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A feature-checking analysis of Japanese scrambling[1]

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This paper explains several unique aspects of scrambling. Using the scrambling feature (Σ-feature) proposed by Grewendorf & Sabel (1999), I discuss (a) what derives the difference between A-scrambling and DP-movement, (b) why scrambling shows radical reconstruction properties, while an operator–variable relation is established in *wh*-questions, and (c) why we find several types of scrambling. I propose a Feature Interpretation Principle, which states that a feature checking relationship established in derivation is preserved at LF. I show that the Feature Interpretation Principle, together with the multiple feature-checking parameter of Ura (1996) and the nature of heads, explains most of the unique properties of scrambling.

1. Introduction

Scrambling has properties unique among movement operations. Japanese, Korean and Hindi scrambling can be clause-internal or long distance, as the Japanese examples in (1a) and (1b) illustrate, respectively.

(1) (a) **Hon-o** John-ga **t** yonda.
book-ACC NOM read-PAST
'John read a book.'
(b) **Hon-o** John-ga [Mary-ga **t** yonda to] omotte-iru.
book-ACC NOM NOM read-PAST COMP think-PRES
'John thinks that Mary read a book.'

Clause-internal scrambling can behave like A-movement (hereafter A-scrambling), but it also differs from regular A-movement; in particular, it does not obey the locality condition for DP-movement. Long distance scrambling exhibits the properties of A′-movement (hereafter A′-scrambling), but it does not establish an operator–variable relationship and behaves differently

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from typical A′-movement, such as *wh*-movement. In this paper, I show where these unique properties of scrambling come from, and why two types of scrambling are observed.

In section 2, I examine the differences between English DP-movement and Japanese A-scrambling. I adopt Grewendorf & Sabel's (1999) idea that scrambling is motivated by a scrambling feature (Σ-feature), which is realized on T- or C-heads. In section 3, I discuss the differences in the LF representations of English *wh*-questions and Japanese A′-scrambling constructions. Proposing a Feature Interpretation Principle, which shows how the LF representation is constructed in English *wh*-questions and DP-movement constructions, I explain why A′-scrambling does not form an operator–variable relationship. Section 4 explains why several types of scrambling are found, and why Japanese clause-internal scrambling shows A-movement properties, while German scrambling and Japanese long distance scrambling must be A′-movement. I also examine why A-scrambling changes scope relations. I suggest that the parameter of multiple feature-checking answers these questions. In section 5, I explore an extension of the Feature Interpretation Principle and re-examine the question why the base-generated position of the moved element has default status in constructing the LF representation.

2. Features for scrambling

2.1 *Preliminaries*

Based on Hindi data, Mahajan (1990) argues that scrambling divides into two types: clause-internal scrambling and long distance scrambling. Mahajan proposes that clause-internal scrambling can be A-movement, while long distance scrambling cannot. Saito (1992) points out that this distinction applies to Japanese as well. The examples in (2) and (3) contain the lexical anaphor *otagai* 'each other', which must be A-bound:[2]

(2) (a) *Otagai-no sensei-ga [Taro to Hanako]-o sikatta.
each other-GEN teacher-NOM and ACC scolded
'Each other's teachers scolded Taro and Hanako.'

(b) ?[**Taro to Hanako**]-**o** otagai-no sensei-ga **t** sikatta.
and ACC each other-GEN teacher-NOM scolded

(3) (a) *Otagai-no sensei-ga [John-ga [Taro to Hanako]-o
each other-GEN teacher-NOM NOM and ACC
sikatta to] omotteiru.
scolded COMP think
'Each other's teachers think that John scolded Taro and Hanako.'

[2] I use boldface to represent a moved item and its trace, and underline to indicate coreference of two elements.

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(b) *[**Taro to Hanako**]-**o** otagai-no sensei-ga [John-ga
and ACC each other-GEN teacher-NOM NOM
t sikatta to] omotteiru.
scolded COMP think

In (2b) the conjunction *Taro to Hanako-o* 'Taro and Hanako' has scrambled clause-internally, and in (3b) it has scrambled out of a finite clause. (2b) shows that an element scrambled clause-internally can be the antecedent of a lexical anaphor. By contrast, (3b) shows that an element scrambled long distance cannot serve as the antecedent of a lexical anaphor. Following Mahajan, Saito concludes that clause-internal scrambling can be A-movement, but long distance scrambling must be A′-movement.

Nemoto (1993) shows that scrambling from a control infinitive acts exactly like clause-internal scrambling. Scrambled elements can A-bind anaphors in the matrix clause.

(4) (a) *[Joe-ga [otagai-no yuujin]-ni [PRO [Michael to Janet]-o
NOM each other-GEN friends-DAT and ACC
hihansuru yooni] tanonda] (koto).
criticize asked fact
'Joe asked each other's friends to criticize Michael and Janet.'
(b) ?[**Michael to Janet**]-**o** [Joe-ga [otagai-no yuujin]-ni
and ACC NOM each other-GEN friends-DAT
[PRO **t** hihansuru yooni] tanonda] (koto).
criticize asked fact (Nemoto 1993)

In (4b), *Michael to Janet-o* is scrambled out of the control infinitive, and serves as the antecedent for the lexical anaphor *otagai* 'each other'. Thus, clause-internal scrambling and scrambling out of a control infinitive pattern together as A-movement.

2.2 *English DP-movement and Japanese A-scrambling*

On the view sketched above, English DP-movement and Japanese A-scrambling both constitute A-movement. Nevertheless, A-scrambling has at least one property distinguishing it from DP-movement. The contrast between (5a) and (5b) shows that DP-movement affects only the DP closest to T(ense). The derivations for (5a) and (5b) both involve the structure in (6) (the italicized phrases can potentially satisfy the EPP-feature on T).

(5) (a) **There** seems **t** to be *a man* in the room.
(b) ***A man** seems *there* to be **t** in the room.

(6) T seem [*there* to be *a man* in the room]

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T carries an EPP-feature that attracts the closest DP to TP spec. In (6), both *there* and *a man* are DPs and candidates for movement, but *there* is closer to T than *a man*. Thus, the EPP-feature of T attracts *there*, as in (5a), and not *a man*, as in (5b).

Consider now A-scrambling. In (4b), repeated below as (7), the conjunction *Michael to Janet-o* is A-scrambled. At some point in the derivation, (8) occurs.[3]

(7) ?[**Michael to Janet**]-**o** [Joe-ga [otagai-no yuujin]-ni [PRO **t**
and ACC NOM each other-GEN friends-DAT
hihansuru yooni] tanonda] (koto).
criticize asked fact
'Joe asked each other's friends to criticize Michael and Janet.'

