Simplest Merge and Labeling Subsume Phases

Samuel D. EpsteinHisatsugu KitaharaT. Daniel SeelyUniversity of MichiganKeio UniversityEastern Michigan University

Chomsky (2000) argues that the "last resort" character of movement is deducible from (1a-d):

(1) a. postulating Move as the composite operation that combines Merge and Agree

- b. postulating lexical array LA
- c. postulating lexical subarray SA (extracted from LA)
- d. Merge over Move (deducibly from (1a) and computational efficiency)

In this paper, we suggest (1a-d) lose all empirical support under: (i) simplest Merge (Chomsky 2004, 2005) and (ii) labeling as minimal search (Chomsky 2013).

First consider simplest Merge, defined in (2):

(2) Merge(α,β)=>{ α,β }

Under (2), Chomsky argues that Merge and Move are unified; they are just two possible instantiations – External Merge EM and Internal Merge IM – of Merge (α,β) =>{ α,β }. Thus, Move can no longer be expressed as the composite operation that combines Merge and Agree (1a), since Merge and Move are the very same operation, namely (2). Consequently, Merge over Move (1d) is not maintainable.

Next, consider the (enduring) A-movement/Expletive/Case phenomena which motivated (1b,c), as illustrated in (3a,b). In (3a,b), (i) TP is replaced by α , (ii) *there* is taken to be a complex syntactic object (arguably, of the form {D, pro} in the sense of Uriagereka 1988, see also Chomsky 2013), and (iii) *t(race)* is used only for expository purposes:

(3)a. * There is likely [α a dog to be *t* outside].

b. There is likely $[\alpha \ t$ to be a dog outside].

If, as in (3a), *a dog* moves to form the embedded clause α and remains there at CI, then minimal search finds no label of α , because α is of the form {XP,YP}, and there is no *phi* or Q feature, shared by the heads of "Spec-T" and "T-bar" (Chomsky 2013). The fact that α has no label bars (3a) by Full Interpretation (FI). Now, if *there* is instead first inserted to form the embedded clause α , then α is (similarly) a "label-less" set {XP,YP}; but if *there* subsequently undergoes A-movement, as in (3b), then, given "chain"-theory, minimal search finds the only visible head T (= *to*) as the label of α (= TP) satisfying FI at CI. Notice this analysis also predicts that "label failure" arises if *there* is merged in to form the embedded clause α , and it stays there at CI, as in e.g. "*there is likely there to be a man in the room" (see Lasnik 1992 for earlier analyses).

Given this labeling analysis, consider now (4a,b), which, along with (3a,b), motivated the very concept phase:

- (4) a. There is a possibility [CP that a dog will be *t* outside].
 - b. A possibility is [CP that there will be a dog outside].

With (1a-d) eliminated, the concept phase, defined in terms of LA/SA, is no longer available. This analysis predicts that there need be no derivational competition between *there*-insertion and A-movement. Each is available. Thus, (4a,b) are generable with no problem. There is no need to postulate LA or SA or even phase to account for the central data (such as (3b) and (4a)), in which paradoxically, Move-over-Merge seems to apply.

In conclusion, simplest Merge and labeling appear to subsume the concept "phase," reducing the number of postulates in the narrow syntax and arguably eliminating some form of "look-ahead" calculation needed to pre-syntactically select the lexical material that will – when subsequently assembled by iterative Merge application – make up exactly a CP/v*P (see Epstein 2007 for relevant discussion). The analysis in turn entails the elimination of the notion phase itself, where a phase of the derivation is defined as a syntactic object derived from an SA, extracted from LA. If there are no phases as such, then there must be another way to induce 'chunked' derivation but without defining phases in terms of SA or LA. In the remainder of this paper, we briefly discuss two possibilities of inducing (and perhaps explaining) strict cyclic derivation without defining phases in terms of SA or LA.

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Does Modern Chinese Allow Genitive Subjects?

Ling-Yun Fan, Can Wang, and Hideki Maki

Gifu University

1. Introduction

Harada (1971) originally pointed out that Japanese allows genitive subjects. Maki et al (2010) then point out that Mongolian, another Altaic language, also allows genitive subjects. Maki et al (2008) and Maki et al (2013) then show that non-Altaic languages such as Bengali and Urdu also allow genitive subjects. All these languages possess rich case markers, one of which is the genitive case marker. These facts indicate that Altaic and Indo-European languages allow genitives subjects, and at the same time, raise the question of whether languages surrounded by these two language families, which belong to a language family different from them, may also allow genitive subjects. The purpose of this paper is then to investigate whether Chinese, a language from the China-Tibetan language family, possess genitive subjects. This investigation has not been conducted, as Chinese does not have rich case markers. However, it has a morphological genitive/possessive marker *de* 'of,' although it does not have a morphological nominative case marker. We will then examine if Chinese allows genitive subjects marked with *de* in this paper.

2. Data

In Chinese, within nominal expressions, de 'of' marks the possessor of a given noun, as shown in (1).

(1) Zhangsan de shu Zhangsan DE book 'Zhangsan's book'

In relative clauses, *de* 'of' must appear between a head noun and the relative clause, as shown in (2).

(2) sandian huoche daoda *(de) zhan
3 o'clock train arrive DE station
'the station where the train arrived at 3 o'clock'

Note that de 'of' does not appear at the end of a simple sentence, or after the subject of a simple sentence, as shown in (3) and (4).

- (3) Sandian huoche dao le Beijingzhan (*de).
 3 o'clock train arrive ASP Beijing Station DE
 'The train arrived at Beijing Station at 3 o'clock.'
- (4) * Sandian huoche de dao le Beijingzhan.
 3 o'clock train DE arrive ASP Beijing Station
 'The train arrived at Beijing Station at 3 o'clock.'

Let us now examine whether Chinese allows genitive subjects. The data in (5)-(10) show that relative clauses in Chinese may actually have a genitive subject.

- (5) zuotian huoche dao Beijingzhan de shijian yesterday train arrive Beijing Station DE time 'the time when the train arrived at Beijing Station yesterday'
- (6) zuotian huoche de dao Beijingzhan de shijian yesterday train DE arrive Beijing Station DE time 'the time when the train arrived at Beijing Station yesterday'
- (7) zuotian Zhangsan mai naben shu de liyou yesterday Zhangsan buy that book DE reason 'the reason why Zhangsan bought that book yesterday'
- (8) zuotian Zhangsan de mai naben shu de liyou yesterday Zhangsan DE buy that book DE reason 'the reason why Zhangsan bought that book yesterday'
- (9) xingqiliu Zhangsan meiyou mai de shu
 Saturday Zhangsan not buy DE book
 'the book which Zhangsan did not buy on Saturday'
- (10) xingqiliu Zhangsan de meiyou mai de shu
 Saturday Zhangsan DE not buy DE book
 'the book which Zhangsan did not buy on Saturday'

3. Discussion

This study is the first that found genitive subjects in Chinese. Let us then consider what the present study may suggest. First, if the present study is correct, not only Altaic and Indo-European languages, but also part of China-Tibetan languages, allow genitive subjects.

Second, given Hiraiwa's (2001) generalization shown in (11), the element de in front of the head noun of a relative clause is not COMP.

(11) The Nominative-Genitive Conversion (NGC) Universal

Nominative-Genitive Conversion is possible only in a language L which employs the C-T-V AGREE strategy in relativization; consequently, NGC is not observed in the languages which use overt wh-movement strategy or overt complementizer strategy in relative clause formation. (Hiraiwa (2001: 113))

Rather, it seems to be a marker that shows that the predicate within the relative clause to which it is attached, is in the adnominal form. Since a relative clause without de is ungrammatical, it seems plausible to assume that it functions as an adnominal form indicator.

Third, examples such as (8), which has a transitive verb with an overt object, show that the Transitivity Restriction on genitive subjects, which prohibits co-occurrence of an accusative DP with the genitive DP (Watanabe (1996)), is not operative in Chinese, just like Mongolian and Turkish, and unlike Japanese.

Fourth, (8) again suggests that even an SVO language may have genitive subjects.

The Historical Development of English Middles FENG Shuang Graduate School of Nagoya University

1. Introduction

There are two types of English middles: Type I involves a facility adverb (FA) like *easily* or an event adverb (EA) like *like mysteries*, and Type II involves a modal that attenuates the need for an adverb, as shown in (1a, b), respectively. Both types have a modal interpretation in that they denote the possibility of the event and the implicit agent's ability to carry out the event. (1) a. These novels read *(easily)/ *(like mysteries).

b. Dirt will/could rub off when it is dry.

This paper attempts to account for the historical development of English middles, by applying the analysis of Massam (1992) that they have a modal operator in T to be specified by a modal or an adverb.

2. Historical Data

I have collected the historical data on English middles from OED on CD-ROM by utilizing its quotation search function. The result is summarized in Table 1, which represents the numbers of their tokens and the percentages of each type. This shows that middles emerged in the 16th century, in which only Type II was available; then, Type I appeared in the 17th century and increased its frequency thereafter.

	16c	17c	18c	19c	1901-1950		
Type I	0	19(35%)	31(55%)	79 (54%)	20(62%)		
Type II	6(100%)	35(65%)	25(45%)	66 (46%)	12(38%)		

Table 1. The Distribution of Middles in the History of English

It is worthwhile to note that the emergence of middles coincides with the establishment of modal auxiliary system discussed by many linguists. For example, Roberts (1993) argues that modals were reanalyzed from main verbs generated in V to auxiliaries generated in T in the 16th century. This paper proposes to relate the two events in terms of Massam's (1992) analysis mentioned above: once modals became T-elements in the 16th century, they began to specify the modal operator of middles by directly merging in T.

3. Three Stages in the Development of English Middles

By examining the collected data, the development of English middles can be divided into three stages.

A. Stage I (16c)

Only Type II was attested in which the modal operator is specified by a modal merged in T (see (2)).

(2) I ... weare satten of Bruges, but it wyll soyle. (1530 Palsgr.724)

B. Stage II (17c)

Many Type II middles involving an adverb appeared in Stage II. This means that the modal operator is specified by a modal in combination with an FA (see (3a)) or an EA (see (3b)).

- (3) a. Grape will keep better in a vessel... (1626 Bacon S. 627)
 - b. A kind of steel...which would polish almost as white and bright as silver. (1626 Bacon S.849)

On the other hand, a few examples of Type I where an FA occurs without a modal also appeared (see (4)): FAs took on the function of specifying the modal operator by themselves, so that a modal became optional in middles. (4) The rinde or skin peeles off most easily. (1634 SIR T. H.Trav. 183)

C. Stage III (18c-)

Examples of Type I began to be attested where an EA occurs without a modal (see (5)): EAs took on the function of specifying the modal operator by themselves.

