WORD ORDER, OBJECT SHIFT
AND MULTIPLE SPECIFIERS

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Given Kayne's (1994) Linear Correspondence Axiom (LCA), SOV languages are classified into overt object shift languages. On the basis of this classification, this paper first proposes the following generalization: object-oriented floating quantifiers, multiple object construction, multiple subject construction, scrambling, and extraction from within subject are permitted only in overt object shift languages. Then, claiming that only Agr with a strong D-feature can license multiple specifiers, we derive this generalization from the existing conditions on movement and feature checking in a minimalist theory. Since the distinction between Agr and other functional categories is crucial and has a wide range of consequences, Chomsky's (1995) attempt to eliminate Agr should not be tenable.*

0. Introduction

In this paper, we will investigate the correlation between word order and the following five constructions: object-oriented floating quantifiers (FQs), multiple object construction, multiple subject construction, scrambling, and extraction from within subject. The contrast in grammaticality between (1a–e) and (2a–e), respectively, shows that Japanese has all the five constructions, whereas English has none of them:

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(1) a. John-wa korera-no hon-o (kinou) minna yonda.  
John-Top these-Gen books-Acc yesterday all read  
‘John read all these books yesterday.’

b. Masao-ga Hanako-o butta-no-wa  
Masao-Nom Hanako-Acc hit-Nominalizer-Top  
oho-o da.¹  
cheek-Acc be  
“(lit.) It is (her) cheek that Masao hit Hanako.’

c. Yama-ga ki-ga kirei da.  
mountain-Nom trees-Nom pretty is  
“It is mountain that its trees are pretty.”

d. Karera-ōi otagai-noj sensei-ga ti  
they-Acc each other-Gen teacher-Nom  
hihansita. (i=j)  
criticized  
‘*Each other’s teacher criticized them.’

e. Sono serifu-ōi boku-wa [John-ga ti itta koto]-ga  
the words-Acc I-Top John-Nom said fact-Nom  
mondai da to] omowu.  
problem is Comp think

(2) a. *I called the men all (yesterday).

b. *Mary hit John (the/his) leg.

c. *The mountain, its trees are pretty.

d. *The students, each other’s teachers praised ti.

e. *He is the kind of man who discussing anything serious  
with is impossible.

As we will show below, all SOV languages and SVO languages with  
overt object shift behave like Japanese, and all SVO languages without  
overt object shift behave like English. Given the Linear Correspond-  
ence Axiom (LCA) (Kayne (1994)), SOV languages are classified into  
overt object shift languages. Then it can be generalized that the five  
constructions are possible in overt object shift languages but not in  
covert object shift languages. We claim that the generalizations can

¹ In Japanese, the so-called “surface double-o constraint” prohibits syntactically  
adjacent two Accusative DPs (*?Masao-ga Hanako-o hoho-o butta.) (see Harada  
(1973) and Kuroda (1978)). Clefting one of the two objects as in (1b) is a way to  
abstract away the effect of this constraint. See also Kuroda (1988) for several  
intricate issues concerning (1b).
be accounted for by a minimalist theory of movement and feature checking and a constraint on multiple Spec's, which are in principle allowed in the bare phrase structure theory but should be somehow constrained. We will also provide an argument for the necessity of the category Agr, pace Chomsky (1995).

This paper is organized as follows: section 1 provides cross-linguistic generalizations about the five constructions. Section 2 introduces the notion of "multiple Spec's," the LCA and several assumptions to be adopted here. Section 3 accounts for the generalizations and solves some related problems. Section 4 is a conclusion.

1. The Generalizations

This section demonstrates the correlation between the possibilities of the five constructions above and word order. We will here concentrate on SOV languages and SVO languages: SOV languages include Japanese, Korean, German, Dutch, Bangla, Hindi, Urdu, Malayalam, Chickasaw, Choctaw, Pima, Navajo, Turkish, Persian, and Lisu; SVO languages are divided into two groups on the basis of whether they allow overt object shift or not.² SVO languages that allow overt object shift include Icelandic, Yiddish, Hungarian, Chinese, Russian, Moroccan Arabic, Quzco Quechua, Alutor, Maltese, and Zarma. SVO languages without overt object shift (of full NPs) include English, French, Danish, Swedish, and Norwegian.³

² There are at least three indications for overt object shift. First, since we assume, following Chomsky (1993), that overt object shift is the operation that moves a direct object to [Spec, Agro], some morphological agreement between the (main) verb and the object that follows it can be an indication of it. Second, even in the absence of agreement, we will regard the language as an overt object shift language if its basic word order is SVO and it also has the order SOV. Third, in languages like Icelandic, the precedence of the object to a negative adverb, i.e. the order Verb-Obj-Neg, suggests that the object has been shifted overtly. Only when none of these characteristics are observed do we regard the language as SVO language without overt object shift.

Although we will argue below that scrambling is also a movement to [Spec, Agr], we assume that it differs from overt object shift. Overt object shift is an operation that moves a direct object to [Spec, Agro] without crossing another overt NP, whereas scrambling is an operation that moves a maximal projection across an overt NP.

³ For reasons discussed in note 2, we assume, against Koizumi (1995), that English lacks overt object shift.
Then, there are three types of languages: SOV languages, SVO languages with overt object shift and SVO languages without it. We will show in this section that all the five constructions discussed above are permitted in SOV languages and SVO languages with overt object shift, whereas none of them are permitted in SVO languages without it. To make the point clear, let us now examine the five constructions one by one.

1.1. The Object-oriented FQ

(3a, b) are Japanese examples involving a subject-oriented FQ and an object-oriented FQ, respectively. Both are well-formed in this language:

(3) a. Gakusei-wa minna kono hon-o yonda.
   students-Top all this book-Acc read-Past
   'The students all read this book.'

   b. John-wa korera-no hon-o (kinou) minna yonda. (= (1a))

In English, on the other hand, only subject-oriented FQs are allowed:

(4) a. The men will all come (tomorrow).

   b. *I called the men all (yesterday). (=(2a))

(Maling (1976))

To my knowledge, the object-oriented FQ is allowed in eight SOV languages and three SVO languages with overt object shift, whereas it is not observed in four SVO languages without it. We can deduce the following generalization from this:

(5) The object-oriented FQ is permitted in SOV languages and SVO languages with overt object shift, but not in SVO languages without it.

1.2. The Multiple Object Construction

A typical case of the multiple object construction is found in Persian:

4 See Munro (1984), Horvath (1985), Sportiche (1988), Dasgupta (1988), Giusti (1990), Speas (1991), Park and Sohn (1993), and Deprez (1994) for facts about Pima, Hungarian, French, Bangla, Danish, Norwegian, German, Dutch, Navajo, Korean and Hindi. There are languages in which no data concerning object-oriented FQs could be found, though all the facts available for now do not conflict with (5): there is no SVO language without overt object shift that allows the construction. The same is true of the other four generalizations to be presented below.
While this construction is observed at least in six SOV languages and three SVO languages with overt object shift, it is not observed in four SVO languages without it. Then we can draw the following generalization:

(7) The multiple object construction is permitted in SOV languages and SVO languages with overt object shift, but not in SVO languages without it.

