On adjunction of a non-head to a head

Hirohisa Kiguchi

This paper suggests that some heads attract a maximal projection even when the derivation involves head adjunction (or head-movement). In this case, the attracted maximal projection can be adjoined to a head by Uriagereka's (1999) Multiple-Spell-Out. Given this innovation, a possible way to derive postpositions from prepositions will be shown, while dispensing with AGRP and the special status of the Spec-head relation, in order to maintain Kayne's (1994) LCA within the framework proposed in Chomsky (1998). In addition, N-to-D movement in various languages is also explored.

1. Introduction

Kayne's (1994) Linear Correspondence Axiom, which entails specifier-head-complement as the universal order of constituents in human language, assumes that word order obtains by raising the complement to some higher Spec position in so-called "head-final languages". However, since AGRP is eliminated (Chomsky 1995) along with the status of the Spec-head relations as the checking domain (Chomsky 1998), it seems difficult to explain how to raise the complement of PP to some higher Spec position in the case of head-final languages in the current framework. In order for the LCA to be congenial to Chomsky's (1998) framework, I will present the data, which suggest that a non-head may adjoin to a head under certain circumstance.[1] To maintain the general assumption that an adjunction of non-head to a head is banned, I argue that the attracted maximal projection can be adjoined to a head by Uriagereka's (1999) Multiple-Spell-Out. I show that this operation derives postpositions from prepositions without the special status of the Spec-head relations. I will also introduce data from Finnish that not only support my argument but also present some problems for the head-parameter approach. Then, I will attempt to extend this operation to N-to-D movement observed in various languages.

This paper is organized as follows. Section 2, taking on the English possessive construction, introduces a point at issue and suggests that a phrase be adjoined to a head, contrary to the general assumption. Section 3 points out the tension between Chomsky (1998) and Kayne (1994). Then, section 4,

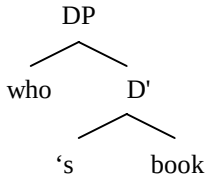
[1] See also Carnie (2000).

which deals with Japanese, attempts to defend the LCA in Chomsky's (1998) framework, exploiting the proposed operation. Section 5 offers curious data of Finnish, which might be problematic for the head parameter approach. Section 6 discusses some problems for the head parameter approach. Section 7 extends my proposal to the so-called N-to-D movement. Section 8 concludes the paper.

2. English Possessive

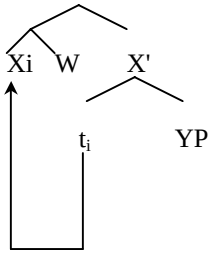
Chomsky (1995) assumes the structure in (1) for DPs containing the possessive *whose book*.

(1)

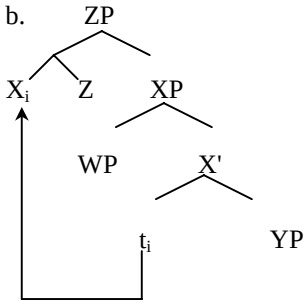


Given the Head Movement Constraint (=HMC), however, a head may move only to the next higher head position as in (2b). If so, how can we incorporate the possessive marker with *who* for a word *whose*? The HMC prevents a head from moving to the head of its Spec as in (2a)

(2) a. * XP



b.

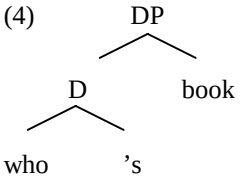


Furthermore, given the structure (1), the incorporation of N in the complement to the possessive marker should happen, for this operation observes HMC. But this is obviously incorrect.

(3) *who $book_i$'s t_i

In place of the structure (1), a more proper analysis of this phrase should be the head-to-head adjunction as in (4). Given the structure (4) with the two elements merged within the X^0-level, we can say that one of these words incorporate into the other. And as a result of this incorporation the word 'whose' is derived.

(4)



However, on the other hand, the English possessive marker can also draw a complex DP to it as below.