(5) If they handle moist or clammy ...they are fit to bag. (1727 B. Fam. D.)

According to Matsumoto (1996), FAs, which are related to the implicit agent of middles, are adjuncts of VP1, while EAs, which refer to the state of the patient during or after the event, are adjuncts of VP3.

(6) ... $[_{vP} [_{vP1} FA [_{vP1} V1... [_{vP2} V2... [_{vP3} EA [_{vP3} V3...]]]]]]$

This paper assumes with Massam (1992) and Matsumoto (1996) that in the absence of a modal, an FA or EA moves to T at LF to specify the modal operator in middles.

(7) $[_{TP} DP_i [_{T'} [_{T} Op] [_{vP} [_{VP1} FA [_{VP1} [_{VP2} [_{VP3} EA [_{VP3} V t_i]]]]]]$

Summarizing, the development of English middles can be characterized in terms of the change in the manner of specifying the modal operator in T: from the direct merger of a modal in T, which is the most basic strategy, to the covert movement of an adverb, which is a later development. The change in Stage III could be viewed as an extension in the manner of specifying the modal operator: the latter can now be licensed by EAs which contribute to dispositional modality (related to the disposition of the patient), as well as by FAs which contribute to the modality of possibility/ability.

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A QR-based Approach to the Internal Reading of Tigau

Yoko Fujii Osaka University

Introduction: I argue that an internal reading of relational adjectives such as *different* and its Japanese counterpart *Tigau* is best captured by Quantifier Raising (QR hereafter) of the relevant plurality rather than probe-goal agreement proposed by Tonoike (2013). Tonoike claims that a feature value [+distributive] of a relational adjective needs to be assigned to a closest plurality via a phase head so that the internal reading would obtain. The derivations are illustrated in (1).

Problem: The data of Japanese causatives in (2), however, will be problematic for it. Following Murasugi and Hashimoto (2004), I assume that complement clauses of causative constructions are vPs. Accordingly, (2) has the structure in (3) at some stage of the derivation. Since the plurality *Taro-to-Hanako* is in the lower spec vP position, it is still accessible to syntactic operations in (3). Tonoike's analysis therefore predicts that feature-valuation would succeed but this prediction is not borne out due to the marginal acceptability of the internal reading of (2).

Proposal and Analysis: My proposal is that a plurality has to take scope over a relational adjective in order to obtain the internal reading. When a plurality c-commands a relational adjective, distribution of a NP modified by the adjective can take place over the relevant plurality, which will be interpreted as an internal reading. According to Takahashi (2010), QR is phase-bound and a vP will count as a phase only when its head values case of an internal argument. Given this assumption, let us first consider (1b). In (1b), the two rats is marked as accusative case so a vP becomes a phase. Although it is a phase, QR of the plurality the two rats to the vP will be possible. By the plurality c-commanding a trace of the subject after QR, the required scope-shifting is achieved, as shown in (4). This is how the current analysis captures the internal reading of (1b). Note here that both (5a) and (5b) have internal readings in contrast to (2). In (5ab), without any internal argument, none of vPs are phases. Since QR of Taro-to-Hanako will be possible, it can take scope over the subject. On the other hand, in (2), the internal argument LGB is marked as accusative case, which means a vP, the lower one I assume, is working as a phase. As a result, the plurality Taro-to-Hanako cannot QR beyond the phase boundary and it cannot take scope over *Tigau-sensei*. Thus, My proposal accounts for the lack of an internal reading of (2) in the light of the unavailability of QR of the plurality. If this analysis is on the right track, the example (6) should allow an internal reading unlike (2) and it actually does. The lower vP is a phase in (6) as well, but it does not block QR of the plurality to that vP. Therefore, the inverse scope can be realized.

Consequence: Concerning case-valuation in Japanese causatives, Takahashi assumes that the case-feature of the lower v is obligatorily absorbed by the causative affix *—sase* and it is the matrix v that licenses the case-feature of the embedded object. One implication from my analysis, however, is

that not the matrix v but the lower v licenses the case-feature. Otherwise, only the matrix vP would be a phase, which would make QR possible in (2) in almost the same way as in (1b). Therefore, if two vPs in Japanese causatives should be related to each other in case-valuation, I suggest that not case-absorption but feature-inheritance from the matrix v to the lower v takes place.

In sum, by adopting QR and examining how phases affect it, my proposal accommodates the data like (2) which should be problematic for the previous analysis.

Examples:

- (1) a. [Bob and Alice v* [attend different classes]]
 [+d] ← [+d] ← [+d]
 b. [Different cats v* [chased the two rats]]
 [+d] → [+d] → [+d]
- (2) ??Tigau-sensei-ga Taro-to-Hanako-ni LGB-o kaw-ase-ta.
 different teacher-Nom T.-and-H.-Dat LGB-Acc buy-cause-past
 'Different teachers made Taro and Hanako buy LGB.'
- (3) [vP tigau-sensei-ga [VP [vP Taro-to-Hanako-ni [VP LGB-o [V kaw]]] [V ase]]]
- (4) [TP Different cats_j [vP the two rats_i vP t_j chased [VP V t_i]]]

(5)	a.	Tigau-sensei-ga	Taro-to-Hanako-o	hashir-ase-ta.
		different-teacher-Nom	T. and HAcc	run-cause-past
		'Different teachers made'	Taro and Hanako run.'	
	b.	Tigau-sensei-ga	Taro-to-Hanako-ni	hashir-ase-ta.
		different-teacher-Nom	T. and HDat	run-cause-past
		'Different teachers made		

(6) Tanaka-sensei-ga tigau-gakusei-ni LGB-to-Barriers-o kaw-ase-ta. Tanaka-teacher-Nom different-student-Dat LGB-and-Barriers-Acc buy-cause-past 'Prof. Tanaka made different student buy LGB and Barriers.'

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On the differences between the φ-features and the θ-features Chihiro Fujimori Hirosaki University

In this paper, I'd like to distinguish the φ -features from the θ -features in terms of what motivates movement for valuation/licensing and where the motivations are.

First, I'd like to deal with Kitada's (2013) claim. He argues, extending Chomsky's (2008) Feature Inheritance (FI), in which all of the uninterpretable features are introduced on the phase heads, that the uninterpretable θ -features, proposed in Hornstein (1999), should also be introduced on the phase head v, and that there should arise four types of inheritance possibility, depending on whether the θ -features on the phase head v are inherited or not.

- (1) $[_{\nu P} [_{\nu'} v_{[Ag][Th]} [_{\nu P} [_{\nu'} V \dots]]]]$ ([Ag] = Agent θ -feature, [Th] = Theme θ -feature)
- (2) a. $[v_{P}[v, v_{[Ag]}[v_{P}[v, V_{[Th]}...]]]]$ b. $[v_{P}[v, v_{[Th]}[v_{P}[v, V_{[Ag]}...]]]]$
 - c. $[_{\nu P} [_{\nu'} \nu [_{VP} [_{V'} V_{[Ag][Th]} ...]]]] d. [_{\nu P} [_{\nu'} \nu [_{Ag][Th]} [_{VP} [_{V'} V ...]]]]$

Particularly problematic I believe are the FI patterns in (2b-d): in (2b) [Ag] is transmitted to V while [Th] stays on v; and in (2c-d) both [Ag] and [Th] are on the same head. It has been long assumed that the Thematic Hierarchy (TH) regulates the relative height among θ -roles, specifically Ag>Th. The FI patterns in (2b-d) obviously violate TH. Furthermore, Kitada's analysis also violates the Uniformity of Theta-Assignment Hypothesis (UTAH). He argues that in the active cases, the FI pattern in (2a) takes place, while, in the passive cases, the FI pattern in (2b) takes place. Given that passive sentences are derived from their active counterparts, it is quite mysterious that actives and passives have different argument structures. Thus, I will assume that, although Kitada's FI- θ mechanism should be maintained, TH and UTAH force [Th] on v to be transmitted to V whenever it arises, and [Ag] on v to stay on v whenever it arises. This means that the θ -features, as well as the φ -features, reside in phase heads, probing and moving some elements for licensing.

Since Hornstein (1999), the movement into θ -positions has been hotly debated in the literature. Under this analysis, a DP can bear multiple θ -roles in the course of the derivation. Given the θ -features, this means that a DP can check/value multiple θ -features.

(3) a. John hoped to leave

b. $[IP John_{\theta-leave} > \{0, P John_{\theta-leave$

(4) *John_i is likely [$_{TP} t_i$ is smart]

If the θ -features should also be treated in the same manner as the φ -features, once the θ -features on a DP are checked/valued, the θ -checked/valued DP could not move further, contrary to Hornstein's claim. Therefore, we have to deal with them in a different way. Here, I will assume that the uninterpretable/unvalued Case feature on DPs motivates movement of DPs for valuation, as

Bošković (2007, 2011) argues, while the θ -features on the probing heads motivate movement of DPs for licensing, as Hornstein (1999) argues. This means that the uninterpretable/unvalued Case feature of DPs function as a probe, while the θ -features on the probing heads function as a probe.

The current analysis can account for the data shown by Polinsky and Potsdam (2002). They point out that in Tsez, in which the predicate agrees with the Absolutive element, when -oqa 'begin' and $-i\check{c}a$ 'continue' are introduced, an unusual agreement pattern between the predicates and Ergative elements occurs, and argue that there is an unpronounced Absolutive element triggering the agreement on the predicates (what is called "backward control").

- (5) a. kid-bā ziya b-išr-a y-oq-si girl.II-Erg cow.III.Abs III-feed-INF II-begin-Past.Evid
 'The girl began to feed the cow'
 - b. Δ_i [kid-b \bar{a}_i ziya b-išr-a] y-oq-si

II.Abs girl.II-Erg cow.III.Abs III-feed-INF II-begin-Past.Evid

However, as the gloss in (5) indicates, the subject has been Case-checked/valued as Ergative in the embedded clause. Given Bošković's (2007, 2011) claim, since there are no uninterpretable/ unvalued Case feature on the subject, no further movement should occur, contrary to the fact. Here, I will assume that [Ag] on the matrix v functions as a probe, moving the embedded subject to the matrix SpecvP. This means that Bošković's claim that the motivation for movement resides only in goals is too strong. I will also assume, following Potsdam and Polinsky (2012), that the Case of the subject reflects its clause membership; i.e., when the subject is marked as Ergative, it is in the embedded clause; when the subject is marked as Absolutive, it is in the matrix clause. If this analysis is correct, once the embedded subject moves into the matrix clause to check/value [Ag], since it is a member of matrix clause, its Case should be realized as Absolutive.