1.3. The Multiple Subject Construction

There are at least two types of multiple subject constructions. The first type is illustrated by the following Japanese example:

(8) Yama-ga ki-ga kirei da. (= (1c)) (Kuno (1973))

This type of multiple subject construction is observed in nine SOV languages and seven SVO languages with overt object shift, but not in English or French. We can deduce (9) from the eighteen languages:

(9) The multiple subject construction is permitted in SOV languages and SVO languages with overt object shift, but not in SVO languages without it.

The other type of the multiple subject construction is what Bures (1992) calls the transitive existential sentence. The existential sentence in English can only be formed from unaccusative verbs; therefore, no external argument cooccurs with the expletive there. By contrast, in

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5 See Thrainsson (1979), Massam (1985), Choe (1987) and Szabolcsi (1994) for facts about Icelandic, Turkish, Chickasaw, Choctaw, Korean and Hungarian.

6 Fukui’s (1986) Relativized X’-theory, which assumes that Spec-Head agreement is a rigid biunique relation, predicts that the multiple subject construction is permitted only in languages which lack overt morphological agreement, which implies the lack of Spec-Head agreement in IP. The contrast between English and French on the one hand and Japanese, Korean, Chinese and Malayalam on the other appears to justify his claim (cf. Kuno (1973), Mohanan (1982), Choe (1987) and Teng (1974)). However, the multiple subject construction is possible in many languages with morphological verb-subject agreement, like Quechua, Persian, Choctaw, Chickasaw and Hungarian. See Munro and Gordon (1982), Zaenen, Maling and Thrainsson (1985), Butt and King (1991), Szabolcsi (1994), Ura (1994), and references therein. Fukui’s theory cannot be extended to these languages.
the transitive existential sentence, the expletive can cooccur with the external argument of a transitive verb, as exemplified by (10a):

(10) a. *Er kovht niemand ein boek.* <Dutch>
    there bought nobody a book
    ‘There is nobody who bought a book.’

    b. \[
        [\text{Agrs_P} \text{er} [\text{Agrs_s} \text{kovht-T-Agrs_s} [\text{TP} \text{niemand} [\text{T-T} [\text{Agrs_o_P} \text{Agrs_o} \ldots]]]]]]
    \]

We assume, following Jonas and Bobaljik (1993), that (10a) has the structure in (10b) in overt syntax. The transitive existential sentence is a kind of multiple subject construction in that the two subject positions, i.e. \[\text{Spec, Agrs_s}\] and \[\text{Spec, T}\], are filled at some point in the derivation.

As Bures (1992) points out, the transitive existential sentence is found in Icelandic, Yiddish, German and Dutch, which are SOV languages or SVO languages with overt object shift, but disallowed in English, French, Swedish, and Norwegian, which are SVO languages which lack overt object shift. Hence, we can state the generalization as follows:

(11) The transitive existential sentence is allowed in SOV languages and SVO languages with overt object shift, but not in SVO languages without it.

1.4. Scrambling

Among the three types of languages we are considering, scrambling is permitted at least in seven SOV languages and four SVO languages with overt object shift, but not in any of the five SVO languages without overt object shift we listed above. From this, we can deduce the following generalization:

(12) Scrambling is allowed in SOV languages and SVO languages with overt object shift, but not in SVO languages without it.7

1.5. Extraction from within Subject

Finally, let us discuss the possibility of extraction from within a

7 See Greenberg (1963) for a more extensive typological research on the free word order phenomenon. Note also that Fukui’s (1993) approach to scrambling is falsified by the fact that leftward optional scrambling is possible in Yiddish, Hungarian, Russian and Maltese, which are SVO languages (with overt object shift).
subject NP. It has long been recognized that phrases in non-complement positions (e.g. subjects and adjuncts) generally constitute islands for extraction. However, the subject island effect is not observed in many languages. Consider the following contrast:

(13) Hindi (Mahajan (1992)):
   Kiskii_tum socte ho ki [t_t kitaab] corii ho gayii?
   whose you think that book stolen was
   ‘Whose book do you think was stolen?’

(14) Icelandic (Kitahara (1994)):
   ?Hverjumi heldur pu að [myndir af t] séu til sölu?
   who think you that pictures of are on sale
   ‘*Who do you think that picture of are on sale?’

(15) French (Kayne (1984)):
   *Combien_t est-ce que [t d’argent] se trouve dans
   how-many is-it that (of) money SELF found in
   le coffre?
   the safe
   ‘How much money is found in the safe?’

(14) is slightly marginal but clearly better than (15). While three SOV languages and three SVO languages with overt object shift allow the extraction from within subject, none of the five SVO languages without overt object shift illustrated at the outset allow it. From this, we draw the following generalization:

(16) Extraction from within subject is permitted in SOV languages and SVO languages with overt object shift, but not in SVO languages without it.8

2. Assumptions

We have shown in section 1 that all the five constructions are permitted in SOV languages and SVO languages with overt object shift, whereas they are not allowed in SVO languages without it.

8 See Woolford (1985), Kiss (1987), Cinque (1990), Diesing (1992) and Müller and Sternefeld (1993) for facts about Swedish, Norwegian, Hungarian, Italian, German and Russian. Chinese disallows extraction from within subject, though it is an SVO language with overt object shift (Huang (1982)). This fact is due to the Left Branch Condition active in this language. I have no account for why extraction from a sentential subject is ruled out universally.
This generalization raises the following question: why do SOV languages and SVO languages with overt object shift behave alike? In this section, we will see that the LCA gives an answer to this question. We will also introduce constraints on movement and feature checking.

2.1. The Bare Phrase Structure Theory and the LCA

In the bare phrase structure theory proposed by Chomsky (1994), X'-theory has been eliminated and phrase structures are constructed by Merge. Syntactic objects formed by Merge are unordered sets without any information on linear order. Determination of the linear order is a matter of phonological alignment of lexical items extraneous to the core system of linguistic computation. However, considering that word order actually affects many syntactic phenomena including binding and scope, we need some principle to "force the set of nonterminals to inherit the antisymmetry of the linear ordering of the terminals (Kayne (1994: 9))." The principle playing this role is the LCA.

The LCA considerably narrows the set of permissible syntactic configurations. First, a structure in which a single non-terminal dominates more than two non-terminals violates the LCA (i.e. no non-binary branching). Second, a structure involving adjunction to the right of some element is not allowed under it (i.e. no right-adjunction).

