite-CI-PST-DECL

When example (6) is interpreted causatively, it may describe a feeding event and mean that Swuni breastfed Pwuni. In contrast, when it is interpreted passively, it can never describe a feeding event, i.e., *'Swuni was breastfed by Pwuni'; instead, it can only mean that there was a biting event and it affected Swuni, i.e., 'Swuni was bitten in her breast by Pwuni'. The contrast again suggests that the two interpretations involve two distinct structures contra Kim (2011) or Kim and Pires (2003).

Consequences and implications: It is a well-known crosslinguistic tendency that when an intransitive verb, such as an unergative or unaccusative verb, is causativized, the argument of the stem verb can only receive structural Case (in the case of Korean, it can only receive accusative Case, not dative Case). The tendency follows from the current analysis: neither unergative nor unaccusative verbs are compatible with passive Voice (Bruening 2016; Bruening and Tran 2015), and accordingly in these environments, Caus can only take active or nonactive VoiceP where there is no argument demotion. In addition, there are many languages other than Korean which also show some correlations between the causative and the passive, often involving shared morphology: Manchu, Evenki (Nedjalkov 1993), French, Mongolian (Washio 1993), Mandarin (Xu 1994), Cantonese (Yap and Iwasaki 2009), Hungarian (Haspelmath 1990), etc. I believe the current analysis may apply to those languages as well with some modifications for the language-specific factors. The comparative study of Korean and the other languages regarding the causative-passive correlation is left for future research.

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