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Stack-Based Agree

Jason Ginsburg (Osaka Kyoiku University), Sandiway Fong (University of Arizona)

Introduction: Under the standard Phase Theory view (cf. Chomsky 2001, etc.), Agree is a complex operation in which an uninterpretable feature (uF) functions as a probe that searches through its search domain for a matching interpretable goal (iF). Probe-goal search is a computationally expensive operation that requires a probe to evaluate all of the features in its search domain until it finds a matching goal (if present). We propose that a novel "search-free" stack mechanism for Agree relations can replace standard probe-goal search.

Proposal: We propose that all derivations are obligatorily funneled through a stack data structure, which is a last-in, first-out (LIFO) list with a unique Top of Stack (TOS). For example, Merge α (a head/label) with β . Push the non-head β onto the stack, where it becomes the TOS. A probe on α peers into the stack and Agrees with the TOS β , if agreement is possible (e.g., α has a uF and β has a matching iF). Crucially, when a stack is populated by more than one element, only the TOS is visible to a probe. If all the features of the TOS are checked, then the TOS is popped off, and the next element in the stack, if present, moves to the top position, thus becoming available to future Agree operations.

Example Derivation: The simplified derivation of *I eat food* is shown in (1). When V and its DP complement are Merged (1a), the DP is pushed onto the stack where it remains, due its uCase feature. When v* is Merged, the VP complement is pushed onto the stack. The head v* then Agrees, via the stack, with the VP, assuming a uV on v* is checked, and the VP is popped, since it contains no uFs. As a result, the DP 'food' becomes the TOS. Next, a uPhi feature on v* peers into the stack and Agrees with the DP, resulting in checking of uCase of the DP and of uPhi of v*. The DP no longer has any uFs, and thus is popped off the stack. Then, when the subject DP is Merged, it too is pushed onto the stack, where it remains due to its uCase feature (1b). When the matrix T is Merged (1c), it finds and Agrees, via the stack, with the subject DP. The uCase feature on the subject is checked and the subject is popped off the stack. In this manner, all agreement relations are confined to a probe and the TOS.

Economy: We created a computer model that evaluates and compares the **cost** of search in a derivation computed via typical probe-goal search versus the proposed stack-based Agree mechanism. In the standard search model, a cost of 1 is added for each node that a probe checks in its search domain. For example, when v* Merges with VP, a uPhi probe on v* searches into its complement VP until it finds a matching iPhi on a DP. Each node that it checks incurs a cost of 1. Assuming that phi-features of the DP are visible on D, a cost of 4 is incurred. For stack-based Agree, each time that a probe peers into the stack, a cost of 1 is incurred. For example, when v* Merges with VP, v* peers into the stack and Agrees with the VP, which is popped, followed by Agree between v* and the DP, which is also popped, thus incurring a cost of 2. (2) shows the costs of a simple and a complex sentence (2a-b). In (2b), the matrix T undergoes a triple agreement relation (Chomsky 2001); checking of uPhi on 'there' via Agree(T,there), checking of uCase on the participle via Agree(T,ed), and checking of uCase and uPhi via Agree(T,several prizes). The cost incurred via stack-based search is lower than for standard search. Our model shows that stack-based Agree is less costly than for standard probe-goal search, and this cost differential increases for complex sentences, such as (2b). We propose that, from the perspective of Minimalism (Chomsky 1995), the more economical stack-based Agree method is preferable to the standard probe-goal search.

Conclusion: In this paper, we demonstrate in detail how stack-based Agree works with respect to these and other related examples and demonstrate why it is economical.



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Contrastive Frame Semantics: Sit, Lie and Stand in English, Russian, and Japanese

Ganna Gladkova and Toshio Ohori (University of Tokyo)

Frame semantics (FS) has found its application in large-scale lexicographic projects, the best known of which is FrameNet (FN). However, it is still not clear to what extent English-based frames are usable as semantic interlingua for handling apparently corresponding lexemes across languages (Ohara, 2009: 180). We present a case study of posture verbs, a group shown to vary greatly across languages in grammatical peculiarities and semantic structures (Newman, 2002), and attempt to provide a unified FS-based account of posture verbs that would generalize over English, Russian and Japanese data.

The first challenge to FS comes from the aspectual properties of posture verbs. The English verbs *sit*, *lie* and *stand* have both dynamic and stative uses, and they are attributed to frames CHANGE_POSTURE and POSTURE respectively by the Berkeley FN (cf. *she came and sat by my side* vs. *she sat there for a while*). This view is reflected in the "pre-state – change-of-state – resulting-state" event scenario in FN (Fillmore & Baker, 2010: 331).

However, Japanese equivalents of posture verbs have only dynamic use (change of posture), while the static one is expressed with *-te iru*.

(1) [Raikyaku ga]_{PROTAGONIST} [isu ni]_{GOAL} suwatta. guest-NOM chair-LOC sit-PAST. 'The guest sat down in the chair.'

On the other hand, in Russian each of English posture verbs has three ways of verbal encoding. Besides change of posture and resulting state, Russian lexicalizes movement to the intended location.

(2) [Tetki]_{PROTAGONIST} [so svoimi baulami]_{COTHEME} [dolgo]_{TIME} **sadilis'** [v avtobus]_{GOAL}. women-NOM with their bag-PL long sit-PAST in bus. 'The women took a long time getting in the bus because of their big bags.'

In order to capture this variation, we propose a revised event scenario for a multilingual FS-based system, incorporating stages that are lexicalized in at least one of the target languages.



Figure 1. Lexicalizations of posture scenario in English, Russian, and Japanese

The second challenge for FS is the question of what generalizations one could make over the semantic constraints on the arguments of posture verbs in different languages. In FS terms, the BEING_LOCATED frame must specify which kinds of objects can become the THEME element.

Berkeley FN has come up with a mechanism for associating frame elements with semantic types; currently it is used to link to general WordNet classes, and there are proposals for more detailed ontologies. However, acceptability of posture verb arguments cannot be fully accounted for with an ontological hierarchy. For example, a glass can be said to "stand" on the table in our three target languages, but a plate "sits" in English, while Japanese allows only an existential predicate in such cases. In Russian a plate "stands" on the table, but a frying pan "lies" – and so would a plate, if it were placed in that frying pan.

We propose to model the semantic constraints on the PROTAGONIST element in the POSTURE frame and THEME element in the BEING_LOCATED frame with a set of principles as outlined below.

Schematic principles	English	Russian	Japanese
(1) Creatures whose bodies allow different postures	sit, lie,	sit, lie,	sit, lie,
	stand	stand	stand
(2) Saliently vertical FIGURE	stand	stand	stand
(3) Saliently horizontal FIGURE	lie	lie	
(4) Small animals with four legs	sit	sit	
(5) Birds in a perched position	stand	sit	
(6) Figures that lack orientational saliency	sit	lie	
(7) Objects placed in a CONTAINER		lie	
(8) Objects with a base		stand	
(9) Objects that have physical "legs"	stand	stand	

Table 1. Principles for lexical selection

Since some nouns fall under several categories, our approach has the advantage of modeling the options of a speaker trying to decide on a non-prototypical case. For instance, it is not clear to a Russian speaker whether a turtle "sits" (4) or "lies" (3), and both combinations occur in corpora. If one of the criteria applies with priority in response to contextual factors, constraints are re-ranked. This allows us to explain, e.g., why a flamingo is allowed to "stand" both in both Russian and Japanese ((2) overrides (5)), and all three target languages accept that birds "sit" on eggs ((1) overrides (5)).

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An Analysis of the *Hito*-N Construction in Japanese with Special Reference to the Cognate Object Construction in English

Ikuko Hasebe, Noboru Kamiya, and Masatoshi Honda (University of Tsukuba, Chiba University, and Kanda University of International Studies)

The aim of this presentation is to provide an analysis of the *hito*-N Construction in Japanese (henceforth, HNC), exemplified in (1).

- (1) a. Penki-o hito-hake nuru. Paint-Acc HITO-brush paint Lit. '(to) spray a brush of paint'
 - b. Hito-ase kaku.
 Hito-sweat sweat
 Lit. '(to) sweat a sweat'

Two outstanding characteristics of the construction are: (i) a noun phrase, accompanied by the singular numeral *hito*, changes an atelic event into a telic event in (1a, b) (Ito, Sugioka, and Yumoto (2013)), and (ii) the noun phrase is associated with the manner of the event denoted by the verb in (1a), and it is some sort of "product" of the event in (1b). Ito et al. propose that hito N phrases are "measuring phrases." It will be argued below that the two interpretations come from the syntactic position of the relevant noun phrases. Specifically, paying attention to the analysis of the Cognate Object Construction (henceforth, COC) in English by Nakajima (2006), who claims that cognate objects with "manner" reading like a century's growth in (2b) below play a role of an adjunct in syntax while cognate objects with "product" reading like a sound sleep in (2a) take a position of an argument, we will claim that the noun phrase accompanied by *hito* plays a role of an adjunct in (1a), while the one in (1b) takes a position of an argument in syntax. In Nakajima's framework, the syntactic structures of (2a) and (2b) are given in (2a') and (2b'), respectively. Notice that a cognate object is always accompanied by *a*, representing a singular numeral, and that because of this, the COC describes a [+ bounded] event in (3b). Tenny (1994) argues that an object argument is allowed to be a delimiter of an event.

(2) a. The baby slept a sound sleep. "product"

b. The tree grew a century's growth within only ten years. "manner"

- (3) a. Mary laughed {for an hour/*in an hour}. (Tenny (1994:39))
 - b. Mary laughed a mirthless laugh {for an hour/in an hour}.

(Nakajima (2006: 680))

(2)a' [$_{VP}$ Subject [$_{VP}$ [$_{V}$, V \cdots] Adjunct]]] b' [$_{VP}$ [$_{V}$, V Subject] Adjunct]

What is crucial for us is the fact that the HNC and the COC share "manner" reading and "product" reading, and in both, the [+ bounded] interpretation may be attributed to the singular numerals, *hito*- and *a*, respectively. Unlike Ito et al. (2013), who propose an analysis of the HNC in terms of lexical semantics, we provide syntactic structures with the HNC, taking the parallelism between the two constructions into account.