A third, and the most important, consequence of the LCA is that "specifier-head-complement is the only order available to the sub-components of a phrase." (Kayne (1994: 36)) This means that every language is "head-initial" in the base, and that the so-called "head-final" languages involve overt raising of the complement to the Spec of a functional head with a strong D-feature. Suppose that the relevant functional head is AgrO. Then, SOV languages are to be analyzed as SVO languages with overt object shift. SOV languages and SVO languages with overt object shift have the surface structures in (17a, b), respectively. Although they differ in whether verb raising takes place overtly or not, both the two types of languages have the overt object shift to [Spec, AgrO]:

\[
(17) \quad \text{a. } [\text{Agr}_S \text{ TP T } [\text{Agr}_O \text{ OB [Agr}_O \text{ VP tSU [V tOB]]}]]^9
\]

9 The Shortest Move Condition (SMC) based on the A/A'-distinction precludes
b. \[ A_g S_P S [A_g S [T_P V + T [A_g O_P O_B [A_g O [V_P t_S [V t_O_B]]]]]] \]

On the other hand, SVO languages without overt object shift have the following structure:

(18) \[ A_g S_P S [A_g S [T_P T [A_g O_P A_g O [V_P t_S [V O_B]]]]]] \]

What distinguishes between (17) and (18) is the strength of the D-feature of A_g_O: in (17) it must be strong because if it were weak, it could not trigger overt movement due to Procrastinate; in (18), on the other hand, it must be weak since strong features, if unchecked in overt syntax, would cause the derivation to crash at PF.

Given the LCA, we can answer the question why the five constructions are possible only in SOV languages and SVO languages with overt object shift. It is because their possibilities depend on the strength of the D-feature of A_g_O.

The next question, then, is: why must A_g_O rather than other functional categories have this property? As a preliminary for answering this question, we will introduce the notion "multiple Spec's" and impose a constraint on their occurrences.

2.2. The Bare Phrase Structure Theory and Multiple Specifiers

In the standard X'-theory, a maximal projection could not dominate more than one Spec position since it was stipulated that a head could not project to more than two-bar level. In the bare phrase structure theory, on the other hand, notions such as maximal or minimal are only relational: a category that does not project any further is a maximal projection X_P; a category that does not project at all is a minimal projection X^0; and any other is X', invisible at the interface and for computation. This means that more than one Spec can in principle be licensed in a single maximal projection, as shown in (19) (let us call Y_P the outer Spec and W_P the inner Spec; order among

A-movement of a direct object to [Spec, A_g_O] skipping [Spec, V], when the V has not raised to T. Then, a problem arises with the derivation in (17a). One way to solve this problem is to assume, following Koizumi (1995), that the underlying position of the subject is higher than the position to which the object is shifted (cf. also Chomsky (1995)):

(1) \[ A_g S_P S [A_g S [T_P T [V_P_1 t_S [V_1 V_1 [A_g O_P O_B [A_g O [V_P_2 V_2 O_B]]]]]]] \]

However, for ease of exposition, we will assume the structure in (17a) in the text discussion.
sisters irrelevant):\(^{10}\)

\[(19) \quad \begin{array}{c}
\text{XP} \\
\text{YP} \\
\text{WP} \\
\text{X} \\
\text{ZP}
\end{array}
\]

Ura (1994) claims that the multiple subject construction in Japanese is a realization of (19), where X is Agrs (see also Koizumi (1995)).

However, English Infl does not allow this structure. Therefore, we need to determine under what conditions (19) is generated. Chomsky (1995: 286) assumes that multiple Spec's can be generated in overt syntax only when (i) X has a strong D-feature, and (ii) it need not be erased when checked (against WP) and deleted, and has the option of being erased optionally at some point to ensure convergence (cf. Ura (1994) for a different view). Suppose that whether X has this property or not is determined not by parameters but by the following corollary:

\[(20) \quad \text{The Biuniqueness Corollary on Spec Licensing (BCSL): The strong D-feature of a semantically non-vacuous functional head must be erased when checked.}\]

Most of the functional categories proposed in the literature are semantically non-vacuous. Thus, T is \([\pm\text{finite}]\); D may be the locus of what is loosely called "referentiality"; C is basically an indicator of mood or illocutionary force; Neg has to do with negation. (20) states that these heads universally cannot license multiple Spec's.\(^{11}\)

\(^{10}\) Kayne derives from the LCA and X'-theory the conclusion that every Spec is adjoined, and that a head can license just one Spec (as an adjoined position). But in the bare phrase structure theory, it is possible to make multiple Spec’s compatible with the LCA (see Chomsky (1995: 336, note 110)). Consider, first, the following structure involving a single non-adjoined Spec position:

\[(i) \quad [\text{XP} \; \text{YP} \; [x \cdot \text{X} \; \text{ZP}]]\]

Chomsky’s suggestion is that although X’ is not qualified as a c-commander, it is part of the structure, and hence it prevents X from c-commanding (into) YP. As a result, YP asymmetrically c-commands X and the order between the terminals dominated by YP and X is uniquely determined, which means that (i) is compatible with the LCA. If this is the case, the construction involving multiple Spec’s can also be compatible with the LCA.

\(^{11}\) The BCSL is incompatible with Koizumi’s (1995) claim that Rumanian and Bulgarian license multiple Spec’s in CP. What motivates his claim is Rudin’s (1988) observation that wh-island effects are absent in languages with multiple wh-movement to [Spec, C]. There are, however, two pieces of evidence against her observation. First, even in Rumanian and Bulgarian, wh-island effects cannot be
contrast, Agr is a functional category that is semantically vacuous. Thus, (20) allows Agr (both Agr$_S$ and Agr$_O$) to license more than one Spec in overt syntax if it has a strong D-feature (if not, it cannot license a Spec in overt syntax due to Procrastinate).

Why does the computational system have the BCSL in it? Note first that a certain semantic relation holds in the maximal projection of any semantically non-vacuous head and that such a relation is always biunique. Thus, [Spec, T] and its sister satisfy the biunique subject-predicate relation, [Spec, Top] and its sister make the biunique topic-comment structure, the element that fills [Spec, D] determines the definiteness of the entire noun phrase once and for all (Fassi Fehri (1989)), and so on. Biuniqueness is requisite in these relations. Then, if semantically non-vacuous functional heads allowed multiple Spec's, structures which are visible but uninterpretable at LF would be produced. Now that (20) prevents such an illegitimate LF structure in advance, it can be regarded as a computational trick. 12 This trick does

voided if the moved wh-phrase is not D-linked, as Comorovski (1986: 20, 186) points out:

(i) *Ce nu stii cine a spus? <Rumanian>

what NEG know-2s who has said

“What don’t you know who said?”

Second, Italian, Spanish, Hebrew, Swedish and Norwegian lack wh-island effects, though multiple wh-movement is impossible. Since her generalization is misguided as such, Koizumi’s argument based on it does not stand, either.