(8) [Joe-ga [otagai-no yuujin]-ni [PRO [Michael to Janet]-o
NOM each other-GEN friends-DAT and ACC
hihansuru yooni] tanom] $T_{[Past]}$.
criticize ask

The DPs *Joe-ga*, *otagai-no yuujin-ni* and PRO are hierarchically closer to T than the DP *Michael to Janet-o*. If scrambling were feature-driven and the matrix T were forced to attract the closest DP, as in English DP-movement, then we might expect (7) to be as deviant as (5b). In fact, however, (7) is acceptable.

Miyagawa (1995, 1997, 2000) proposes that this apparent contrast between English DP-movement and Japanese A-scrambling results from an independent parametric difference in verb-raising. Assume that Japanese T bears an EPP-feature, which attracts the closest DP and is responsible for A-scrambling. Assume further that Japanese V raises to T.

(9) (a) [$_{TP}$**Taro-ga** [$_{vP}$ **t** sono hon-o **t**] **yon** -da]
-NOM that book-ACC read -PAST
'Taro read that book.'

(b) [$_{TP}$**Sono hon-o** [$_{vP}$ Taro-ga **t** **t**] **yon**-da]
that book-ACC -NOM read-PAST

The T-head of the examples in (9) carries an EPP-feature to begin with, and must attract the closest DP. However, since Japanese has V-raising, which makes the object and the subject equidistant from T, either the subject or the object can be attracted (see Chomsky (1995: 185–186) for discussion and

[3] The matrix T-head appears on the right of its complement, the matrix *v*P, since Japanese is a head-final language.

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definition of 'equidistance'). When the subject is attracted, we get (9a). When the object is attracted, we get (9b). Here, the contrast between English DP-movement and Japanese A-scrambling is accounted for by a parametric difference in verb-raising.

This analysis is attractive because it does not stipulate anything specific to scrambling. It also has serious problems, however. Notice that under the verb-raising analysis, object scrambling should be excluded whenever verb-raising is blocked. As Nemoto (1993) notes, this prediction appears to be falsified by examples like (10).[4]

(10) [**Taro to Hanako**]-o Tom-ga otagai-no sensei -ni [PRO **t**
and ACC NOM each other-GEN teacher-DAT
hihansuru yooni] oogoede itta.
criticize loudly told
'Tom told each other's teacher to criticize Taro and Hanako loudly.'

Here, the adverb *oogoe-de* 'loudly' intervenes between the embedded and matrix verbs, showing that the former has not raised to the latter or the matrix T. Under Miyagawa's analysis, we predict that A-scrambling will be disallowed in (10) and that the lexical anaphor *otagai* 'each other' will fail to find an appropriate antecedent. However, this prediction is false; the scrambled element *Taro to Hanako-o* successfully A-binds the anaphor. Evidently, then, verb-raising is not necessary for A-scrambling, contra Miyagawa.[5]

Grewendorf & Sabel (1999) propose an alternative account of the contrast between English DP-movement and Japanese A-scrambling. They argue that scrambling is motivated by a specific scrambling feature (a Σ-feature). Suppose that the Σ-feature of a head attracts the closest phrase which also has a Σ-feature. The structure in (12) represents an intermediate point in the derivation for (11).

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[4] Nemoto (1993) originally presents the following example to show that A-scrambling is possible without verb-raising:

(i) Michael-wa [**dare-no sensei**]-o soitu-ni [PRO **t** hihansuru yoo]
TOP who-GEN teacher-ACC he-DAT criticize to
oogoe-de itta no?
loudly told Q
'Whose teacher did Michael tell him to criticize loudly?'

In (i), the embedded verb has not moved to the matrix T, since the two verbs are not adjacent. If movement of *dare-no sensei-o* is A′-scrambling, we wrongly predict that (i) yields a strong crossover violation. Thus, Nemoto argues that movement of the embedded object is A-scrambling, even though verb-raising is blocked.

[5] Miyagawa (2000) examines scope interaction between the subject and sentential negation, and reports that every native speaker he has consulted agrees with his judgements. However, native Japanese speakers that I have consulted disagree with Miyagawa's judgments and my own intuitions diverge from his as well. Thus, I leave scope interaction between the subject and sentential negation for further research.

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(11) **Sono hon-o** Taro-ga Tom-ni [PRO **t** yomu yooni] tanon-da.
that book-ACC NOM DAT read ask-PAST
'Taro asked Tom to read that book.'

(12) [$_{vP}$ Taro-ga Tom-ni [PRO sono hon-o yomu yooni]
NOM DAT that book-ACC read
tanom] $T_{[Past]}$.
ask

The matrix T in (12) carries an EPP-feature and the Σ-feature, and *sono hon-o* 'that book' also bears a Σ-feature. The EPP-feature of T attracts the hierarchically closest DP *Taro-ga*. The Σ-feature of T attracts the closest phrase which has a Σ-feature, namely *sono hon-o*. Thus, both *Taro-ga* and *sono hon-o* move to the TP spec, and we get (11), legitimately.[6]

This analysis makes it possible to explain the difference between English DP-movement and Japanese A-scrambling under the assumption that scrambling is feature-driven. I adopt the idea that A-scrambling is triggered by a Σ-feature, while DP-movement is triggered by an EPP-feature.[7]

2.3 *Long distance scrambling and scrambling from a control clause*

Given Grewendorf & Sabel's Σ-feature, the difference between English DP-movement and Japanese A-scrambling can be accounted for. Let us now

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[6] Since both the EPP-feature and the Σ-feature attract elements to establish spec–head configurations, two elements move to the TP spec in (11). Though it has been questioned whether multiple specifiers are permitted, the Bare Phrase Structure theory (Chomsky 1994) allows it. Thus, I assume that the landing site for A-scrambling is TP spec.

[7] In this paper, I extend Grewendorf & Sabel's (1999) proposal that scrambling is Σ-feature-driven. Recently, several approaches have been proposed for scrambling under feature-checking in addition to Miyagawa's (1995, 1997, 2000) EPP-feature-driven scrambling approach. Nemoto (1993) proposes that Case features trigger scrambling, assuming Agr-based structures. Bošković & Takahashi (1998) propose a theta-feature-driven approach to reconstruction. Under their analysis, scrambled phrases are base-generated in their surface positions and lowered to their argument positions to check theta-features. Their analysis does not explain the ungrammaticality of the following sentence, as Bailyn (2001: section 2.2) points out:

(i) *[[**Mary-ga t katta to**] John-ga [**sono hon-o** [Bill-ga **t** itta] to] omotteiru].
NOM bought COMP NOM that book-ACC NOM said COMP thinks

'John thinks that Bill said [Mary bought [that book]].'