However, an important difference between the two constructions is found. Although unergative verbs such as *sleep* in (2a) can appear in the COC with "product" reading, they are not suitable for the HNC. Instead, many transitive or unaccusative verbs such as *kaku* "sweat" in (1b) and (*ame-ga*) *furu* "rain" are compatible with this construction.

In order to explain the difference between the two constructions in both languages, let us introduce the notion of the "boundedness parameter," originally developed in Kageyama (2001). In his framework, a language is called a [+ bounded] language, where speakers' viewpoint indicates a strong tendency to the boundaries of events denoted by verbs (i.e., endpoints of events like a result or a goal), while a language which implies a weak tendency to the boundaries is a [0 bounded] language. In English, a [+ bounded] language, the boundaries of events can be added to atelic events only by making use of cognate objects as delimiters in syntax, giving rise to change of telicity. On the other hand, in Japanese, a [0 bounded] language, the introduction of measuring phrases in syntax is not sufficient to create boundaries. The events denoted by unergative verbs obtain boundaries only by nominalization of the verbs themselves (e.g., *hito-nemuri* "a sleep"), a morphological operation. If our analysis is on the right track, it can be concluded that the similarity and difference of the two constructions are closely associated with both their syntactic structures and semantic (or morphological) parameters. We will also briefly discuss other constructions and phenomena similar to the HNC, including quantifier float.

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Meaning and Linguistic Context: The Case of *By Now* Shinya Hirasawa The University of Tokyo

This study argues that the description of the meaning of the English idiom *by now (now:* speech time (ST)) necessarily involves the description of frequent linguistic contexts (FLCs) in which the phrase appears.¹ I admit that it would be possible to abstract away from contextual data and posit a universal meaning of *by now*, which is more or less activated across all relevant contexts. But this, to my mind, would be a false economy. Such a context-independent description would not reflect the linguistic knowledge native speakers seem to have about the idiom.

A COCA search reveals that there are at least five FLCs that accommodate by now.²

FLC 1: Collocation with inferential expressions (117 out of 224 randomly sampled affirmative sentences with *by now*)

When by now collocates with inferential expressions (e.g. must, should, probably, no doubt, I guess), the clause suggests that the inference is based on the fact that, at ST, the amount of time has passed that the speaker expects to be sufficient to actualize the event in question.

(1) Samantha: What time is it?

Darrin: Eight o'clock.

Samantha: The Tates' kitchen <u>must</u> be a disaster area **by now**.

(Bewitched, Season 2, Episode 17, Maid to Order)

FLC 2: Collocation with universal quantifiers (29/224)

When *by now* collocates with universal quantifiers (e.g. *all*, *every*) or similar expressions (e.g. *entirely*), the clause strongly suggests that the event in question has unfolded gradually up to ST.

(2) **By now**, <u>all</u> the children have come out of their bedrooms. (COCA)

FLC 3: Collocation with expressions associated with knowledge (29/224)

When *by now* collocates with expressions associated with knowledge, it is implied that that knowledge or familiarity has increased little by little up to ST.

(3) "I always have tea," he said. "You should <u>know</u> that **by now**."

(Rebecca Brown, *The Gifts of the Body*)

FLC 4: A negative conditional clause (70 out of 156 instances of not ... by now)

A negative conditional clause with *by now* means "if the event in question has not yet happened, even though the amount of time has passed that I expect to be sufficient to actualize it."

¹ The idiomatic status of *by now* is discussed in Hirasawa (2012).

² COCA: the Corpus of Contemporary American English.

(4) [...] <u>if he hasn't slipped away by now</u>, you shouldn't have any trouble.

(Paul Auster, Man in the Dark)

FLC 5: A negative interrogative sentence (44/156)

A negative interrogative sentence with *by now* means "Hasn't the event in question happened even though the amount of time has passed that I expect to be sufficient to actualize it?"

(5) [...] "Why are you doing this to me?"
"Because I hate you," his ex-lover said. "Have<u>n't</u> you figured that out by now?"
(Paul Auster, *The Brooklyn Follies*)

Admittedly, it is possible to generalize across these contexts and define the meaning of *by now* as *now, after the passage of a long time*. Note the incompatibility of *by now* and *only* in (6):

(6) ?? It's been <u>only</u> six or seven hours since I started climbing, and **by now** I've drunk seven bottles of water.

But the acceptability of (7) cannot be explained in terms of time passage alone.

(7) It's been 60 hours since I started climbing, and **by now** I've drunk seven bottles of water.

The numerical expression *drink seven bottles of water* readily evokes the image of bottles being emptied one by one. This quantitative increase is perceived to be similar, if not identical, to what is at issue in FLCs 2 and 3, and this similarity is what makes (7) sound fairly natural. Used without such perceptible similarity to a FLC, *by now* sounds simply wrong.

(8) * Susan left the store at 5:30 and **by now** she is home. (Hirasawa 2012)

Thus it seems reasonable to conclude that *by now* should be used in a context that is perceived to be similar (or, ideally, identical) to one or more of the FLCs presented above.

One of my native-speaker informants said that the incongruity created by *only* in (6) was cancelled out if *seven bottles of water* was replaced by *all the bottles of water that I brought from home*. For this particular speaker, knowledge about FLC 2 is deeply entrenched and has considerable power over the use of *by now*.

These data are not predictable from the context-independent, universal meaning of *by now*. It is inappropriate, therefore, to stand aloof from the description of its *usage*. As Taylor (2012) suggests, meaning and linguistic context are after all two sides of the same coin.

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Interactive Alignment in World Englishes

Yoshihito Izawa Keio University

Usage-based model proposes that our grammar emerges from accumulated experience. It follows that individual grammar is to some extent idiosyncratic, and this idiosyncrasy can be expanded to the level of community, such as face expressions in Asian English:

I know your *face* is bigger than mine. Please give me some *face*, will you? Honna (2013: 26)

These expressions have not literal but cultural aspects, and they could bring about miscommunication. This is of great significance in time of World Englishes, which was first proposed by Kachru (1985). Today there are numerous variations around the world; at the same time, people need to communicate with each other. The question here is thus described: What enables us to achieve mutual understanding successfully? In discussing this issue, interactive alignment of Garrod & Pickering (2009) is thought-provoking. We humans usually construct the joint attentional frame in interactions; on this point, alignment theory proposes that participants' mental representations are synchronized through various interactive channels, and it automatically facilitates mutual understanding. With respect to discourse analysis, the linguistic trigger to align participants is defined as similar expressions, such as *repetition* of others' utterances. That is to say, linguistic similarity generates participants' representational similarity. In addition, the similar expressions activate the same representational scheme. From these perspectives, this study examines the linguistic alignment in interaction, and reveals the mechanism of effective exchange across variations. In particular, this study puts a great emphasis on two interaction types: native-native and native-nonnative.

Examples are collected from dialogue corpora, such as VOICE (the Vienna-Oxford International Corpus of English). It includes 7% native and 93% nonnative speakers, and covers interactions in various genres. For example, the following conversation is extracted from VOICE, in which two nonnative speakers communicate in the question-answer session:

- S1: the question is (.) can *the wave* of the strip interfere (.) hh in the performance of the (.) special system? (1)
- S2: you're talking er *the wave* er
- S1: *the wave*
- S2: *wave* defect or at the beginning of the (1)
- S1: yeah
- S2: er er at *the head end of the* $\langle un \rangle x \langle un \rangle$ is not on attention
- S1: the end of the (.) th- the the en- the end (.) of the $\langle un \rangle x \langle un \rangle$ of the $\langle un \rangle x \langle un \rangle$ strip (.)
- S2: okay

Two participants synchronized their representations through the reproduction of phrases such as *the wave* or *the end of*. As seen above, nonnative English speakers can align, namely synchronize their representation by the mere language reuse. The preceding utterances are the resource of priming, and the speakers use it. Even when the participants are misaligned, the reuse can function as repair. On the other hand, native, possibly advanced speakers, tend to adopt not mere reproductions but transformed phrases. The following business meeting is observed in native-nonnative interaction:

- S2: h- how is the bonus taxed? we pay full tax for it or
- S1: *it's just* normal payment yeah
- S2: okay
- S1: there's no <1> difference </1>
- S2: <1> so we </1> also it's also covers some *social insurance* and other stuff (.) <2> or *it's only* the </2>
- S3: <2> don't the </2> social versicherung taken off for bonus of extra pays (.) *it's just* tax (.)

In this case, S3 is a native speaker, and others are nonnative. They frequently use the similar expression *it's just (only)*, and probably align their representations. However, S3 does not reproduce others' utterances, and rephrases *social insurance* into *social versicherung*, in which German is used. To be sure, native speakers make an interactive alignment through similar language; however, they often transform preceding expressions into modified ones. In this sense, they are aligned but not subject to the priming. Rather, they rebuild the representational alignment in the coordination process. The possible reason of transformation is under discussion, and one possibility could be traced back to enhancing speaker's dominance.

Interaction can be defined as a cline involving linguistic and nonlinguistic alignment, and linguistic alignment is not a necessary condition for successful interaction. However, the more participants produce similar patterns, the more facilitated interactions get. When there is a cultural difference, ad-hoc linguistic alignment will be significant; in other words, it can function as a basic device to control interaction. In the presentation, the possible relation between linguistic alignment and interaction will be discussed, referring to exchange across variations.

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On the Syntactic Complex Verbs in Japanese and Korean

Yasuhito Kido¹, Masahiko Dansako², and Yoko Isse³ Fukuoka University^{1, 3} and Kyushu University²

Our goal is to provide an account of the nature of syntactic complex verbs in Korean. We argue that Korean complex verbs where V_2 is constituted only as *sijakhata* "start" show syntactic behaviors similar to Japanese ones. As discussed by Kageyama (1993), Japanese has two types of complex verbs; namely, lexical complex verbs (LCVs) and syntactic complex verbs (SCVs). This dichotomy is supported by a substitution of VP for *soo su* "do so," by a substitution of V_1 for the expression of Sino-Japanese plus light verb, *suru*, and by an application of honorification to V_1 . These tests cannot be applied to LCVs, but to SCVs. For instance, (1) and (2) are examples of *soo su* substitution.