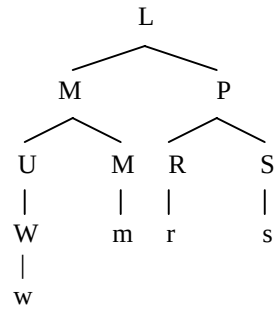
(5) [$_{DP}$ the man from Alabama] 's hat

How can we explain phrases like (5) in terms of the analysis in (4)? Namely, the problem is that the adjunction of a maximal projection to a head has been banned in the development of Generative Grammar. Currently, Emonds's Structure Preserving Hypothesis is translated by Chomsky (1995) as 'only YP can adjoin to XP and Y-head can adjoin to X-head'. And it also assumes that 'if some larger unit appears within an X-zero, the derivation crashes' (Chomsky 1995:319). In addition to the assumption in Chomsky (1995), Kayne (1994) also argues that this operation is prohibited by the Linear Correspondence Axiom (=LCA):

(6) Linear Correspondence Axiom (Kayne 1994:33)
Let X, Y be nonterminals and x, y terminals such that X dominates x and Y dominates y. Then if X asymmetrically c-commands Y, then x precedes y.

Given the structure below in which M is a head and U a maximal projection adjoined to the head, and w, m, r, and s are terminals. P asymmetrically c-commands W, and since M does not dominates U, according to his version of c-command,[2] U asymmetrically c-commands R, S. This induces a contradiction. That is, we cannot linearize the terminals in this structure. Hence, LCA also excludes the possibility of this operation.

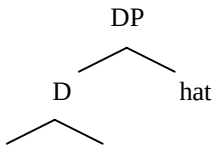
(7)



In any rate, as we have seen, we cannot have the structure of (8).

[2] See Kayne (1994:15)

(8) *

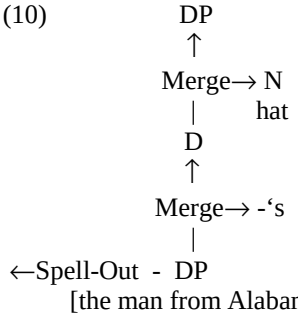


[$_{DP}$ the man from Alabama] 's

To overcome this puzzle, I suggest that Multiple Spell Out as proposed by Uriagereka (1999) be exploited.

(9) Multiple-Spell-Out (MSO) by Uriagereka (1999):
In order for a phrase to reach a left-branch, it must be Spelled-Out and a Spelled-Out phrase acts like a word.

(10)



Since the DP, *the man from Alabama* has been already Spelled-Out, being like a giant lexical compound, it can be adjoined to the possessive marker, *-s*, just like a typical head-head adjunction. This complex head merges with the noun, *hat*, to form the DP, *the man from Alabama's hat*.

3. Is Syntax Still Antisymmetric? – Chomsky (1998) vs. Kayne (1994)

After Chomsky's (1994) Bare Phrase Structure, the LCA introduced in (6) had to be revisited because, in Bare Phrase Structure, there is no distinction between head and terminal node. Thus, the Bare-Phrase version of Kayne's LCA is modified as below:[3]

(11) Given any minimal projections x and y, x precedes y iff either (a) or (b):
(a) x asymmetrically c-commands y,
(b) there is a z, such that z dominates x, and z asymmetrically c-commands y.

However, some tension arises again between Chomsky's framework and the Antisymmetry of Syntax claimed by Kayne (1994), as Chomsky (1998) proposes in Minimalist Inquiries (=MI). In Chomsky (1998), one of the big

[3] I am indebted to Max Guimarc for pointing out this part.

shifts from Chomsky (1995) is the demotion of the status of Spec-head relations:

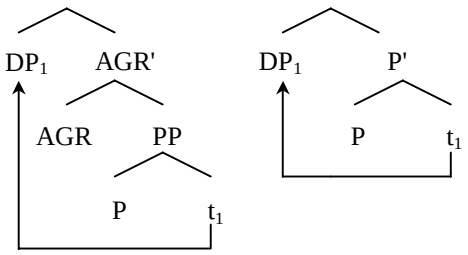
(12) 'We should not expect SPEC-head relations to have any status.' (MI:65)

Since Chomsky (1995, 1998) discards AGRP, saying, 'AGRP cannot exist.' (MI:85), this shift makes it harder for his framework to be congenial to the LCA, which entails Specifier-Head-Complement as a universal order. That is, the other ordering in a language must be derived from movement out of the S-H-C structure. Specifically, in the so-called "head-final languages" like Japanese and Korean, the word order is acquired by raising the complement to some higher spec position, stepping over the head:

(13) Postposition must be derived by movement of the complement into the Spec of the PP or of a higher functional head. (Kayne 1994:47-48)

Then, since Chomsky (1998) eliminates AGRP and the status of the Spec-head relations as the checking domain, it seems difficult to explain how to raise the complement of PP to some higher Spec position in the case of the head-final languages. In Chomsky's (1995, 1998) view minimalist movement must be greedy, needs some reason to be executed. Thus, if LCA is valid, how can we motivate the complement of the preposition to move up to the Spec in the framework of MI? MI still allows the movement for Agreement. However, it does not help. Since there is no special status of Spec-head relation, we need not raise the complement to the Spec PP anymore. The main motivation for movement in MI is for the EPP. But it is doubtful that adpositions have the EPP feature. MI assumes that the EPP is in Core Functional Categories, say C, light-*v*, and T. Adpositions seem not to be a member of Core Functional Categories. They belong to a lexical category, following the long–standing tradition. So, (14ab) are not our options in the framework of MI.