In the raising analysis, (i) is ruled out because it violates the proper binding condition (Saito 1992). The lowering analysis of Bošković & Takahashi, however, does not predict the ungrammaticality of (i). Regarding Nemoto's (1993) and Miyagawa's (1995, 1997, 2000) analyses, we have to assume that A-scrambling and A′-scrambling are totally different operations. Grewendorf & Sabel's analysis, on the other hand, captures these two operations uniformly while also explaining the A-/A′-distinction of scrambling. Grewendorf & Sabel would exclude (i) by the proper binding condition.

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consider the case of long distance scrambling and scrambling out of a control clause.

Suppose that a Σ-feature can be realized not only on T-heads but also on C-heads in Japanese.[8] The Σ-feature of T drives A-scrambling, as shown above. The Σ-feature of C can, similarly, be taken to drive A′-scrambling, given the widely held view that CP spec is an A′-position.

As discussed in section 2.1, long distance scrambling out of a finite clause cannot be A-movement. Chomsky (2000: section 3.3) argues that CP is a phase and that only elements at the edge of phases are visible from outside of the phase. Hence, in the long distance *wh*-movement in (13), the *wh*-phrase must first move to the embedded CP spec, which is a phase edge. It then moves to the matrix CP spec, attracted by a [+wh] feature in the matrix C-head.

(13) [$_{CP}$ **what** [do you think [$_{CP}$ **t** [John bought **t**]]]]

Chomsky (2000) suggests that the head of a phase may be assigned a P-feature freely when the lexical subarray of the phase is exhausted, and this P-feature derives the cyclicity of movement. I suggest that the first movement of the *wh*-phrase to the embedded CP spec in (13) is motivated by this P-feature.

In this way, every movement which crosses a CP boundary must proceed through the embedded CP spec, a typical A′-position. If the final landing site of this type of movement is an A-position, an illegitimate A-A′-A chain is created.[9] Therefore, long distance A-scrambling out of a finite clause is not allowed.

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[8] Since scrambling to post-subject position is allowed, *v* may also bear a Σ-feature.

(i) Taro-ga [$_{vP}$ [**Mary to Tom**]-**o** otagai-no sensei-ni **t** shoukaisi]-ta.
NOM and ACC each other-GEN teacher-DAT introduce-PAST
'Taro introduced Mary and Tom to each other's teacher.'

Since a Σ-feature can appear on T-head, C-head and *v*-head, it seems that every functional head can carry this feature, although whether D-head can have it is unclear. It should be noted here that (i) shows that *v*P-internal movement is A-movement, as discussed in Tada (1990). Under the analysis of the multiple feature-checking parameter discussed in section 4 below, we wrongly predict that the multiple accusative construction, as well as A-scrambling to *v*P, should be allowed, as an anonymous *JL* referee has pointed out. I leave this question for further research, but I note that in Korean, which is also a multiple subject language, multiple objects are licit. Hence, I assume that the prohibition on multiple accusatives in Japanese follows from independent facts.

[9] There is no generally accepted account of improper movement in the Minimalist Program. One possible analysis can be given using 'phase'. Suppose that structures are sent to LF at phase-completion (Chomsky 2000). If a D-feature is checked in different phases, then that D-feature would be retained at LF in both phases, assuming the checked features must be interpreted at the feature-checked position (cf. the Feature Interpretation Principle, discussed in section 3.2 below). This would make the interpretation of the sentence odd, and hence, improper movement would be disallowed.

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Let us now consider why scrambling out of control infinitives can be considered to be A-movement. Following Martin's (1992) proposal that PRO checks a null Case of a [+tense] nonfinite T, Bošković (1997) proposes that control infinitival clauses can be either CPs or TPs (IPs in his analysis). If the control clause is a TP, an element can move out of it without forming an improper A-A′-A chain. Suppose that the example in (11) contains no CP nodes between the base position of the scrambled phrase and its final landing site, i.e. assume a structure like (14).[10]

(14) [$_{TP}$ **Sono hon-o** Taro-ga Tom-ni [$_{TP}$ PRO **t** yomu yooni]
that book-ACC NOM DAT read
tanon-da]
ask-PAST

Since the scrambled element does not pass through an A′-position during the derivation, A-scrambling out of a control infinitive does not form an illicit chain. Hence, scrambling out of a control infinitive can be A-movement, in contrast to scrambling out of a finite clause.[11]

3. LF REPRESENTATION

3.1 *English* wh-*movement and Japanese A′-scrambling*

Consider the English *wh*-question in (15).

(15) **Which book** did John read **t**?

Chomsky (1993) argues that an operator–variable relation is created by copy and deletion. The *wh*-phrase makes its own copy at CP spec, and then deletion takes place, forming a legitimate operator–variable chain. The resulting LF representation is (16a), with the interpretation as in (16b).

(16) (a) [which ~~book~~][John read [~~which~~ book]]
(b) for which x, John read x & x is a book

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[10] Nemoto (1993) proposes the structure in (14) to explain why A-scrambling out of a control clause is allowed.

[11] The status of adjunct-scrambling out of finite clauses is not clear. Saito (1985) and Nemoto (1993) suggest that long distance scrambling of adjuncts is impossible and that the ill-formedness of (i) is not peculiar to Japanese scrambling, and that the same phenomenon is observed in English PP-preposing illustrated in (ii).

(i) ***Riyuu-mo naku** [Mary-ga [John-ga **t** sono setu-o sinziteiru to]
reason-even without NOM NOM that theory-ACC believe COMP
omotteiru] (koto).
think fact
'Mary thinks that John believes in that theory without any reason.'

(ii) ***Without any reason**, Mary thinks [that John believes it **t**].

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The operator portion of the *wh*-phrase (*which*) is not deleted at CP spec but it is deleted in the base position. In fact, everything BUT the operator remains in the base position and is interpreted there as a variable. An operator–variable relation is thus established, and the derivation of (15) converges. Since part of the moved element is interpreted in the base position, this LF operation is called 'reconstruction'.

Assuming this analysis for (15), consider the following example:

(17) **What** did John know [Mary read **t**]?

In (17), *what* must be interpreted in the matrix clause. It cannot be interpreted in the embedded clause. The absence of an embedded reading for *what* indicates that the operator of the *wh*-phrase MUST be interpreted at the final landing site of *wh*-movement.

Compare now Japanese A′-scrambling. Saito (1989) argues that operators can be interpreted at the base position in scrambling constructions.

(18) (a) John-ga [Mary-ga nani-o yonda ka] sitta.
NOM NOM what-ACC read Q know-PAST
'John knew what Mary read.'
(b) **Nani-o** John-ga [Mary-ga **t** yonda ka] sitta.
what-ACC NOM NOM read Q know-PAST

In (18b), the *wh*-phrase *nani-o* 'what' in the embedded clause is in the matrix CP spec as a result of A′-scrambling. If the operator of the scrambled *wh*-phrase remains in the matrix CP spec at LF, the *wh*-phrase must take matrix scope. However, the *wh*-phrase in (18b) takes embedded scope and the sentence has the same interpretation as (18a). (18b) suggests that the operator in the scrambled phrase can be interpreted at the base position. Saito concludes that A′-scrambling can be subject to total reconstruction. This is known as the 'radical reconstruction property' of scrambling.