(1)	a.	Taroo-ga	ki-o	kiri-taos-u.	b. [:]	*Hanako-mo	soo	si-taos-u.	(LCV)
		Taroo-NOM	tree-ACC	cut-fall-Pres.		Hanako-also	SO	do-fall-Pres.	
		'Taroo cuts de	own the tre	e.'					
(2)	a.	Taroo-ga	naki-hazir	ne-ru.	b.	Hanako-mo	SOO	si-hazime-ru.	(SCV)
		Taroo-NOM	cry-start-F	Pres.		Hanako-also	so	do-start-Pres.	
'Taroo starts to cry.'						'Hanako also	start	ts to do so.'	

According to Saito (2013), LCVs have one-layered v^*P/vP , while SCVs have two-layered v^*P/vPs . Assuming *soo-su* is substituted for VP, this contrast can be successfully explained. Substitution operation is inapplicable to a portion of VP as in (3a), because LCVs comprising V₁+V₂ complex constitute a single VP. In contrast, in the case of SCV in (3b), substitution can be applied to VP₁, because V₁ and V₂ project separate VPs.



Next, focusing on SCVs, as suggested by Tsukamoto (2012), it is difficult to express the same meaning as Japanese by using Korean V_1+V_2 complex:

- (4) a. Taroo-ka wul-ki sijakh-ess-ta. Taroo-NOM cry-NMNZ start-Past-Decl 'Taroo started to cry.'
 - b. Taroo-ga naku-koto hazime-ta. Taroo-NOM cry-NMNZ start-Past 'Lit., Taroo started to cry.'

In (4a), suffix ki, a nominalizer, which is glossed as NMNZ, is attached to a verb stem, *wul* "cry," and it is followed by *sijakhessta*. This sentence can be literally translated into Japanese in (4b), which does not correspond to Japanese SCV. However, this does not necessarily mean that Korean complex verbs do not have the same syntactic configuration as Japanese SCVs. In this paper, we attempt to investigate whether or not three tests described above can be applied to Korean complex verbs where V₂ is *sijakhata*. First, it is possible to substitute VP₁ for *gurokke hata* "do so" as in (5):

(5) Hanako-ka gurokke ha-ki sijakh-ess-ta. Hanako-NOM so do-NMNZ start-Past-Decl 'Hanako started to do so.' Second, VP₁ can be turned into Sino-Korean plus light verb, *hata*, as in (6):

(6) Taroo-ka bermok-ha-ki sijakh-ess-ta. Taroo-NOM logging-do-NMNZ start-Past-Decl 'Taroo started to do logging.'

Third, Japanese and Korean show distinct syntactic behaviors regarding honorification. Although *si* in (7a), a bound morpheme representing politeness, can be attached to V_2 , honorification to V_1 in (7b) is inapplicable contrary to *o-kiri-ni nari hazimeru* "HONORIFIC-cut-DAT become start" in Japanese. This suggests that V_2 , *hazimeru*, selects v^*P/vP to its complement, while V_2 , *sijakhata*, does not.

- (7) a. Yamada-sensayng-nim-i namu-lul jalu-ki sijakha**-si-**ess-ta. (V₁-NMNZ V₂**-HON**) Yamada-teacher-HON-NOM tree-ACC cut-NMNZ start-HON-Past-Decl
 - b.*Yamada-sensayng-nim-i namu-lul jalu**-si-**kisijakh-ess-ta. (*V₁**-HON**-NMNZ V₂) 'Dr. Yamada started to cut down the tree.'

Therefore, as noted above, we propose the following structure of Korean complex verbs using (7a) as an illustration. This configuration shows that Japanese and Korean have the same syntactic property in that V_1 and V_2 have different maximal projection respectively. However, they have a crucial difference in the number of v^*P/vP . While Japanese SCVs consist of two-layered v^*P/vPs , Korean complex verbs have one-layered v^*P as in (8):

As discussed by Kang (1988), it is well-known that suffix ki in Korean plays a role not only in nominalizing verbs, but in turning verbs into gerunds. When ki is used as a nominalizer, the nominalized verbs become nouns so that accusative case *lul* needs to be assigned to them. On the other hand, when the verbs attached to ki are used as gerunds, because they still retain the function as verbs, they do not have to assign accusative case. This distinction is observed in (4a). In the case of complex verbs where *sijakhata* is V₂, crucially, they can take both nominalized verbs and gerunds by attaching ki to a stem of verbs. The fact that *sijakhata* can select such gerunds to its complement semantically is fairly unique. This phenomenon is not observed in any other verb. This paper provides an account for the intriguing nature of the relation between *sijakhata* or *hazimeru* and each complement by comparing Japanese to Korean (syntactic) complex verbs.

(798 words)

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A scale in scalar adjectives in corpus

Kiyama Naoki (Osaka University)

This study examines from the perspective of cognitive semantics how adjectival scale in English is coerced, using a corpus-based quantitative approach. As many researchers have revealed (Kennedy and McNally 1999 2005), gradable adjectives can be classified into four types of scales: Open scale, lower closed scale, upper closed scale and closed scale patterns:

- (1) Open scale pattern
 - a. Her brother is completely ??tall/??short.
 - b. The pond is 100% ??deep/??shallow.
 - c. Max is fully ??eager/??uneager to help.
- (2) Lower closed scale pattern
 - a. The pipe is fully ??bent/straight.
 - b. The room became 100% ??loud/quiet.
 - c. That author is completely ??famous/unknown.
- (3) Upper closed scale pattern
 - a. We are fully certain/??uncertain about the results.
 - b. This product is 100% pure/??impure.
 - c. The treatment is completely safe/??dangerous.
- (4) Closed scale pattern
 - a. The room was 100% full/empty.
 - b. The flower was fully open/closed.
 - c. The figure was completely visible/invisible. (Kennedy and McNally 2005, 355)

In Kennedy and McNally's observation, adjectives with closed scale patterns in (2), (3) and (4) have a particular endpoint in their scales. This is why closed scale adjectives occur with premodifiers that refer to either the rightmost or leftmost end of the scale. For example, in (3b), when the room is quiet, there is not one person speaking, whereas loudness does not have a set limit. As long as the room is quiet, listeners are able to know that there is no sound no matter the context. On the other hand, loudness is dependent on a context. The noise in the zoo or an air conditioner could be loud depending on the standard both situations are being measured against. Based on these observations, the factor that determines whether an adjective has open scale or closed scale is whether the standard of comparison is context-dependent or independent. Adjectives with open scale have a context-dependent (or absolute) standard, and those with closed scale have a context-independent (or relative).

Though Kennedy and McNally (2005) recognizes that absolute adjectives are readily used in a 'relativelike' interpretation, as in *very empty* or *very full*, "[t] here is no clear "rule" ... in exactly what situations context overrules the default interpretation of an adjective (Kamoen et al. 2011, 3141)". As Kamoen et al. (2011) concludes, "exceptions occur quite often and the default scale structure/type of comparison standard associated with each adjective is quite weak (ibid, 3148)". Thus it is worth investigating the situations when semantic shifts do occur.

The survey on BNC written corpus suggests that it is the speaker's attitude toward the world that affects the choice in premodifiers. If we focus on the way the speaker perceives the situation, it is very likely for modality-like verbs to co-occur with the imprecise-interpretation of closed scale adjectives. This hypothesis is supported by the frequencies and other statistics of linking-verbs. This presentation defines closed scale adjectives with totality modifiers like *absolutely* as the RIGID usage, those with degree modifiers, e.g. *very*, as the LOOSE usage.

Table 1 shows the frequency in BNC. The column with '‰' shows their relative frequencies standardized by 1000. The second rightmost column (DISTANCE) is the absolute value of the subtraction of the relative frequencies of RIGID and LOOSE usage.

	Rigid	LOOSE	Rigid ($\%$)	Loose ($\%$)	DISTANCE	TEST
be	3534	1379	889.06	811.65	77.40	Rigid
appear	20	1	5.03	0.59	4.44	Rigid
prove	14	1	3.52	0.59	2.93	Rigid
fall	5	0	1.26	0.00	1.26	Rigid
keep	7	2	1.76	1.18	0.58	Rigid
get	4	14	1.01	8.24	7.23	LOOSE
become	79	48	19.87	28.25	8.38	LOOSE
sound	19	25	4.78	14.71	9.93	LOOSE
look	66	46	16.60	27.07	10.47	LOOSE
seem	115	79	28.93	46.50	17.57	LOOSE
feel	51	72	12.83	42.38	29.55	LOOSE

Table 1: Selected frequency differences between RIGID and LOOSE usage

Based on the relative frequency (%) in Table 1, the co-occurrence of RIGID usage with *be*, which expresses a strong assertion of the speaker, is significantly larger than that of LOOSE use (5). On the contrary, LOOSE usage prefers modality-like linking-verbs such as *feel*, *seem*, *look* and *sound* (6).

(5)	a.	The main body of a report will be perfectly acceptable at 10pt and \ldots	(G00-1436)
	b.	Once again the air <i>was almost alive</i> because he was here.	(HGD-2050)
	c.	Most river dolphins are almost blind.	(ABC-675)
(6)	a.	But this young stranger from the bleak Northern Fells <i>seemed very capable</i> .	(FP1-1595)

- b. All in all, the task *looked pretty impossible* but we were determined to have a go. (K9K-202)
- c. [S] he exclaimed with a laugh that even to herself *sounded slightly false*. (HGY-1413)

From the distribution of linking-verbs, it can be concluded that the precise use of RIGID usage in (5) expresses not only precision as Kennedy and McNally's research shows, but also the strong assertion of the speaker. This is because using a copula *be* makes the sentence assertive, namely, truth condition is justifiable. Thus an end-point of the scale with an affirmation shows a strong confidence of the speaker. On the other hand, LOOSE use tend to occur with modality-like linking-verbs. In the sentences with these verbs, "it is the speaker to whom the state of affairs ... only appears to be true (Croft 2001, 217)". This is to say that the speaker is not comfortable to make a strong statement to the event.

This study investigated the conditions when absolute adjectives are absolute, and the conditions when they are relative-like standard. This is one of the semantic-shift in scale adjectives. Thus, this research proposes one of the factors of semantic coercion. Research at present reveals that semantic coercion can occur depending on the speaker's level of confidence. If the speaker is less self-trust, it is more likely meaning is being coerced, from RIGID usage to LOOSE usage.

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Semantics of English Determiners

Name: Jang-song Lee Affiliation: Korea Military Academy, Korea E-mail address: jangsonglee0705@gmail.com

This presentation aims to propose a unified approach toward the semantics of English determiners including a(n), some, every, most, etc., by adding some assumptions to the assumption set of the Discourse Representation Theory (DRT).