12 In an earlier version of this paper, I regarded (20) as an economy condition. If so, however, the computational system must be able to “see” whether the resultant structure can be interpreted at LF. As an anonymous reviewer points out correctly, this view seems to involve departures from Chomsky’s (1995) claims concerning the nature of the computational system; namely, (a) that it is sensitive only to formal features, and (b) that it should not be global. By regarding (20) as a computational trick, we have fully eliminated globality. However, the reference to semantic information still remains. If (20) is correct, it follows that Chomsky’s claim (a) is too strong. In fact, it seems to be the case that the computational system often refers to semantic information. First of all, in order to determine whether or not a constituent (e.g. VP) can be deleted at PF, the computation must “see” the identity of two or more semantic representations (Sag (1976)). Second, Reinhart (1994: 21) claims that “QR is motivated, as a non-economical and costly operation, only in case of such need to obtain a non equivalent semantic representation,” accounting for the following contrast which could not be accommodated in any previous theory that allows free applications of QR:

(i) a. *Hisi mother praised every speaker,

b. A copy of hisi speech was placed in front of every speaker,
not apply to Agr because it projects just for the checking of its formal features and its projections are invisible at the LF-interface. Hence, Agr can license an unlimited number of Spec's in principle.

Following Chomsky (1993: 10), suppose also that Agr$_S$ and Agr$_O$ should behave alike with respect to the strength of their features. Then, if Agr$_O$ has a strong D-feature and can license multiple Spec's, Agr$_S$ does, too. If the D-feature of Agr$_O$ is weak and cannot license a Spec in overt syntax, the D-feature of Agr$_S$ has this property, too.

2.3. Assumptions on Movement

Let us make several assumptions on movement. First, every XP-movement is subject to the Shortest Move Condition (SMC) in (21):

(21) No $\alpha$-movement can skip a potential $\alpha$-position, where $\alpha = A$ or $A'$.

For ease of exposition, let us assume that the Spec's of VP, Agr$_O$P, TP and Agr$_S$P, and the complement of V are potential A-positions, whereas [Spec, C] and every position adjoined to a maximal projection are potential A'-positions. Now, (22) is ruled out by the SMC since John$_i$ in (23) undergoes A-movement to [Spec, T] in the matrix clause skipping [Spec, T] in the embedded clause filled by the expletive it:

(22) *John$_i$ seems that [it is likely $t_i$ to win the prize].

(23) *[TP$_1$ John$_i$ [T$_1$ [+Nom] ... [TP$_2$ it [T$_2$ T$_2$ [+Nom] [Agr$_O$P ... $t_i$ ...]]]]]

We also assume the notion "equidistance" and relevant notions defined in (24)-(25):

(24) $\alpha$ and $\beta$ are equidistant from $\gamma$ iff they are in the same minimal domain (MIN).

Since language is "usable," there must be several computational tricks that remove globality in calculating whether ellipsis/QR is possible in a given environment. Anyway, we leave exact characterization and refinement of (20) for future research.

13 This formulation of the SMC is incompatible with Chomsky's (1995) view of movement and feature checking, since in his definition of Attract/Move, adjunction operations that do not enter into feature checking are disallowed in the course of derivation. Note, however, that his theory cannot accommodate the CED effects or the Comp-trace effects, which Takahashi (1994) explained by the SMC (21) along with the UCA (27). Then, we cannot reject the possibility that in addition to Greed and the MLC in the sense of Chomsky (1995), some version of the SMC is also incorporated into the definition of Attract/Move. See also Ogawa (1996) for related issues.
(25) a. The $\text{MIN}(\alpha)$ is the smallest subset $K$ of the domain of $\alpha$ ($\text{DOM}(\alpha)$) such that for any $\gamma \in \text{DOM}(\alpha)$, some $\beta \in K$ reflexively dominates $\gamma$.

b. The $\text{DOM}(\alpha)$ is the set of nodes dominated by the maximal projection of $\alpha$ that are distinct from and do not contain $\alpha$. (cf. Chomsky (1993))

Under (24)-(25), consider the following derivation of $\text{NP}_i$:

(26) $[[\text{Agr}_S \text{NP}_i [\text{Agr}_S \text{NP}_j [\text{Agr}_S \text{TP} T \ldots t_i \ldots]]]]$

In (26), $\text{NP}_i$ moves from inside TP to the outer Spec of $\text{Agr}_S \text{P}$ by skipping the inner Spec and this movement seems to violate the SMC at first glance. It does not, however, since the two Spec's are equidistant from inside TP. In fact, Ura (1994) argues that super-raising in the multiple subject languages makes such a derivation (see also Koizumi (1995)).

The last assumption concerns adjunction operation. Takahashi (1994) proposes that adjunction conforms to the following constraint, which he calls the Uniformity Corollary on Adjunction (UCA):

(27) Adjunction is impossible to a proper subset of a uniform group, where a uniform group is a non-trivial chain or a coordination.\(^{14}\)

(27) interacts with the SMC to rule out A'-movement from inside a moved element (see section 3.5).

In this section, we have assumed several constraints and notions. In the next section, we try to explain with these tools the five generalizations presented in section 1.

\[^{14}\text{As an anonymous reviewer points out, the UCA, as it stands, is highly descriptive and its disjunctive formulation is problematic. However, if we ignore the cases of coordination, which are irrelevant for our purposes, the UCA can be restated as follows:}\]

\begin{itemize}
  \item [(i)] Adjunction is impossible to a proper subset of the members of a non-trivial chain.
\end{itemize}

In effect, (i) will not be independently necessary since its effects are covered by Chomsky's (1995: 253) uniformity condition in (ii), which is, presumably, the irreducible minimum:

\begin{itemize}
  \item [(ii)] A chain is uniform with regard to phrase structure status.
\end{itemize}
3. Explanations of the Observed Generalizations

3.1. The Object-Oriented FQ

For FQs, we will here adopt Doetjes' (1992) adverbial analysis, according to which FQs must bind a variable, and if the antecedent NP of an FQ moves, its trace may function as a variable for the FQ. Under this analysis, let us first consider the object-oriented FQ in SOV languages and SVO languages with overt object shift. It can bind a trace of the overtly shifted object NP as a variable, as shown in (28):

(3) b. John-wa korera-no hon-o (kinou) minna yonda.

(28) \([\text{AgroP OB [Agro Agro [VP FQ [VP V tOB]]]}]\)

Hence, the object-oriented FQ is permissible in these languages.

Next, consider the object-oriented FQ in SVO languages without overt object shift. We can rule it out by the prohibition against vacuous quantification and the LCA. Recall that given the LCA, neither non-binary branching nor right-adjunction is permitted. Then, (4b) must have the structure given in (29) in overt syntax, where X is either an empty functional head or a trace of V (cf. Larson (1988)):

(4) b. *I called the men all (yesterday).