The operator of a question phrase cannot be reconstructed when it moves by *wh*-movement, but reconstruction of the operator is possible when a question phrase moves by A′-scrambling. I discuss the reconstruction operation in the following section, and then provide an account of this difference.

3.2 *Reconstruction*

Chomsky (1993) assumes that reconstruction takes place only for the purpose of establishing an operator–variable relation. Thus, in CP spec, everything but the operator phrase must delete; and in the base position, only the operator is deleted. Since an operator–variable relationship is not formed in A-chains, nothing deletes in the final A-position. However, this assumption does not account for the radical reconstruction property of

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scrambling. The operator–variable relation is not formed in scrambling constructions, and everything deletes at the final landing site and is interpreted at the base position. Also, the mechanism of reconstruction is unclear. Therefore, in place of Chomsky's assumption, I propose the Feature Interpretation Principle.

(19) *Feature Interpretation Principle*
Checked features remain at the feature-checked position; other features remain at the base position.[12]

This rule applies when the LF representation is constructed. This is a sharpened version of Lee's (1994) analysis. She proposes that the chain which is formed for feature-checking must hold at LF. Her analysis forces a whole phrase to stay at the feature-checked position, but the Feature Interpretation Principle requires only the checked features to remain at the feature-checked position. Let us examine how this rule works.

Chomsky (1995) suggests that features are divided into two types: [+interpretable] features and [−interpretable] features. [+interpretable] features are checked but remain afterwards. They are accessible to the computational system (C_{HL}) throughout the derivation and enter into LF interpretation. [−interpretable] features, on the other hand, are erased as soon as they are checked. If [−interpretable] features remain at LF, the derivation crashes. Chomsky assumes that EPP-features, ϕ-features and Op-features on heads are [−interpretable]. D-features and ϕ-features of DPs, and Op-features on *wh*-phrases are [+interpretable]. He argues that the EPP-feature of T-heads motivates DP-movement, and the Op-feature of C-heads motivates *wh*-movement.

When a head attracts a phrase to its specifier position, the features of the head and the features of the attracted phrase check each other under a spec–head relationship. At that point, checked [−interpretable] features are erased. At the last stage of the derivation, the LF representation is constructed following the Feature Interpretation Principle. The moved phrase

[12] The following examples contain both an A-chain (from the base position to matrix TP spec) and an A′ chain (from matrix TP spec to CP spec).

(i) ***Who** **t** seems to Bill's sister **t** to be the best?

(ii) **Who** **t** seems to his sister **t** to be the best?

The *wh*-phrase in these examples is first merged in the subject position of the embedded clause and creates a copy in the subject position of the matrix clause, forming an A-chain. Then the copy in matrix subject position creates a second copy at CP spec, forming an A′-chain. When deletion takes place at LF, the Op-feature remains at CP spec, and the D-feature of the *wh*-phrase may remain at the matrix TP spec, since they are checked in these positions. Other features are deleted in these positions and interpreted at their base sites. Since the D-feature of the *wh*-phrase remains at the matrix TP spec, (i) violates Condition C, whereas (ii) does not.

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separates into two parts, the [+interpretable] checked features and the residue. The former remain at the feature-checked position whereas the latter is deleted at the landing site. Consequently, the residue remains at the base position and the final LF representation is obtained.

Let us examine the derivations and the LF representations of *wh*-questions and raising constructions using this analysis. First consider the *wh*-question in (15), repeated here as (20). The structure in (21) represents an intermediate point in the derivation of (20).

(20) **Which book** did John read **t**?
(21) $C_{[+WH]}$ John read which book

Since the [+wh] C in (21) carries a [−interpretable] Op-feature, it attracts the *wh*-phrase *which book*, and a copy of that *wh*-phrase is made in CP spec at the next step. The Op-feature of C and the [+interpretable] Op-feature of the *wh*-phrase check each other under the spec–head configuration, and the former is erased. At a later stage, the Feature Interpretation Principle applies. Since the Op-feature of the *wh*-phrase is checked in CP spec, the Op-feature on CP spec remains. Other features on CP spec, which are not checked, are deleted and their copies in the base position remain. Therefore, in the LF representation, the Op-feature of the *wh*-phrase is at CP spec and other features are in the base position. Assuming that the features in the base position are interpreted as a variable, an operator–variable relationship is formed and (20) is interpreted as a *wh*-question.

The LF representation for raising constructions is obtained in the same way. During the derivation of (22), a [+finite] T is introduced, with the structure in (23).

(22) **John** seems **t** to be smart.
(23) $T_{[+finite]}$ seem John to be smart

The [+finite] T bears a [−interpretable] EPP-feature and [−interpretable] ϕ-features. The EPP-feature of this T attracts, and creates a copy of, the closest DP, *John*, at TP spec. Then, the EPP-feature of T and the D-feature in the attracted DP check each other under the spec–head configuration, and as a result, the former is erased. At the same time, the ϕ-features of T are erased under feature-checking between the [−interpretable] ϕ-features of the T-head and the [+interpretable] ϕ-features of DP. At the last stage of the derivation, we get the LF representation, following the Feature Interpretation Principle. Since the D-feature and the ϕ-features of DP are checked at TP spec, they remain in this position, whereas the other features, such as thematic features, are deleted at TP spec. Thus, C_{HL} yields an LF representation in which the D-feature and the ϕ-features are in the matrix TP spec and other features are in the base-generated position.

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Let us now examine the binding facts. Chomsky (1993) argues that binding condition C applies only at LF.[13] Given that the D-feature relates to the referentiality of the DP, binding condition C is defined as a condition on a referential D-feature.[14]

(24) *Binding condition C*
If α is a referential D-feature, interpret it as disjoint from every c-commanding D-feature.

Let us first consider the interpretation of the following *wh*-question:

(25) *[**Which picture of John**] does he like **t** best?

In the derivation, the Op-feature of the *wh*-phrase is checked by the Op-feature of C. Thus at LF, the Op-feature remains in CP spec and other features, including the D-feature of *John*, are interpreted at the base position, following the Feature Interpretation Principle. Thus, the D-feature of *John* is c-commanded by the D-feature of *he* at LF. Because of the violation of Condition C, the intended reading is not allowed.

The ill-formedness of the following sentence is also expected:

(26) ***He** seems to Bill's sister **t** to be the best.