Traditionally English determiner 'a(n)' is treated as the existential quantifier (\exists) and 'every' as the universal quantifier (\forall), with a sentence as their quantification scope. However, 'a(n)' can bind a variable which occurs in a subsequent sentence, while 'every' cannot as in (1).

a. [A student]_i came in the room. [He]_i sat down on a couch.
b. [Every student]_i came in the room. *[He]_i sat down on a couch.

In addition, the traditional approach cannot explain the two determiners' behaviors in a so-called 'donkey sentence' like (2) whose intuitional meaning is represented as in (3). In (3), the pronoun 'it' is bound by 'every', not by 'a', and the indefinite noun phrase 'a donkey' is translated as if it is 'every donkey'.

- (2) Every farmer who owns [a donkey]i beats [it]i.
- $(3) \qquad \forall x \forall y [[farmer(x) \land donkey(y) \land x owns y] \rightarrow x beats y]$

To solve the problems raised mainly by the binding phenomena concerning donkey sentences and discourse binding, Heim (1982) assumes that (i) indefinites are bound variables; (ii) anaphoric pronouns are plain bound variables; (iii) 'every' is capable of binding multiple variables in its scope; and (iv) the existential quantifier (\exists) is given to a nuclear scope of a quantifier and to a discourse (existential closure). The Discourse Representation Theory (DRT) faithfully accepts her assumptions on quantification. The DRT further modifies its assumptions so as to adopt the claims that English determiners be classified into individual denoting determiners such as *a, some, 1,2,3,* etc. and quantificational ones such as *every, most, many, few,* etc. Now the third assumption above is changed so that quantificational determiners are capable of binding multiple variables.

Nevertheless, this system faces several serious problems. First, it does not explain why sentence (4) is acceptable, where the pronoun *they* refers to a plural entity made of all the individuals who are students.

(4) $[Every student]_i$ came in. $[They]_i$ gathered in the hall.

Second, it cannot explain the phenomenon of the asymmetric quantification stated in Rooth (1986). If the unselective binding of (5iii) allows the quantifier *most* to bind the variables introduced by *most farmers* and *a donkey*, sentence (5) would mean most farmers

who own a donkey beat most donkeys they own. However, the sentence intuitively means that most farmers who own a donkey beat every donkey they own. The DRT cannot explain the universal quantification over the donkeys. And if the unselective binding is rejected, the whole system of the DRT as a theory of quantification would not stand.

(5) Most farmers who own $[a \text{ donkey}]_i$ beat $[it]_i$.

The third one is about the source of quantificational force. The classification of determiners into quantificational and individual denoting takes it for granted that the quantificational force of sentence (8) originates from the quantificational determiner *every* (*most, many,* or *few*), while the quantificational force of sentence (9) comes from the distributive predicate *came in the room individually* which requires a plural subject denoting a plural entity (or an i-sum individual) and predicate over every individual member of the plural entity. In short, quantificational force comes from the quantificational determiners or distributive predicates--an ununified approach.

After critically reviewing the efforts to solve these problems in the DRT, I attempt to propose a new approach to the problems by just adding two more assumptions to the assumption set of the DRT as in (6).

- (6) (i) The quantificational force of a sentence uniquely comes from predicates, but not from determiners.
 - (ii) All the English NPs are variables of their own kinds--singular or plural.

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A Merge Condition-Based Approach to Doubling Constituents Akitoshi Maeda (Osaka University)

<u>1. Overview</u>: In this paper, I argue that the Merge Condition (output condition on external merge) (Wurmbrand Forthcoming) is subject to doubling constituents (Kayne 2002). In consequence, I demonstrate that (i) application of Movement Theory of Antecedent: MTA (Kayne 2002) is restricted by the Merge Condition and (ii) in order to account for coreferential relations between antecedents and pronouns without indices, the MTA and A-Binding (the mechanism is based on semantic representations) (Reinhart 2006 and Reuland Forthcoming) are necessary.

2. Observation and Problem: Quantifier scope is basically clause-bounded as in (1a) and (2a). If the Bound Pronoun: BP *he* bound by *each boy* is added as shown in (1b), a distributive reading arises. On the other hand, the BP *she* bound by *someone* cannot yield the distributive reading as shown in (2b) (Wayles Browne judges that (2c) is ambiguous, however (2b) is unambiguous) (Wayles Browne p.c. contra Ausin Forthcoming). The same story can also be applied to \forall s *every, all, most* and \exists s *a, two, many, several, a few.* Following the MTA, the antecedent and pronoun form the doubling constituent. After they formed the doubling constituent, only the antecedent moves. Kayne assumes that the MTA can deal with coreferential relations without indices. Thus, the MTA can predict that (1b) is ambiguous because the copy left by movements of antecedent meets the clause-boundedness and scope principle based on Quantifier Raising (Miyamoto 2008). However the MTA predicts incorrectly that (2b) is also ambiguous due to the same reason.

<u>3. Assumptions, Proposal and Analysis</u>: I assume the assumptions as follows. (i) \forall s have the value of specific features, however \exists s and BPs do not (Enç 1991 and Higinbotham 1983). (ii) Specific features are active semantic features in the syntactic component (Diesing and Jelinek 1995 and Kim 2004). (iii) I adopt the Merge Condition as defined in (3) and Value (Chomsky 2000, 2001) (Wurmbrand Forthcoming assumes the Reverse Agree (Pesetsky and Torrego 2007). However I adopt not the Reverse Agree but Spec-Head Agreement (Chomsky 1981)). Based on these assumptions, I propose that specific features be subject to the Merge Condition. Following the proposal, \forall s do not violate the Merge Condition because the BP is capable of receiving the value of specific features in (4a), however \exists s violate because the BP is not in (4b). For the reason, \exists s cannot induce the distributive reading.

<u>4. Consequences and Conclusion</u>: This analysis can also be applied to the PRO-based construction like negative sentences in English (I have to omit data for want of space) (Kroch 1974, Hornstein

1995). From these reasons, the MTA is subject to \forall s, however the MTA is not \exists s. In order to account for binding relations between *someone* and BPs as shown in (2b), I adopt the A-Binding based on Reuland's modification instead. Reinhart proposes (5). Based on (5), Reuland assumes that the semantic representation of (2b) is (6). In (6), the operator (the φ -feature of *someone*) can bind *she* (the φ -feature of *she*). In addition, *someone* is the sister argument of the λ -predicate ([φ said that φ loves everyone]). Thus, *someone* is capable of A-binding *she* by utilizing not indices but φ -features. The same story can also be applied to other \exists s *a*, *two*, *many*, *several*, *a few*. In conclusion, (i) the MTA is limited by the Merge Condition and (ii) we need to assume both the MTA and A-Binding.

<u>Data</u>:

- (1) a. Each boy said that John loves more/less than two girls. $[\forall > \exists]$ (unambiguous)
 - b. Each boy₁ said that he₁ loves more/ less than two girls.[$\forall > \exists$]or[$\exists > \forall$] (ambiguous)
- (2) a. Someone said that Mary loves everyone. $[\exists > \forall]$ (unambiguous)
 - b. Someone, said that she, loves everyone. $[\exists > \forall]$ (unambiguous)
 - c. Someone, talked to everyone about her, mother. $[\exists > \forall] or [\forall > \exists]$ (ambiguous)
- (3) Merge Condition

Merge α and β if α can value a feature of β .

(Wurmbrand Forthcoming: 2)



(5) A-Binding

 $\alpha \text{ A-binds } \beta \text{ iff } \alpha \text{ is the sister of a } \lambda \text{-predicate whose operator binds } \beta. \qquad (\text{Reinhart 2006: 171})$ (6) [Someone_{\overline{\overlin}\overline{\overline{\overline{\overline{\overline{\o}

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VP-DELETION, PARALLELISM, AND THE ROLE OF AUX: A PHASE-THEORETIC APPROACH

MASAKO MAEDA AND TAICHI NAKAMURA

Kyushu Institute of Technology and University of Fukui

INTRODUCTION

The aim of this presentation is to formalize the roles of auxiliaries in VP-Deletion (VPD). We propose that the non-epistemic auxiliaries, if focused, constitute a phase head. We then put forth a novel analysis of VPD that makes fuller use of the parallelism condition.

DATA

As Kertz (2008, 2010) observes (contra Merchant (2008, 2013), among others), voice mismatches barely affect acceptability when the auxiliary preceding the deletion site is focused while they do when the subject is focused. The contrast is given in (1), where focused items are in small capital.

- (1) a. * This problem was looked into by JOHN, and (similarly) BOB did, too.
 - The janitor MUST remove the trash whenever it is apparent that it SHOULD be. b.

(Merchant (2008: 169))

PROPOSAL

We put forth the following proposal:

(2) Phases in the VP-domain are constituted by the non-epistemic auxiliary

- (i) that selects transitive v, or
- (ii) that is focused.

Our proposal contextually determines the phasehood of the VP domain and could also dispense with, through selection or agreement, the rather undesirable assumption that passive v, unlike transitive v, does not constitute a phase head (Chomsky (2008)). The contrast in (1) can then be captured as indicating that the phasehood of the VP domain is the most relevant factor to VPD.

ANALYSIS

Building on the proposal in (2), we provide a phase-based analysis of the contrast in (1) with the aid of the parallelism condition. Assume that the parallelism condition on deletion is sensitive to the path of A-Movement, as well as the one of A'-Movement, within a Parallelism Domain (PD) (Hartman (2011)). The example in (1a), then, has the schematic analysis in (3), where |...| stands for a phase and ... a PD. Note also that Aux moves to T.

(3) a. [TP this problem was [AuxP was [$\nu P \nu_{\text{[Passive]}}$ [$\nu P V$ this problem] by John[+Foc]]]] _____

b. $[_{\text{TP}} \operatorname{Bob}_{[+Foc]} \operatorname{did} [_{\operatorname{AuxP}} \operatorname{Bob}_{[+Foc]} \operatorname{did} [_{\nu P} \operatorname{Bob}_{[+Foc]} \nu_{[\operatorname{Active}]} [_{\nu P} V \text{ this problem}]]]]$ The VP domain of the antecedent sentence in (3a) does not form a phase and the subject directly moves from its base position to Spec-TP. On the other hand, the VP domain of the elliptic sentence forms a phase since v is transitive and hence the subject moves via Spec-AuxP in observance with the Phase Impenetrability Condition (PIC). Then, we can exclude the example in (1a) because the parallelism condition is not met within the spelled-out TP chunk. Let us next consider the example in (1b). The schematic structure is given in (4).