(29) *[\text{AgroP Agro [VP V [XP OB [x' X FQ]]]}] (FQ=object-oriented FQ)

In (29), the FQ lacks a variable to bind in overt syntax. This situation does not change if the object moves to [Spec, Agro] in LF. Hence, (4b) is ruled out by virtue of vacuous quantification.

In contrast to (4b), a pronominal object can be the antecedent of an object-oriented FQ in the environments where a non-pronominal object cannot:

(30) a. *I saw the men all yesterday.
    b. I saw them all yesterday. (Maling (1976: 709))

However, the well-formedness of (30b) is not problematic for us, since the following contrast indicates that the pronoun-QP sequence forms a constituent:

(31) a. *The soldiers all are happy.
    b. They all are happy. (Postal (1974: 113))

Presumably, the pronominal occupies the highest functional head position in a noun phrase, c-commanding the QP. Thus, all the soldiers and they all will have the following structures, respectively, where KP is parallel to CP, and DP to IP (cf. Szabolcsi (1983)):

(32) a. \([\text{KP K} (\emptyset) [\text{DP all [D D (the) NP (soldiers)]}]]\)
Another potential problem with our account of (4b) is the fact that object-oriented FQs of the following type are possible in English:

(33) a. I consider John and Bill both fools.
b. She put the two books both on the table.
c. I painted the walls all red.

But these well-formed sentences share one property: the DP (or KP, given (32), though we will, henceforce, not distinguish between DP and KP), to which the FQ is oriented, is the semantic subject of the predicate that follows it. Then, we can assume that the DP has overtly moved from within a small clause (headed by N, P and A, respectively) to the Spec of a functional head that has to do with predication. Suppose that the functional head is T. Then, the structure of (33b), for example, will be as shown in (34):

(34) She put [TP [the two books], [T T (ϕ) [PP both [PP ti [P on the table]]]]]

(34) is well-formed since the FQ both can bind the trace ti in [Spec, P] as a variable.

3.2. The Multiple Object Construction

This subsection deals with the multiple object construction. Suppose that multiple objects are a realization of multiple Spec's in AgrO P. Under our framework, Agr has a strong D-feature and can license multiple Spec's in SOV languages and overt object shift languages. Hence, these languages permit multiple objects. For instance, (35a) may be derived as in (35b), where the innermost object DP is moved from the complement of V to the inner Spec of AgrO P, and then the

---

15 We assume that pronominals are located higher than D for the following two reasons. First, we cannot say all they/all them, etc., though we can say all the men, all these books, etc. Second, we have the following contrast (cf. also Postal (1969)):

(i) a. We rich are becoming even richer.
b. *The rich we are becoming even richer. (Longobardi (1994: 635–636))

I am thankful to an anonymous reviewer for bringing this issue to my attention.

16 TP in (34) may be replaced by AspP (Heycock (1996)) or PrP (Bowers (1993)) without any theoretical cost. In our analysis, however, the functional projection cannot be AgrP, since we are assuming that the D-feature of Agr is weak in English and cannot trigger overt movement. Note also that since TP, AspP, PrP and AgrP are all functional projections that are existent in finite clauses, we need to say nothing special about the structure of small clauses, which are identical to finite clauses except for (non-)finiteness.
possessor DP Ali-ra undergoes “possessor raising” from within the inner Spec of AgrO P to the outer Spec of AgrO P:

(35)  
   a. Hassan Ali-ra madar-ash-ra dide. (= (6))  

This raising satisfies the SMC in this language, for reasons to be discussed in section 3.5. In the possessor raising analysis, the pronominal ash coreferential with Ali can be analyzed in either of the following two ways: (a) as a phonetic realization of the NP-trace bound by the possessor DP,\(^{17}\) or (b) as an indicator of Spec-Head agreement in DP, which appears in D only when the [Spec, DP] is evacuated (the same process is commonly found in Welsh and Hungarian). In either way, the possessor DP satisfies the Theta-Criterion.

Once AgrO has a strong D-feature, the number of Spec’s that can be generated in AgrO P is in principle not limited to two. In fact, Korean allows three Accusative-marked objects (Choe (1987)).

On the other hand, in SVO languages without overt object shift, AgrO cannot license a Spec in overt syntax since its D-feature is weak. Hence, these languages cannot have multiple objects as a realization of multiple Spec’s in AgrO P, as in (35b).

(36a) is one example of the multiple object construction in English. In order to account for its ill-formedness, we must exclude another a priori possible structure for it. We must show that it cannot have the structure in (36b), where the main verb hit takes YP as its complement, whose Spec and complement are filled by John (= OB1) and the leg (= OB2), respectively:

(36)  
   a. *Mary hit John the leg.  
   b. [VP V (hit) [YP OB1 [Y’ Y OB2]]]  
   c. Mary hit John on the leg.

Since Y is phonetically empty, there are only two possibilities to consider: (a) it is the phonetically empty equivalent for the preposition on in (36c), or (b) it is a trace of the verb hit raised to the overt position (Larson (1988), Chomsky (1995)). In either case, we can rule out (36b) in violation of the Theta-Criterion, since OB2 cannot receive

\(^{17}\) Cf. Sportiche (1988). Perhaps, it may be treated as a resumptive pronoun, which implies that no possessor raising is actually involved. See McCloskey and Sells (1988), who claim that the resumptive pronoun strategy is also possible for A-chain in Irish.
a theta-role. Note that the sentence *John put the book the table is ill-formed. This suggests that neither the trace of the verb nor a null preposition can assign a theta-role corresponding to the overt preposition on.\(^\text{18}\)

If neither multiple Spec’s in Agr\(_O\)P nor (36b) is permitted in these languages, there is no legitimate structure for (36a). Hence, it follows that the multiple object construction is never generated in these languages.

### 3.3. The Multiple Subject Construction

This section deals with the multiple subject construction. Suppose, following Ura (1994), that the construction is a realization of multiple Spec’s in Agr\(_S\)P. Under our assumptions, they are possible only if Agr\(_S\) has a strong D-feature, which Agr\(_S\) does if and only if Agr\(_O\) does, too. Hence, overt object shift languages allow multiple subjects.\(^\text{19}\)

On the other hand, in SVO languages without overt object shift, the D-feature of Agr\(_S\) is weak since the D-feature of Agr\(_O\) is so. Since weak features cannot license a Spec in overt syntax, these languages do not allow multiple subjects as a realization of multiple Spec’s in Agr\(_S\)P.

Since the subject raising in English, for example, takes place in overt syntax, the D-feature of T must be strong and T licenses at least one Spec. Given the BCSL (20), however, T universally cannot license multiple Spec’s since it is semantically non-vacuous. Thus, SVO languages without overt object shift never have the multiple subject construction.