At some point in the derivation, the D-feature and the ϕ-features of the moved DP *he* are checked by the EPP-feature and the ϕ-features of the T-head. At LF, the Feature Interpretation Principle forces these features to remain in the matrix TP spec. In the LF representation of (26), the D-feature of *Bill* is c-commanded by the D-feature of *he*. Condition C is violated, and the intended reading is impossible. The basic binding facts are thus explained.

---

[13] For examples like those in (i)–(iii), which were pointed out to me by an anonymous referee, I assume that any copy of the anaphoric D-feature can satisfy Condition A if it is bound by the checked D-feature of the antecedent.

(i) John wonders [**which picture of himself**] Bill saw **t**?
(ii) [[**Each other's**] **houses**] seem to the women [**t** to be over decorated].
(iii) (a) I wonder [[**which portraits of each other**] the men believed [**t**′ that the women had placed **t** in a scrapbook]].
(b) I wonder [[**which portraits of each other**] the men believed [**t**′ that the women had placed **t** in a scrapbook]].

The definition of Condition A is taken to be as follows:

(iv) If α is an anaphoric D-feature, interpret it as coreferential with a c-commanding checked D-feature in the same local domain.

For the definition of 'local domain', see Lasnik (1989) and Chomsky & Lasnik (1993). Epstein et al. (1998) suggest that Condition A applies derivationally, which is fully compatible with the analysis in the text.

[14] This assumption is based on the fact that D-features are realized only within DPs, and only DPs are relevant for the binding facts. See fn. 23 for the definition of c-command.

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3.3 *Radical reconstruction and the nature of the Σ-feature*

As observed in section 3.1 above, A′-scrambling does not affect LF interpretation, in contrast to *wh*-movement. This property of A′-scrambling is a consequence of the nature of the Σ-feature, as discussed below.

Saito (1989) argues that A′-scrambling does not establish an operator–variable relation.

(27) **Nani-o** John-ga [Mary-ga **t** yonda ka] sitta.
what-ACC NOM NOM read Q know-PAST
'John knew what Mary read.'

In (27), the scrambled *wh*-phrase takes scope within the embedded clause. This reading indicates that the Op-feature of the *wh*-phrase is NOT LF-interpreted at the landing site of scrambling. Saito concludes that Japanese A′-scrambling is subject to radical reconstruction.

The Feature Interpretation Principle explains straightforwardly why the Op-feature of the *wh*-phrase is not interpreted at the matrix CP spec in (27). Since Japanese *wh*-phrases have a [+interpretable] Op-feature, like English *wh*-phrases, *nani-o* in (27) has a Σ-feature and an Op-feature. At some point in the derivation, the matrix C is introduced. This C has a [−interpretable] Σ-feature and attracts a phrase which also has a Σ-feature. *Nani-o* makes a copy at the matrix CP spec, and the Σ-feature of C and the Σ-feature in the scrambled *wh*-phrase check each other. Although the scrambled *wh*-phrase has a [+interpretable] Op-feature, it is not checked, because the matrix C is [−*wh*] and does not have an Op-feature. In accordance with the Feature Interpretation Principle, the Op-feature in the matrix CP spec is deleted at LF, and the copy of the Op-feature in the base position remains. As a result, the *wh*-phrase in (27) takes scope within the embedded clause. Thus, Japanese A′-scrambling does not establish an operator–variable relation.[15]

A question arises with respect to the nature of the Σ-feature in the scrambled phrase: is it [+interpretable] or not? I do not have any clear evidence to address this point adequately. However, it is widely assumed that scrambling is a 'stylistic' operation and does not affect LF interpretation at all. Therefore, I assume that the Σ-feature is [−interpretable].

The Feature Interpretation Principle forces checked [+interpretable] features to remain at the feature-checked position, but [−interpretable] features behave differently, since they are erased as soon as they are checked. If the

[15] In order to account for the radical reconstruction property of scrambling, Lee (1994) assumes that scrambling is not motivated by feature-checking. However, I maintain the feature-checking analysis of scrambling, explaining the radical reconstruction property. A question may arise about how the Op-feature in Japanese is interpreted. In the derivation of (27), the Op-feature of the *wh*-phrase creates three copies; at base position, in embedded CP spec, and in matrix CP spec. At LF, the Op-feature in the embedded CP spec remains, since it is checked at this position, and the copies of the operator feature in the other positions are deleted. Thus, the *wh*-phrase is successfully interpreted.

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Σ-feature of a scrambled phrase is [−interpretable], it is erased when it is checked. Hence, nothing remains in the feature-checked position at LF. Consider the following examples:

(28) (a) Taro-ga [Mary-ga sono hon-o yonda to] omotteiru.
NOM NOM that book-ACC read COMP think
'Taro thinks that Mary read that book.'
(b) **Sono hon-o** Taro-ga [Mary-ga **t** yonda to] omotteiru.
that book-ACC NOM NOM read COMP think

Sono hon-o in (28b) has a Σ-feature initially, but *sono hon-o* in (28a) does not. When the matrix C is introduced into the derivation of (28b), this C has a [−interpretable] Σ-feature. It attracts a phrase with a Σ-feature, namely *sono hon-o*, and the two Σ-features check each other. If the Σ-features on both items are [−interpretable], both are checked off. Though the Feature Interpretation Principle requires checked features to remain at the feature-checked position, there is no checked feature at this point: the Σ-features are checked and erased, and no other features are checked in the matrix CP spec. So every remaining feature in the scrambled phrase is deleted at the matrix CP spec, and the LF representation of (28b) is identical to the LF representation of (28a). Under the assumption that the Σ-feature is [−interpretable], we thus predict that A′-scrambling is semantically vacuous.[16]

4. Other properties of scrambling

One of the unique aspects of scrambling is that it shows different properties depending on the distance of movement and what language is being discussed. Despite the existence of several types of scrambling, I have treated it uniformly as movement which is triggered by a Σ-feature. This section explains why we find several types of scrambling.

---

[16] As pointed out to me by an anonymous referee, one may worry about the successive nature of long distance scrambling given the assumption that the Σ-feature is [−interpretable]. Let us consider the following example:

(i) [$_{CP2}$ **Sono hon-o** [John-ga [$_{CP1}$ Mary-ga **t** katta to] omotte-iru]].
that book-ACC NOM NOM bought COMP think-PRES
'John thinks that Mary bought that book.'

The scrambled DP *sono hon-o* has a Σ-feature. If movement to the embedded CP spec were also triggered by a Σ-feature, then the Σ-feature of the scrambled DP would be checked off at the embedded CP spec, and we would wrongly predict that there would be no further movement.