Since the auxiliary is focused in (4b), it forms a phase and provides its Spec as a landing site for A-movement. Thus, the parallelism holds here and the example in (1b) is ruled in; the surface subjects move along the same path from Spec-AuxP to Spec-TP within the spelled-out TP chunk.

In sum, voice mismatch phenomena in VPD are attributed to the interaction of the phasehood of the VP domain with the parallelism condition.

CONSEQUENCE

Our analysis could be further supported if we assume with Johnson (2001) that VPD involves VP-Topicalization. He points out that the trace of VP-Topicalization is licensed by the very same range of heads that license the VPD site, as shown in (5).

(5) a. John must wash his car every day, and Peter must too. (*epistemic/deontic)b. Peter said that Max must work for the KGB and work for the KGB, Max must.

(??epistemic/deontic)

(Authier (2012: 2-3))

Given that VPD and VP-Topicalization apply to *v*P, only the deontic auxiliaries in (5) provide their Spec as an escape hatch for *v*P-Topicalization, which then avoids a PIC-like violation. Our analysis also accounts for several other focus effects observed in pseudogapping and sluicing, as well as the restriction on wh-extraction out of the elided part in VPD.

CONCLUSION

We have proposed that all the non-epistemic auxiliaries, if focused, constitute a phase head. We then put forth a phase-based analysis of the voice mismatch phenomena in VPD.

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Voice Alternation in Japanese Sentence Fragments

Kento Nagatsugu (Kyushu University)

A *Sentence fragment* (in short, *fragment*) is a kind of elliptical expression, which is typified by short answers like (1B).

(1) A: What did you eat for lunch?

B: Pizza.

 $\mathbf{\Lambda}$

Despite its non-sentential surface form, (1B) has a sentential interpretation such as "I ate Pizza for lunch." From the standard view point, (1B) should be derived from this full sentence. In this presentation, however, I will make an argument against this view, focusing on voice alternation. I will argue that fragments in Japanese allow voice mismatch, contrary to what the standard analysis (especially Merchant (2013)) would expect.

The standard analysis, which is called *Deletion Analysis*, assumes that fragments are derived from full-fledged sentential structures (Morgan (1973), Merchant (2004)). Merchant (2004) argues that fragments are derived by TP-deletion, with A'-movement of fragments to the left periphery, as is illustrated in (2).

(2) [[Pizza]_i [$_{TP}$ I ate t_i for lunch]

An alternative to Deletion Analysis is *Direct Generation Analysis*, which assumes that fragments are directly generated as such are and have no underlying sentential structures (Culicover and Jackendoff (2005) and Progovac et al. (2006)). According to the latter analysis, (1B) is represented just as [NP Pizza].

In the standard approach, it has been assumed that a deleted part must have a linguistic antecedent which is formally identical to it. Therefore, an important question is whether elliptical constructions allow voice alternation between deleted parts and antecedents. Based on Deletion Analysis, Merchant (2013) argues that voice alternation is disallowed in fragments (and other large scale ellipses) and this is due to violation of the identification requirement for ellipsis.

(3) Q: Who is sending you to Iraq?

A: *By Bush.

(Merchant (2013))

Assuming that VoiceP is projected above vP, Merchant (2013) claims that in TPdeletion voice mismatch violates the identity requirement.

(4)
$$[_{CP} C([_{TP} T [_{VoiceP} Voice([_{vP} ...] TP-deletion VP-deletion])$$

The unacceptability of (3), however, can be accounted for in terms of information structure, based on Kertz's (2013) analysis on voice mismatch in VP-deletion. She attributes unaccepted voice mismatches in VP-deletion to violations of a constraint on contrastive topic relations. According to her, vice mismatch violates the constraint only when a parallel topic-comment relation is required between the deleted part and the antecedent. Since in (3) topic-comment structures of the

question and the fragment answer are not parallel, the unacceptability of (3B) falls within Kertz's analysis. Since a Q&A pair like (3) necessarily requires a contrastive relation between the Wh-element in the question and the fragment, voice mismatch cannot be accepted in such a case. Therefore, to argue whether voice alternation is allowed in fragments, we should examine other kinds of fragments.

According to Merchant (2013), however, it is difficult to investigate whether voice alternation, in particular passive-to-active alternation, is possible in English. Though it appears that a passive-to-active alternation occurs in (5), we cannot exclude the possibility that the fragment answer (5A) is derived from an underlying structure like (6), given the poor case morphology and the availability of preposition stranding in English.

- (5) Q: Who were you sent by? A: Marcus. (Merchant (2013))
- (6) [Marcus_i [I was sent by t_i]]

In this presentation, therefore, I will examine whether voice alternation in fragments is allowed in Japanese. If Direct Generation Analysis is the right approach, it should be.

To avoid violating Kertz's (2013) constraint, I will use an example with *sprouting*, in which the correspondent to the fragment is implied. I will show that passive-to-active alternation can be accepted in such a case, as exhibited in (7) and (8): (7B) means 'Is the CIA watching me?' and (8B) means 'I often escape?'

(7) A:	Omae,	kansi-sare-tei-ru-zo.	B:	CIA-ga?
	you	surveillance-PAST-ASP-PRST-PART		CIA-NOM
	'You are	e being watched.'		'CIA?'

(8) (A talks to B about what he heard about B from B's friend, Taro.)

A: Taro i-tte-ta-yo, yoku nige-rare-ru-tte. B: Boku-ga? *Taro say-ASP-PAST-PART, often escape-PASS-PRST-C I-NOM* 'Taro said you often escape.' 'Me?'

This fact suggests that fragments are not subject to the strict identity requirement and supports a Direct Generation Analysis.

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The Relationship between Subjective Ellipsis and Grammatical Patterns Kayoko Shibata Kyoto Prefectural University

1. Introduction

The aim of this paper is to investigate the relationship between the subject ellipsis and grammatical patterns, focusing on the verb *feels*. The case studies suggest that the subject ellipsis often occurs in the grammatical patterns of *feels* that are highly subjective (e.g. *it feels* + adjective or *it feels like...*) where the experiencer and the conceptualizer are assimilated with each other (Langacker 1990).

Regarding the subject ellipsis, Carter & McCarthy (1995) mention that the immediate context, situational context and genres such as casual discourse contribute to the subject ellipsis as main factors for its occurrence. However, this pragmatically-oriented view fails to explain why the subject ellipsis occurs more frequently with particular grammatical patterns. Therefore, this paper pursues the relation between the subject ellipsis and the grammatical patterns by investigating a historical change of frequently occurring patterns with *feels* and subsequently analyzes the relation between the subject ellipsis.

2. Methodology

The data is collected from *Corpus of Historical American English*. In Table 1, the left side of the figures shows the frequency of the patterns, and the bracketed figures and those for the graphs in Tables 2 and 3 are converted and shown per million for a common denominator. In this research the data from 1820s to 1850s and the latest one in 2000s is collected.

3. Data and discussion

The results in Tables 1 and 2 "A change of frequently occurring patterns with *feels*" are as follows: (1) the expressions using *feels* have been diversified during 1850s and 2000s. (2) 2. animated subject + *feels* + noun has a high frequency in each era but is slightly decreasing with a passage of time or it seems to be leveling off. In contrast, except the pattern 2, the frequency in all the patterns, especially 1. *it feels* + adjective has been increasing since 1850s. (3) in 2000s the patterns starting with the subject *it* in short phrases are more frequently used, for example, *it feels* + adjective compared with those with longer ones such as *it feels as if*...

Table 3 "A change of frequently occurring patterns with *feels* and the subject ellipsis" illustrates that the ellipsis remarkably occurs in 1. *it feels* + adjective and 6. *it feels like* in 2000s. Presumably it is affected by the higher occurrence of those patterns as shown in Tables 1 and 2. However, regarding 4. animated subject + *feels* + adjective in Table 3, there is no ellipsis in 2000s, even if it has a higher frequency (9.80) in Tables 1 and 2. This fact suggests that the subject ellipsis occurs with the specific patterns (e.g. 6. *it feels like*) but not with 4. animated subject + *feels* + adjective. Therefore, these findings suggest that there is a relationship between the subject ellipsis and grammatical patterns. Judging from the co-occurrence of the subject ellipsis with 1. *it feels* + adjective or 6. *it feels like*, this paper argues that the subject ellipsis often occurs in the *feels* patterns which are highly subjective.

4. Conclusion

The finding that the subject ellipsis concerning *feels* occurs in the specific patterns which are highly subjective, suggests that presumably there is a certain relationship between the subject ellipsis and subjectification.

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	e	1 5	01	U	
Pattern Era	1820s	1830s	1840s	1850s	2000s
1. <i>It feels</i> + adj.	6(0.86)	10(0.72)	11(1.56)	6(0.36)	222(13.19)
2. $A + feels + noun$	181(26.06)	340(24.48)	209(29.67)	398(23.88)	338(20.08)
3. A + <i>feels</i> + adj. phrase	19(2.73)	27(1.94)	14(1.98)	36(2.16)	33(1.96)
4. $A + feels + adj$.	12(1.72)	42(3.02)	31(4.40)	69(4.14)	165((9.80)
5.It feels adj. to	0	0	1(0.14)	1(0.06)	20(1.18)
6.It feels like	1(0.14)	1(0.07)	2(0.26)	2(0.12)	132(7.84)
7.It feels as if	2(0.28)	1(0.07)	0	2(0.12)	16(0.95)
8.A + feels like	2(0.28)	1(0.07)	4(0.56)	9(0.54)	48(2.85)
9.A + <i>feels as if</i>	3(0.42)	7(0.50)	3(0.42)	5(0.3)	16(0.95)
10. Others (<i>feels</i> + adv. phrase)	0	3(0.21)	3(0.42)	4(0.24)	10 (0.59)
Total	226 (32.53)	432 (31.10)	278 (39.4)	532 (31.92)	1,000
					(59.39)

Table 1 A change of frequently occurring patterns with feels

(adj. = adjective, A = Animated subject, adv. = adverb)



Table 3 A change of frequently occurring patterns with



Dark blue (1.*It feels* adj.), red (2.A *feels* noun), green (3.A *feels* adj. phrase), purple (4.A *feels* adj.), blue (5.*It feels* adj. *to*), orange (6.*It feels like*), light blue (7.*It feels as if*), light purple (8.A *feels like*), light green (9.A *feels as if*), gray (10.Others)

Problems of Feature Inheritance

Sho Shimokariya Kyushu University

Haegeman and van Koppen (2012) present an interesting phenomenon illustrated in (1), which has not previously been discussed in the literature. The example from West Flemish shows that if there is an intervening adverbial in the subject phrase, the agreement on the complementizer varies from that of the finite verb; here the former displays the plural agreement with *André and Valère*, and the latter, singular agreement with *their computer*.