Next, consider transitive existential sentences. We have assumed that (10a) has (37) as its structure in overt syntax:

\[(10) \quad \text{a. } Er \ kovht \ niemand \ ein \ boek.\]

18 Suppose, following Pesetsky (1992), that the ditransitive verbs in (i) take as their complements a small clause headed by a null G, which roughly means ‘into possession of’:

\[(i) \quad \text{Mary gave/showed/sent } [\text{TP } John_i [\tau_T T [\text{PP } t_i [r_P P (=G) \text{ some pictures}]]]].\]

While most of the P’s that take a DP complement cannot be null, the P in (i) must be null. Given that (i) implies that John has some pictures, this exceptional behavior of G can be related to the fact that the D head must be empty when there is a possessor in its Spec:

\[(ii) \quad [\text{DP John’s } [D \ \text{D (}/*\text{the}) \text{ QP (some pictures)]]}\]

19 The number of Spec’s that can be generated in Agr\(_S\)P is not limited to two. Choctaw, for example, allows six Nominative-marked subjects (Massam (1985)).
Given our assumptions, this structure is allowed only in languages whose Agrs has a strong D-feature and thus can license a Spec. Note that if the D-feature of Agrs is weak and thus cannot license a Spec, NP1 has no position to occupy, since T cannot license more than one Spec by virtue of the BCSL. Hence, the transitive existential sentence is licit only in SOV languages and SVO languages with overt object shift.

Note now that (37) is different from (38), the structure of a typical Japanese multiple subject construction in (8):

(8) Yama-ga ki-ga kirei da.

(38) [AgrsP NP1 [Agrs NP2 [Agrs Agrs TP T ...]]]

Then the next question is: does Japanese also allow (37) in addition to (38)? To this question, Koizumi (1994) gives an affirmative answer. Consider the so-called Nominative object construction in Japanese as shown in (39) (see Kuno (1973)):

     John-Nom apple-Nom fond-of be-Pres
     ‘John likes apples.’

Against Tada (1992), Koizumi claims that the Nominative object ringo-ga overtly moves to [Spec, T] rather than [Spec, AgrO]. Given this, (39) has the structure in (37), where NP1 is the Nominative subject and NP2 is the Nominative object. If this is the case, we predict that in Japanese, multiple Nominative objects should be disallowed, as T cannot license multiple Spec’s. This prediction is borne out by the contrast in (40):

     John-Nom elder sister-Nom apple-Nom fond-of be-Pres
     ‘John’s elder sister likes apples.’

b. *John-ga Mary-ga me-ga suki da.
     John-Nom Mary-Nom eye-Nom fond-of be-Pres
     ‘John likes Mary’s eye.’
     (cf. John-ga Mary-no me-ga suki da.)

Both (40a-b) involve the same stative verb and three Nominative Case-marked NPs, and there is still a clear-cut contrast in grammaticality between them. (40a) is a mixture of one Nominative object and two Nominative subjects. It is well-formed since Japanese allows both multiple Spec’s of Agrs and a single [Spec, T]. On the other hand,
(40b) is a case of multiple Nominative objects. Its ill-formedness does not follow if they occupy [Spec, Agr\textsubscript{O}], since Agr\textsubscript{O} should be able to license multiple Spec’s in Japanese. On the other hand, it follows from the BCSL if they must fill a single [Spec, T].

3.4. Scrambling

This section deals with scrambling. Under our assumptions, it is possible only in languages in which Agr has a strong D-feature. If scrambling is a non-feature-driven adjunction operation to IP or VP, then it is unclear why its possibility correlates with the strength of the D-feature of Agr. However, Miyagawa (1993) and Ura (1994) suggest that “IP-scrambling” is a substitution operation to [Spec, Agr\textsubscript{S}] and that “VP-scrambling” is a substitution operation to [Spec, Agr\textsubscript{O}]. This claim is also compatible with Saito’s (1989) claim that scrambling, unlike topicalization, has no semantic contribution. Given Miyagawa/Ura’s ideas, the structures of (41a–b) are shown as in (42a–b), respectively:

(41)  
\begin{itemize}
  \item a. Karera-\textsubscript{O} \textsubscript{i} otagai-\textsubscript{I} no sensei-\textsubscript{Ga} ti hihansita. (= (1d))
  \item b. John-\textsubscript{Ga} karera-\textsubscript{O} \textsubscript{i} otagai-\textsubscript{I} no sensei-\textsubscript{Ni} ti
  \end{itemize}

John-Nom they-Acc each other-Gen teacher-Dat
introduced
*John introduced each other’s teachers them.’

(42)  
\begin{itemize}
  \item a. [Agr\textsubscript{S}P NP-\textsubscript{Acc}i [Agr\textsubscript{S} NP-\textsubscript{Nom} [Agr\textsubscript{S} Agr\textsubscript{S} [TP ... ti ... ]]]]
  \item b. [TP T [Agr\textsubscript{O}P NP-\textsubscript{Acc}i [Agr\textsubscript{O} NP-\textsubscript{Dat} [Agr\textsubscript{O} Agr\textsubscript{O} ... ti ... ]]]]
\end{itemize}

(42a–b) are realizations of multiple Spec’s in Agr\textsubscript{S}P and Agr\textsubscript{O}P, respectively. Then, scrambling is possible in SOV languages and SVO languages with overt object shift because these languages have a strong D-feature of Agr and both Agr\textsubscript{S} and Agr\textsubscript{O} can license multiple Spec’s. On the other hand, in SVO languages without overt object

\textsuperscript{20} They argue, more specifically, that scrambling is a Case-driven movement. On the other hand, we will assume that scrambling is triggered by a strong D-feature of Agr.

\textsuperscript{21} We assume that a limited class of PPs can have a D-feature to be checked against Agr and therefore undergoes scrambling to [Spec, Agr], as shown in (i):

(i) [Agr\textsubscript{P} PP [Agr\textsubscript{S} DP-Nom [Agr\textsubscript{S} Agr\textsubscript{S} ... fPP ... ]]]

Evidence for this assumption is that they can appear in a Case position. In (iia–b), the PPs are assigned Nominative and Genitive Cases, respectively:

(ii)  
\begin{itemize}
  \item a. Asita-kara-ga isogasii. ‘(Lit.) (After) tomorrow will be busy.’
  \item b. Osaka-de-no dekigoto ‘(Lit.) (in-) Osaka’s event’
\end{itemize}
shift, the D-feature of Agr is weak and cannot license a Spec. Though T can license a Spec, it is already filled with a subject NP. Hence, these languages do not allow scrambling.