As discussed in section 2.3, I argue that the P-feature, which appears freely at the Phase edge, triggers movement to the embedded CP spec, following Chomsky (2000). Since this P-feature does not check off any feature, the Σ-feature of the scrambled DP is not checked off at this point. Then, the DP *sono hon-o* in the embedded CP spec moves to the matrix CP spec, triggered by the Σ-feature of the matrix C.

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4.1 *Japanese clause-internal scrambling and German scrambling*

As discussed above, scrambling is triggered by a Σ-feature. Since A′-scrambling is semantically vacuous, one might predict that scrambling to TP spec never affects LF interpretation. However, as noted in section 2.1, Saito (1992) observes a contrast between the examples in (29a) and (29b), cited previously in (2).

(29) (a) *Otagai-no sensei-ga Taro to Hanako-o sikatta.
each other-GEN teacher-NOM and ACC scolded
'Each other's teacher scolded Taro and Hanako.'
(b) ?**Taro to Hanako-o** otagai-no sensei-ga **t** sikatta.
and ACC each other-GEN teacher-NOM scolded

In (29a), the lexical anaphor *otagai* 'each other' is not c-commanded by any coreferential element, and hence Condition A is violated.[17] In (29b), the DP *Taro to Hanako-o* is scrambled clause-internally. If scrambling is semantically vacuous, we might expect this sentence to also violate Condition A. However, (29b) is much better than (29a), and the scrambled element acts as the antecedent of the anaphor. The contrast between (29a) and (29b) indicates that scrambling to TP spec affects LF interpretation. Hence, (29b) might be considered a problem for the present analysis.

Kuroda (1988) argues that Japanese allows multiple agreement, and it permits A-scrambling. Extending Kuroda's argument, Ura (1996: chapter 2) argues that there is a parameter for multiple feature-checking. The features of T in English, for example, cannot enter into multiple feature-checking relations, but features of T in Japanese can. Using this parameter, Ura explains the existence of possessor-raising constructions in Japanese, such as (30).

(30) **Mary-ga** [**t** kami-ga] nagai.
NOM hair-NOM long
'Mary's hair is long.' (Ura 1996)

Although an English clause has at most one nominative DP, a Japanese clause may have multiple nominatives. Since the features of T can enter into multiple feature-checking relationships in Japanese, the nominative Case features of *Mary-ga* and *kami-ga* can be checked by the Case-feature of the T-head and more than one nominative-marked DP can appear in a single clause.

[17] For the definition of Condition A, see fn. 13 above. As noted, if there are several copies of the ANAPHOR, Condition A can be satisfied by any copy. This does not mean, however, that any copy of a DP can act as the ANTECEDENT, when there are several copies of the antecedent. I suggest that a DP can serve as an antecedent of an anaphor in the position where the DP's D-feature is checked.

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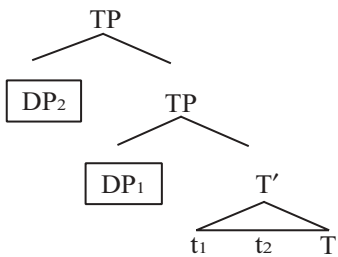
Under this analysis, the well-formedness of (29b) is expected. The following structure represents an intermediate point in the derivation of (29b):

(31) [$_{vP}$ otagai-no sensei-ga [Taro to Hanako]-o sikar] $T_{[Past]}$
each other-GEN teacher-NOM and ACC scold

The EPP-feature of the matrix T attracts the subject DP *otagai-no sensei-ga*, and the Σ-feature of the same T attracts the DP *Taro to Hanako-o*. Since Japanese allows multiple feature-checking, the EPP-feature of T can check the D-feature of the scrambled DP as well as the D-feature of the subject DP. If multiple feature-checking takes place, the D-feature of the scrambled phrase remains in TP spec at LF, and it c-commands the anaphoric D-feature of *otagai* within the subject. Condition A is satisfied, and the intended reading becomes possible in (29b).[18]

Thus, the fact that a scrambled element in TP spec can serve as the antecedent of an anaphor in Japanese follows from the multiple feature-checking parameter. For the multiple feature-checking parameter, the D-feature of the scrambled DP can be checked at the scrambling site. This is demonstrated in (32). In (32), the boxed DPs are in TP spec. The boxes indicate that the D-feature of the DP can be checked by the EPP-feature of the T.

(32) *Japanese scrambling to TP spec: optional reconstruction*



DP_2 is the scrambled phrase. If the D-feature of the scrambled phrase is checked at TP spec, it can remain in TP spec at LF and hence the scrambled element can be the antecedent of an anaphor.

This analysis makes a simple prediction: if multiple feature-checking is not allowed, a scrambled element should not be able to serve as the antecedent of an anaphor. This prediction appears to be confirmed by German. The features of T in German cannot be multiply-checked (cf. Grewendorf & Sabel 1999). German does not allow possessor raising constructions like (30) or any

[18] The EPP-feature of T may attract multiple DPs in Japanese given multiple feature-checking. Thus, some cases of scrambling may be accounted for without assuming a Σ-feature. But we still need a Σ-feature for cases like (7), (10) and (11). In these examples, there are several DPs between the T-head and the base position of the scrambled phrase. If scrambling were driven only by the EPP-feature, then every DP between the T-head and the scrambled phrase would be in TP spec. But an inspection of these examples shows that this is not the case. Thus, we still need a Σ-feature.

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form of multiple nominatives. Consider German examples with scrambling and anaphors equivalent to (29b) above:[19]

(33) (a) *weil [die Lehrer von sich] zweifellos den Studenten
since [the teachers of himself]$_{NOM}$ undoubtedly the student$_{ACC}$
in guter Erinnerung behalten haben
in good memory kept have
'The teachers of himself have undoubtedly kept the student in good memory.'

(b) *weil **den Studenten** [die Lehrer von sich] zweifellos **t**
since the student$_{ACC}$ [the teachers of himself]$_{NOM}$ undoubtedly
in guter Erinnerung behalten haben
in good memory kept have (Grewendorf & Sabel 1999)

(33) shows that scrambling to TP spec in German does not affect the LF interpretation. In (33a), the lexical anaphor (*von*) *sich* 'himself' is not c-commanded by any D-features of the coreferential element, so this sentence does not satisfy Condition A. In (33b), the DP *den Studenten* 'the student' is scrambled to the TP spec, but the sentence still cannot satisfy Condition A. Evidently, the scrambled DP cannot serve as the antecedent of an anaphor in German.