(1) ... omda-n/*omdat André en Valère *toen juste* underen computer kapot was.
 because-PL/because André and Valère then just their computer broken was (Haegeman and van Koppen (2012: 449))

In order to grasp the significance of (1), which I believe causes a stir with the phase theory, let us turn to look at the two possible syntactic derivations within the recent Minimalism. The first is the one with Feature Inheritance suggested by Chomsky (2007, 2008), where there is no inherent feature of functional heads other than phase heads: later in the derivation the phase heads pass on their features anti-cyclically to the designated partners. The other is proposed by Chomsky (2000, 2001), where all syntactic objects have their own features from the beginning and derivations proceed in a strict bottom-up fashion. The question then arises as to which analysis is valid from both theoretical and empirical viewpoints.

With regard to the rationale for Feature Inheritance, Richards (2007) has made an important statement: the mechanism naturally follows from the language design. That is, the reason Value and Transfer must be simultaneous is attributed to the nature of uninterpretable features, and the reason Phase-edges and their domains must be transferred separately is that otherwise the successive computation would not fare. Consequently, the only way to cope with these both is for the syntax to employ the mechanism of Feature Inheritance.

This is, however, not true of the facts well observed in West Germanic languages, one of which we have already seen in (1), namely the complementizer agreement phenomenon. If the claim by Richards (2007) is on the right track, C^0 cannot be allowed to retain an uninterpretable φ -feature so as not to crash the derivation, but it does display the φ -feature agreement with the subject.

It may be worth mentioning here that what is called an edge-feature adopted in the Feature Inheritance system also seems to be quite controversial. According to Chomsky (2008), the role of an edge-feature is to attract a *wh*-element to the edge of C^0 , and it does not involve feature matching and agreement. This leads us to suppose that there would be no case where the agreement between C^0 and the *wh*-element can be seen, which turns out to be false in (2).

(2) Cén t-úrscéal $\mathbf{a}^{\mathbf{L}}$ mheas mé $\mathbf{a}^{\mathbf{L}}$ dúirt sé $\mathbf{a}^{\mathbf{L}}$ thuig sé? Which novel C thought I C said he C understand he 'Which novel did I think he said he understood?'

(McCloskey (1979: 148))

In Irish, it is known that the finite C^0 surfaces as 'go' or 'gur' depending on the tense of the sentence, whereas the C^0 in *wh*-questions occurs as 'a^L' as the above example demonstrates. In addition, a similar phenomenon to this is as well observed in other languages such as Haitian Creole (*cf.* Takahashi and Gračanin-Yuksek (2008)). Therefore it can safely be said that at least the definition of the edge-feature should be wrong, or rather we have to put an uninterpretable φ -feature/*wh*-feature on C⁰ that is in charge of agreement morphologies; hence the rationale for Feature Inheritance would not be feasible any more.

Added to the above empirical problems, the Feature Inheritance system again seems to be theoretically undesirable in that it involves the anti-cyclic operation only within phases. It is now entirely fair to accept the syntactic derivation proposed by Chomsky (2000, 2001), which enables complementizers to accommodate their own uninterpretable features to exhibit agreement morphologies. This research will go further to reinforce the discussion here showing that the gerundive construction in English is given a natural explanation if we adopt the ideas by Pesetsky and Torrego (2001).

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Stress and restrictiveness in phrase and compound

Hisao Tokizaki

Sapporo University

In this paper, I argue that the main stress location in phrases and compounds is determined by the restrictiveness of modifier or complement: restrictive modifier/ complement receives the main stress while non-restrictive modifier/complement does not.

Chomsky and Halle's (1968) Nuclear Stress Rule (NSR) and Compound Stress Rule (CSR) correctly describe the main stress location in phrases and compounds such as (1a) and (1b), where the stressed constituent is underscored.

(1) a. $[NP black \underline{bird}]$

b. [<u>N black</u>bird]

However, these rules are no more than a description of the stress phenomena: they do not give us any principled explanation of why phrases and compounds have different stress locations.

Another idea about stress placement is that main stress falls on the non-head rather than on the head in a constituent (Nespor and Vogel 1986, Duanmu 1990), as shown in (2).

(2) a. [N towel rack]

b. [PP in Boston]

c. $[_{VP} eat \underline{cake}]$

Cinque (1993) formalizes this idea and claims that stress is assigned to the most deeply embedded element in a structure, which is in complement. This idea of non-head stress generalizes phrasal stress and compound stress. However, stress falls on the head noun rather than on the non-head in a noun phrase.

(3) $[_{NP} big \underline{cat}]$

In order to solve this problem, Cinque assumes that noun phrases are in fact FP, having a functional element F as their head, as in (4).

(4) $[_{FP} big [_{F'} F [_{NP} cat]]]$

In the structure (4), the modifier *big* is not the complement of the noun *cat*, which is the most deeply embedded constituent in FP. However, the nature of F in phrases is not discussed in Cinque (1993).

I try to solve the problems of NSR/CSR and non-head stress in terms of the restrictiveness of modifier and complement. Restrictiveness is involved in two types of prenominal adjectives, restrictive and non-restrictive, which have different structures and stress patterns (cf. Chomsky 1965, Givón 1993).

(5) a. the industrious <u>Chinese</u> dominate the economy of Southeast Asia.

b. the <u>industrious</u> Chinese dominate the economy of Southeast Asia. These sentences can be paraphrased as (6a) and (6b), respectively.

(6) a. the $[_{NomP} [_{NP} Chinese], [_{CP} who are industrious]], dominate$

b. the [NP Chinese [CP who are industrious]]] dominate

I argue that the whole structure of *the industrious Chinese* in (5a) is a nominal phrase (NomP) while that in (5b) is a noun phrase (NP). Then, the structures of non-restrictive (5a) and restrictive (5b) are (7a) and (7b).

(7) a. the [NOMP industrious [NP <u>Chinese]</u>] dominate

b. the [NP industrious Chinese] dominate

The modifier *industrious* is in the same NP in (7b) but not in (7a). (7a) and (7b) correspond to a noun phrase (4) and a compound (2a). In other words, a modifier in a compound is restrictive by nature. For example, the modifier *towel* restricts the set of *rack* into a specific type of *rack* in (2a).

This idea of restrictive stress straightforwardly explains why complement rather than head receives the main stress in phrases other than NP. In a PP (2b) and a VP (2c), the complements *Boston* and *cake* restrict the meaning of the head preposition *in* and the head verb *eat*.

Thus, we can solve the problems of NSR/CSR and the non-head stress rule and give a generalized idea of stress placement in all types of phrases and compounds. I will also point out that this idea of restrictive stress can explain problematic cases of stress location in some compounds (cf. Giegerich 2004). I hope that this study sheds light on the study of the interface between syntax, phonology and semantics.

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Effects of perception on loanword adaptation from English to Japanese: The case of schwa vowels Kanako Tomaru Sophia University

OVERVIEW: It is common for words from one language (the source language) to be imported into another (the adapting language). For example, Japanese has borrowed numerous English words. In this study, the borrowed words are called *loanwords*, English word source word, and the process of borrowing loanword adaptation. In loanword adaptation, the sound structure of a source word is often amended to conform to the phonological requirements of the adapting language. For instance, Japanese employs epenthetic vowels to avoid consonant clusters (e.g., "strike" \rightarrow " $\lambda \neq \frac{1}{2}$ /" /sutoraiku/). In addition, the quality of consonants and vowels in a source word are changed to fit the Japanese phonemic system (e.g., "label," \rightarrow " $\bar{7}^{N}$ /<u>raber</u>ut/, "<u>thanks</u>" \rightarrow " $\bar{7}^{N}$ / $\bar{7}^{N}$ /sankusu/). Furthermore, schwa vowels, phonologically nonexistent in Japanese, are realized as different Japanese vowels (e.g., "Christmas" -> "カリスマス" /kuurisuumasuu/, "minimum" → "ミニマム" /minimamu/, "sensation" → "センセーション" /sense:con/, "atom" \rightarrow " $\mathcal{I} \mid \mathcal{L}$ " /atomu/). Many studies (e.g., Kaneko & Iverson, 2009) suggest that these phonological changes of consonants and vowels cannot be explained by a single factor, but are influenced by multiple factors including perception and orthography. However, less research has been done to clarify how Japanese vowels are assigned to schwa vowels in the process of loanword adaptation. The present research particularly investigated the effects of perception on schwa adaptation in Japanese loanwords from English. Through a perceptual experiment, the present study found that the adaptation of schwa vowels in Japanese is not solely based on perception.

<u>HYPOTHESIS</u>: Schwa vowels are centralized reduced vowels that occur in unstressed positions in English (Ladefoged & Johnson, 2011). In loanwords, schwa vowels are not categorized into a single Japanese vowel, but are realized as several different vowels, as shown above. Thus, the current study hypothesized that if adaptation of schwa vowels is based on perception, native Japanese speakers perceptually substitute different Japanese vowels for schwa vowels.

EXPERIMENT: A native speaker of English was recruited for a recording. The recorded source words were nonsense words that contained schwa vowels in initial, medial, or final positions (e.g., [ə'baiv], ['tæbə]bait], and ['kibə]). The syllable structures of the nonsense

source words conformed to English phonotactics. 20 native Japanese speakers were recruited, and asked to write down the nonsense words they heard in Japanese *katakana* as if they were introducing new loanwords to Japanese. An experimenter observed which of the five Japanese vowels was assigned to a schwa vowel by the Japanese listeners.

<u>RESULTS</u>: If the hypothesis was correct, the schwa vowels should have been perceived as different Japanese vowels. However, the results proved otherwise: 96% of the schwa vowels were perceived as a single Japanese vowel, /a/.

<u>**CONCLUSION</u>**: This study showed that schwa vowels are not perceived by native Japanese speakers as different Japanese vowels, but as a single vowel, i.e., /a/. This suggests that perception is not fully responsible for the varied realization of schwa vowels in Japanese loanwords from English.</u>

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