The strong D-feature of Agr, for example, can be erased when a subject moves to [Spec, Agrs] and checks it. The optionality of this erasure accounts for the optionality of scrambling. Multiple scrambling is allowed in a single clause since the number of Spec's in AgrP is unlimited. We can also account for the lack of LF-scrambling in Japanese. This is because the D-feature of Agr is strong in this language and must be checked off before Spell-Out. The fact that (clause-internal) scrambling manifests A-movement properties, as shown in (41a, b), also follows from the assumption that [Spec, Agr] can function as an A-position (but see note 24).

A topicalized element forms a syntactic island, whereas a scrambled element does not. The relevant asymmetry is illustrated in (43):

(43) a. NY-e~i~ Tom-ga [Boston-kara~j~ [John-ga ti, tj
NY-to Tom-Nom Boston-from John-Nom
itta] to] omotteiru (koto)
went Comp think (fact)
‘Tom thinks that John went to NY from Boston.’

b. *Which books~i~ did Becky say [that [to Aaron~j~ she will
give ti, tj]]? (Koizumi (1995))

We can account for the asymmetry by the combination of the SMC, “equidistance,” and the assumption that one of the multiple Spec’s may function as an escape hatch for Relativized Minimality violations (Chomsky (1995: 286), Ura (1994) and Koizumi (1994)). Consider first (44a). Since the clause-internal scrambling is a substitution to [Spec, Agr], the movement of NY-e (=XP~i~) makes the derivation shown in (44):

(44) XP~i~ ...
[ AgrsP t`i [ Agrs YP [ Agrs SU [ Agrs Agrs ...
...ti ...]]]]

Since Agrs can license multiple Spec’s in Japanese and the movement of XP~i~ in (44) can use one outer Spec as an escape hatch, the derivation satisfies the SMC and (43a) is well-formed.

Next, consider the movement of which books in (43b). It must make the following derivation in order to satisfy the SMC:

(45) *XP~i~ ...
[TopP t`i [Top YP [Top Top ...
...ti ...]]]

This derivation is not permitted since the BCSL prevents Top from licensing multiple Spec’s. Hence, (43b) is ruled out.

The fact that Icelandic and Yiddish, in contrast to Danish, Swedish
and English, allow both multiple topicalization and extraction across a topicalized element, seems to be problematic for the claim that Top universally cannot license multiple Spec's. In fact, Koizumi argues that Icelandic and Yiddish allow multiple Spec's in TopP (his PolP; cf. Culicover (1991)). Recall, however, that Icelandic and Yiddish are overt object shift languages, whereas Danish, Swedish and English are not. Then, we can account for the lack of "topic island" in Icelandic and Yiddish by claiming that one outer Spec of AgrsP rather than TopP (or PolP) is used as an escape hatch for the long-distance topicalization in these languages, in the same way as (43a) (cf. (44)). Given this proposal, we need not parametrize the maximum number of Spec's licensed by the head of TopP, and hence our claim that Top universally cannot license multiple Spec's remains intact.

This argument presupposes that the (long-distance) topicalization in Icelandic and Yiddish, unlike the one in English, Swedish and Danish, involves clause-internal scrambling: movement to an outer Spec of the embedded Agrs. One support for this proposal comes from an asymmetry between the two types of language on the possibility of the embedded topicalization. According to Watanabe (1993: 125-131), Vikner (1990) reports that topicalization in the complement of a factive verb is allowed in Icelandic and Yiddish, but not in English and Danish ((46) is taken from Watanabe (1993: 126)):

(46) *John regretted that Gone with the Wind, we went to see it.

Watanabe accounts for the ill-formedness of (46) by Melvold's (1989) null operator analysis of the factive verb complement, and his own claim that topicalization is a movement to the Spec of the lower CP and that the Larsonian CP-recursion by substitution operation is allowed only once with a single lexical item (Watanabe (1993: 136)). In his framework, the structure of (46) will be schematized as in (47):  

22 Diesing (1990) also claims that the embedded topicalization in Yiddish is a movement to [Spec, I].

23 His account of (46) can be translated into our framework, without using the Larsonian recursive CPs, if we assume that the factive operator occupies [Spec, Top]. Recall our assumption that topicalization is a movement to [Spec, Top]. Then, (46) has the structure in (i), which violates the BCSL, since Top cannot license multiple Spec's:

( i ) *V [CP C (that) [TopP Gone with the Wind, [Top' OP [Top' Top [IP ... t j ...]]]]]]]
(47) \*V [\textsc{CP} C (that) [\textsc{CP} Gone with the Wind] [C' \ell_C [\textsc{CP} OP [C' t_C [\textsc{IP} ... t_I ...]...]]]]]

Now, if the embedded topicalization in Icelandic and Yiddish were also a movement to the Spec of the lower CP, it would be ruled out for the same reason as (46). On the other hand, given our claim that it is a substitution to the outer Spec of \textsc{Agr}_S \textsc{P}, we can explain its well-formedness in the two languages.\textsuperscript{24}

We have argued in this subsection, following Miyagawa (1993) and Ura (1994), that scrambling is a substitution to \textsc{[Spec, Agr]}. We have also claimed that (clause-internal) topicalization in Yiddish and Icelandic is a movement to the outer Spec of \textsc{Agr}_S \textsc{P}. With these claims and the BCSL, we have accounted for the following six facts: (a) scrambling is limited to SOV languages and SVO languages with overt object shift; (b) multiple scrambling is possible; (c) scrambling applies optionally and only overtly; (d) (clause-internal) scrambling manifests A-movement properties; (e) the scrambled element in Japanese and the topicalized element in Icelandic and Yiddish do not “freeze the domain,” whereas the topicalized element in Danish, Swedish and English does; and (f) Icelandic and Yiddish, but not English and Danish, allow topicalization in the complement of a factive verb.

3.5. Extraction from within subject

Extraction from within subject is possible in SOV language and SVO languages with overt object shift, but not in SVO languages without it. In this subsection, we will account for this generalization by the interaction of the two constraints on movement (i.e. the SMC and the UCA) and the notion “equidistance” we have adopted in section 2.3. Let us first review Takahashi’s (1994) account of the following asymmetry between Japanese and English:

(48) a. Sono serifu-o, boku-wa [John-ga t_I itta koto]-ga mondai da to] omowu. (= (1e))

\textsuperscript{24} We have assumed that [\textsc{Spec, Agr}_S] functions as an A-position, and hence (clause-internal) scrambling shows properties of A-movement. However, as argued by Saito (1992), the clause-internal scrambling in Japanese manifests A'-movement properties as well. Suppose, therefore, that [\textsc{Spec, Agr}_S] has the dual status. Then, we can maintain the claim that the embedded topicalization in Icelandic and Yiddish is a movement to [\textsc{Spec, Agr}_S], without stipulating that [\textsc{Spec, Agr}_S] functions as an A'-position only in these languages.
b. *He is the kind of man who discussing anything serious with is impossible.  (=\(2e\))

Although Takahashi also accounts for the asymmetry by the SMC and the UCA, his account differs from ours in that instead of using “equidistance,” he assumes that the subject overtly raises to [Spec, I] in English but remains in situ in Japanese (Fukui (1986)). Let us see how these two principles interact to rule out extraction from within subject in English. The relevant structure is (49), in which the subject DP has been raised to [Spec, I] and a wh-phrase has been raised from within the DP to [Spec, C]:

\[
(49) *[^{CP\, w_hI \ldots [\{IP \{DP (t_i) [DP \ldots t_i \ldots \}]} [r I \ldots [\{VP t_j [v'\ldots \}]]]]]
\]

In this case, if \(wh_i\) adjoins to the DP, the UCA is violated since it is a member of the non-trivial chain (DP\(_i\), t\(_i\)). On the other hand, without this adjunction operation, the SMC would be violated. Hence, the subject condition effect is inevitable in English. In Japanese, on the other hand, adjunction to the DP violates neither the UCA nor the SMC since the subject DP remains in situ. Hence, extraction from within subject is well-formed.