The absence of multiple feature-checking in German explains the facts. The EPP-feature of T checks the D-feature of the subject *die Lehrer von sich*. The D-feature of the scrambled phrase *den Studenten*, however, fails to be checked at the TP spec and only the Σ-features are checked. Hence, under the Feature Interpretation Principle, the D-feature of *den Studenten* is deleted at the scrambling site and the D-feature of (*von*) *sich* in (33b) is not bound at LF. Condition A is not satisfied and (33b) is ungrammatical.[20]

Since German does not allow multiple feature-checking, the D-feature of the scrambled phrase in TP spec cannot be checked. This is demonstrated in

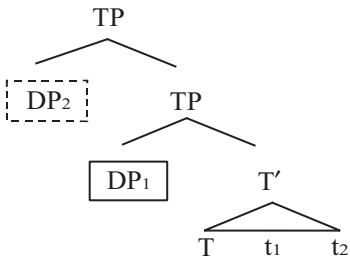
[19] Following Kuroda (1988), Grewendorf & Sabel (1999) argue that German is a forced-agreement language, and Japanese is a non-forced-agreement language. Under their analysis, Japanese A-scrambling is movement to AgrP spec, and German scrambling and Japanese A′-scrambling represent adjunction to the AgrP. Grewendorf & Sabel derive the difference between A- and A′-scrambling from the difference between substitution and adjunction. Thus, in their analysis, feature-checking takes place between the head and the adjoined position, as well as between the head and its spec. By contrast, in the analysis presented here, I assume that scrambling is uniformly a substitution operation and that features are checked only under the spec–head configuration.

[20] An anonymous referee asks why long distance scrambling is not allowed in German. I have no insightful answer to this question; however, the facts can be expressed in the proposed analysis by stipulating that in German, the C-head cannot bear the Σ-feature or, perhaps more generally, that C-heads that can trigger obligatory *wh*-movement cannot bear the Σ-feature.

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(34). The dashed box marks the DP whose Σ-feature, but not D-feature, is checked.

(34) *German scrambling to TP spec: obligatory reconstruction*



Compare (32) and (34). In contrast to Japanese, the D-feature of the scrambled phrase DP_2 cannot be checked at the scrambling site in German because multiple feature-checking is not allowed. Thus, the D-feature of the scrambled phrase must be interpreted at the base-generated position.

4.2 *Scrambling to TP spec and scrambling to CP spec*

As is well-known, Japanese clause-internal scrambling changes scope relations, but long distance scrambling does not. This contrast also follows from the present analysis of scrambling.

It has been widely assumed that the scope of quantifiers is determined by the c-command relationship between quantifiers at LF (May 1977, Aoun & Li 1993 and others). If α and β are quantifiers and α c-commands β at LF, α takes scope over β. Let us first consider the following raising construction from Fox (1999):

(35) **One soldier** is expected (by Napoleon) [$_{TP}$ **t**′ to **t** die in every battle].

(35) is ambiguous and the universal quantifier in *every battle* can take scope over *one soldier* or below *one soldier*. This indicates that the A-moved element takes scope within either the embedded TP or the matrix TP. In the derivation, the DP *one soldier* first moves to the embedded TP spec to check the EPP-feature of the embedded T. It then moves to the matrix TP spec, driven by the EPP-feature of the matrix T. Thus, the ambiguity in (35) suggests that A-moved elements can take scope where the D-feature is checked.[21]

[21] If we assume that only the EPP-feature checks D-features, the example in (i) poses a problem under the Quantifier Scope Generalization.

(i) [*Someone* from *every city*] despises it. (May 1985)

The inverse linking reading, in which *every city* can take scope over *someone*, is allowed. Since the EPP-feature does not check the D-feature of *every city* during the derivation, the inverse linking reading might be difficult to explain. One solution is to assume that there are some features which check the D-feature, maintaining the Quantifier Scope Generalization.

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This, given the Feature Interpretation Principle, leads to the following generalization:

(36) *Quantifier Scope Generalization*
The position of the D-feature determines the quantificational scope of the DP.

Since the D-feature of *one soldier* is checked at the embedded TP spec and the matrix TP spec, either copy of the D-feature can remain at LF. Thus, it can be interpreted at either the matrix TP spec or the embedded TP spec. The following example supports the Quantifier Scope Generalization.

(37) **One soldier** is expected by his commander [**t**′ to **t** die in every battle].

In contrast with (35), (37) is unambiguously interpreted with *one soldier* taking scope over the universal quantifier *every battle* when *his* is interpreted as a bound pronoun. For the bound variable reading of *his*, the D-feature of *one soldier* has to remain in the matrix TP spec. The Quantifier Scope Generalization correctly predicts that (37) has only one reading, in which *one soldier* takes scope in the matrix TP spec.

Let us now examine quantifier–scope interaction in Japanese scrambling constructions. Kuroda (1971) points out that clause-internal scrambling changes scope relationships. Since Japanese is a scope-rigid language, the interpretation in which *daremo-o* 'everyone' takes scope over *dareka-ga* 'someone' is impossible in (38a), where no scrambling has occurred. However, this interpretation is possible in (38b).

(38) (a) Dareka-ga daremo-o aisiteiru.
someone-NOM everyone-ACC love
'Someone loves everyone.'
(b) **Daremo-o** dareka-ga **t** aisiteiru.
everyone-ACC someone-NOM love (Kuroda 1971)

In (38b), one quantificational element, *daremo-o*, is scrambled to the TP spec over another quantificational element. The contrast between (38a) and (38b) indicates that scrambling to TP spec affects the LF interpretation of quantifiers.[22]

The analysis presented above can predict this property of Japanese scrambling. In (38a), the D-feature of *dareka-ga* c-commands the D-feature

[22] The following example shows that a subject can take scope over a scrambled element:

(i) **Dareka-o** [daremo-ga **t** aisiteiru].
someone-ACC everyone-NOM love
'Everyone loves someone.'

Suppose that the landing site of *dareka-o* is CP spec. Since the D-feature of the scrambled phrase is not checked at the landing site, we correctly predict that the D-feature reconstructs at LF and that the subject takes scope over the scrambled phrase.

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of *daremo-o* asymmetrically, so *dareka-ga* must take scope over *daremo-o*.[23] In (38b), *daremo-o* is scrambled to the TP spec. Since the features of T in Japanese may enter into multiple feature-checking relationships, the D-feature of the scrambled phrase can remain in the TP spec at LF. If this happens, the D-feature of *daremo-o* c-commands the D-feature of *dareka-ga* in the LF representation. Thus, the scrambled phrase *daremo-o* can take scope over the subject *dareka-ga*.

The feature-checking analysis accounts for why scrambling to TP spec affects scope relationship. It also explains why long distance scrambling does NOT affect scope relationship. Tada (1990) presents the following examples:

(39) (a) [Dareka-ga [John-ga daremo-o aisiteiru to] omotteiru].
someone-NOM NOM everyone-ACC love COMP think
'Someone thinks that John loves everyone.'

(b) **Daremo-o** [dareka-ga [John-ga **t** aisiteiru to]
everyone-ACC someone-NOM NOM love COMP
omotteiru].
think

In (39a), *daremo-o* 'everyone' is positioned below *dareka-ga* 'someone', and this example is unambiguous: *daremo-o* cannot take scope over *dareka-ga*. In (39b), *daremo-o* is scrambled over *dareka-ga*, but Tada observes that the interpretation of (39b) is identical with (39a). Recall that the Σ-feature of C-heads motivates long distance scrambling. In (39b), *daremo-o* moves to the matrix CP spec. This scrambled phrase carries a D-feature, but it is not checked at the matrix CP spec; it is deleted at the matrix CP spec. The D-feature at the base position remains at LF, where it is asymmetrically c-commanded by the D-feature of the subject *dareka-ga*, as in the unscrambled sentence (39a). Hence, long distance scrambling does not affect scope relationships.

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[23] I assume Reinhart's (1981) definition of c-command:

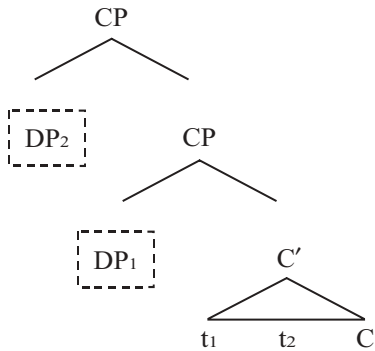
(i) α c-commands β iff α and β do not dominate each other and the first branching node dominating α also dominates β.

An anonymous referee points out in connection with (38) that if the object *daremo-o* is scrambled to TP spec and the subject *dareka-ga* to CP spec, with reconstruction applying to *dareka-ga*, we would wrongly expect the existence of ambiguity in (38a). I suggest that this derivation is independently excluded under the closeness condition of Attract. The Σ-feature of the subject, which is base-generated in *v*P spec, is closer to the T-head than the Σ-feature of the object. If the subject DP and the object DP bear a Σ-feature and both the T-head and the C-head have a Σ-feature then the Σ-feature in the T-head would check the Σ-feature of the subject. The Σ-feature of the subject and the Σ-feature of T are then erased. When the C-head is introduced into the derivation with the Σ-feature, it attracts the object DP, since at this point, it is the only phrase bearing the Σ-feature. Thus, when the order subject–object is given, it cannot be the case that the subject is in CP spec, but the object is TP spec. Thus, the scope rigidity of (38a) is expected.

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Thus, the contrast between scrambling to TP spec and scrambling to CP spec is due to the distinct nature of C-heads and T-heads. While a T-head can check the D-feature of the scrambled phrase in TP spec, a C-head cannot check the D-feature of the element in the CP spec because of the absence of the EPP-feature in C. Scrambling to CP spec is schematically presented in (40). Here, the dashed box marks again the DP whose Σ-feature, but not D-feature, is checked.

(40) *Japanese scrambling to CP spec: obligatory reconstruction*



Here, both DP_1 and DP_2 are scrambled phrases. The D-features of the scrambled phrases are not checked. Notice that the situation is very similar to the German scrambling to TP spec. Since the D-features of the scrambled phrases are not checked at CP spec, they are interpreted at the base position and, thus, the difference between scrambling to CP spec and scrambling to TP spec is observed.

5. A FURTHER EXTENSION

I have argued that LF representation is constructed with the help of the Feature Interpretation Principle (cf. section 3.2 above) and I have shown that several properties of scrambling, *wh*-movement and DP-movement are derived from this principle, repeated here as (41).

(41) *Feature Interpretation Principle*
Checked features remain at the feature-checked position; other features remain at the base position.

Why are features which are not checked at the landing site always interpreted at the base position? Saito (1989), Chomsky (1993) and others assume that the base position, where merge takes place, is the default position for the LF interpretation of elements. But why is it the default position?

I suggest that the base position is where the categorial selection relationship is established by 'merge'. Categorial selection is the checking of categorial features, such as D-features or V-features. This checking takes

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place under a head–complement relationship.[24] Since this relationship is established by feature-checking, the Feature Interpretation Principle allows this relationship to remain at LF. Thus, the base position has a special status, possibly lending support to the claim that it has default status.

Let us consider the following example:

(42) ***Which claim that John was asleep** was he willing to [$_{VP}$ discuss **t**]?

Since the Op-feature of the *wh*-phrase is checked at the CP spec, the copy of the Op-feature in the CP spec remains at LF. The D-feature of the *wh*-phrase is selected as a complement of *discuss*, and the copy of the D-feature in VP remains. The N-feature of *claim* is selected by this D-feature; thus, it also remains within the VP as a complement of D. Similarly, the C-feature of the C-head *that* is selected by N, and the T-feature is then selected by that C. All of these categorial features are interpreted within the VP. Given that the EPP-feature is a sub-feature of the T-feature, then the D-feature of *John* also has to be interpreted within the VP. Condition C is violated, and (42) is ungrammatical.[25] Thus, if categorial selection is also a feature-checking relationship, the Feature Interpretation Principle can be simplified to (43).

(43) *Feature Interpretation Principle* (revised)
Checked features remain at the feature-checked position.

If this is on the right track, we predict that the element within the raised DP can be interpreted at the landing site of DP-movement. The following example, from Chomsky (1993), confirms this prediction.

(44) [**The claim that John was asleep**] seems to him **t** to be correct.

Since the D-feature of *the* is checked at the matrix TP spec, its copy can remain there. This D-feature selects the N-feature of *claim that John was asleep*, the N-feature selects the C-feature of *that John was asleep*, the C-feature selects the T-feature, and the EPP-feature of T selects the D-feature of *John*. The Feature Interpretation Principle correctly predicts that the D-feature of *John* can be interpreted within the matrix TP spec and that Condition C can be satisfied.

---

[24] The idea that the categorial selection relation is constructed with feature-checking is similar to Hornstein's (1999) proposal that theta-roles are features. As Grimshaw (1990) points out, we need both theta-role checking and categorial-feature-checking for selection.

[25] This explanation cannot be applied to an NP adjunct phrase. Consider the following example, cited by Freidin (1986), Lebeaux (1988) and Chomsky (1993):

(i) **Which claim that John made** was he willing to discuss **t**?

The operator feature of the *wh*-phrase remains at the matrix CP spec, and the D-feature of the *wh*-phrase remains at base position. While the N-feature of *claim* is interpreted at the base position, as a complement of the D-feature of the *wh*-phrase, the adjunct CP *that John made* does not bear a selectional relation to the N-feature of *claim*. Thus, this CP need not be in the base position at LF, and Condition C does not rule (i) out.

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Thus, if we consider the 'base position' to be the position where selection takes place, it would enlarge the domain in which the Feature Interpretation Principle would apply. This interesting consequence exceeds the scope of this paper, however, so I leave a more detailed examination for future research.

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