It is true that Takahashi’s theory accommodates the asymmetry between Japanese and English. As it stands, however, it fails to account for the possibility of extraction from within subject in German, Hindi, Hungarian and Icelandic. Given Fukui’s assumption, these four languages should involve overt raising of the subject to [Spec, I] since they have a rich agreement on Infl. In what follows, we will suggest a solution to this problem by the multiple Spec analysis in conjunction with “equidistance.”

Recall that we have assumed that if Agr\(_S\) can license multiple Spec’s, the outer Spec can be used as an escape hatch for \(wh\)-movement from inside TP. Let us extend this analysis to extraction from within subject in the five languages including Japanese. Consider the relevant derivation of extraction from within subject in these languages, as shown in (50):

\[
(50) \, \, w_hi \ldots [AgrS_\{IP [\{AgrS_\{DP \ldots t_i \ldots \}]} [\{AgrS AgrS_\{TP\}]]]
\]

In (50), Agr\(_S\) has licensed multiple Spec’s. Given our definition of “minimal domain,” the DP-adjoined position and the outer Spec of Agr\(_S\) (\(=t_i\)) are both in the MIN(Agr\(_S\)) and hence equidistant from t\(_i\) in (50). Then, the movement of \(wh_i\) can satisfy the SMC even without adjunction to the DP. The derivation in (50) does not violate the UCA, either. Hence, extraction from within subject is legitimized in
languages in which Agrs has a strong D-feature: SOV languages and SVO languages with overt object shift. Since SVO languages without overt object shift lack the strong feature, extraction from within subject is impossible in these languages.

The multiple Spec analysis can be extended to account for the following asymmetry between Japanese scrambling and English topicalization:

\[(51)\]
\[
\begin{align*}
\text{a. Suugaku-no siken-o_i John-ga} \\
\text{mathematics-Gen examination-Acc John-Nom} \\
\text{[[[t_i mikka-go da to], [Bill-ga t_j itta]] to]} \\
\text{three days-later is Comp Bill-Nom said Comp} \\
\text{omotte-ita (koto)} \\
\text{believing-was (fact)}
\end{align*}
\]

b. ??Whoi do you think that [pictures of t_i], John wanted t_j? (Lasnik and Saito (1992: 101))

In (51a) the phrase that undergoes long-distance scrambling from inside a scrambled phrase (in an outer Spec of the embedded Agrs) can use its outermost Spec as an escape hatch. Hence, it is well-formed. On the other hand, in (51b), the movement of who out of the topicalized phrase cannot satisfy both the SMC and the UCA at the same time since Top cannot license multiple Spec's. Hence it is ruled out.

It has long been recognized that in English, while extraction from the direct object of mono-transitive verbs is possible, extraction from an object that semantically functions as the subject of a predicate is not. Thus, extraction is impossible from direct objects of the verbs that allow dative alternation, indirect objects of ditransitive verbs, the Exceptional-Case-Marked subject, and the subject of various types of small clauses:

\[(52)\]
\[
\begin{align*}
\text{a. ??Who_i did you give [pictures of t_i] to John?} \\
\text{b. *the person who_i we gave [a picture of t_i] a new frame} \\
\text{(Kayne (1994))} \\
\text{c. *Who_i did you believe [pictures of t_i] to be on sale?} \\
\text{(Tiedeman (1991))} \\
\text{d. *the man_i that I consider [pictures of t_i] unflattering} \\
\text{(ibid.)}
\end{align*}
\]

\[(53)\]
\[
\begin{align*}
\text{a. I gave the toys all to the children.} \\
\text{(Bowers (1993))} \\
\text{b. I gave the kids all some candy ...} \\
\text{(Maling (1976: 715))} \\
\text{c. I believe the soldiers both to have left.} \\
\text{(ibid.: 708)}
\end{align*}
\]
d. We consider the Joneses both unbearably pompous.

Given the well-formedness of (53a-d), we can assume, following the discussion in section 3.1 and note 16, that the objects in (52) and (53) have been moved to [Spec, T]. Note that since T is a semantically non-vacuous head, it cannot license multiple Spec's by virtue of the BCSL. Therefore, (52a-d) can be ruled out by the SMC or the UCA.

4. Concluding Remarks

In this paper, we have investigated the correlation between word order and the following five constructions, i.e. the object-oriented FQ, the multiple object construction, the multiple subject construction, scrambling and extraction from within subject. They are all licit in SOV languages and SVO languages with overt object shift, but all illicit in SVO languages without it. We have argued that this generalization holds for the following three reasons: first, on the basis of the LCA, only SOV languages and SVO languages with overt object shift have the strong D-feature of Agr; second, only Agr with a strong D-feature can license multiple Spec’s; and third, all the five constructions depend on whether the languages in question allow multiple Spec’s.

Our assumption that the D-feature of Agr is strong in Japanese and weak in English means that its strength has nothing to do with morphological richness of verbs. Although such an assumption conflicts with Fukui’s (1986) argument, we have shown that his argument is defective in typological perspective (cf. section 3.5 and note 6). The morphological richness of verbs must therefore be separated from the strength of the D-feature of Agr.

Some comments on Chomsky’s (1995) suggestion are also necessary. He suggests that Agr can be eliminated from the lexicon and that its roles in overt syntax can be imposed on T and v. However, we have shown in this paper that Chomsky’s (1991) suggestion about the uniformity of AgrS and AgrO makes a correct prediction about the correlation between overt object shift and multiple subjects. If Agr is eliminated, this correlation is unexpected. We have also argued that Japanese allows multiple Nominative subjects but not multiple Nominative objects, because AgrS can license multiple Spec’s, whereas T cannot. If AgrS is absent, it is unclear where the contrast between Nominative subjects and Nominative objects comes from. On the
basis of these considerations, we conclude that the category Agr is necessary independently of T and v.

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