(14) a. AGRP b. PP



Then, if there is no motivation to move the complement of adpositions in MI, we cannot make the LCA to be congenial to the framework of MI. In short, do we need the head parameter after all, in place of the LCA?

To reconcile the LCA with Chomsky's (1998) framework instead of resorting to head parameter approach, I will attempt to derive postpositions from prepositions, exploiting what I have proposed in the section 2.

4. Japanese Postpositions

Japanese is a strong head-final language and has only postpositions.

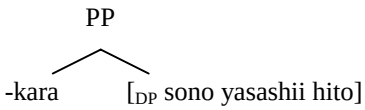
(15) Japanese

a. eki-de
station-at
b. machi-e
town-to
c. yubi-de
finger-with
d. asita-made
tomorrow-until
e. river-kara
kawa-from

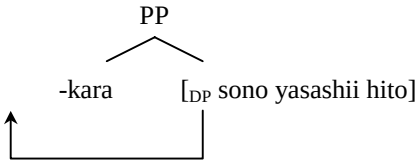
Notice that these postpositions are suffixes, which cannot stand alone. Here, assuming that affixal head motivates head-to-head movement, I suggest that the affixal head, the head P, motivates the complement of PP in Japanese in order to derive Japanese postposition from preposition. Instead of a head, the affixal head attracts a whole phrase. Then, the attracted phrase which is Spelled-Out is adjoined to the affixal head:

(16) sono yasashii hito-kara
the kind man–from
'from the kind man'

a. P merges with DP

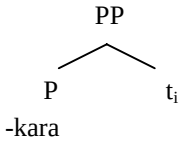


b. Since P in Japanese is a suffix, it requires some word to be adjoined to it. Notice that this time, it attracts DP, a 'phrase' not a 'head'.

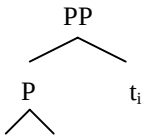


c. The attracted DP, the complement of PP is Spelled-Out in order to be adjoined to the head P.

Spell-Out $[_{DP}$ sono yasashii hito$]_i$



d. The Spelled-Out DP, which acts like a word can be adjoined to the head P without any problem.



##$[_{DP}$ sono yasashii hito$]_i$ ## -kara

As shown above, without AGRP and any special status of the Spec-head relation, the same story which accounts for the English possessive structure in the section 2 is applied to derive the postposition in Japanese from the preposition.

5. Finnish

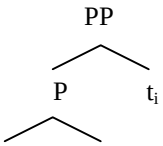
According to Tuomo Neuvonen (p.c.), Finnish uses postpositions and they are suffixes, which cannot stand alone.[4]

(17) Postpositions in Finnish
- a. auto-ssa
  car-in
  'in a car'
- b. auto-on
  car-to
  'to a car'
- c. auto-sta
  car-from
  'from a car'
- d. tuoli-lla
  chair-on
  'on a chair'
- e. tuoli-lle
  chair-to
  'to a chair'

[4] In literature, they are called semantic cases. Nikanne (1993) argues that in fact these are adpositions not case markers.

f. tuoli-lta
chair-from
'from a chair'

g. Virpin tuoli-lla
Virpi's chair-on
'on Virpin's chair'



##[$_{DP}$ Virpin tuoli]$_i$ ## -lla

As shown in (17g), what I have argued here lets postpositions in Finnish be derived from preposition. The suffix-nature of P (= *-lla*) motivates its complement to move up. Then the moved phrase is Spelled-out and adjoined to a head. So far, it is only a repetition of the analysis which I have applied to the postpositions in Japanese. But Finnish provides further interesting facts. According to Tuomo Neuvonen (p.c.), (i) Finnish is basically an SVO language, unlike Japanese, which is a strong head-final language:

(18) Pesin koiran.
washed-1sg dog-GEN-sg
'I washed a/the dog'

(ii) It also has a few prepositions, which are words not prefixes as the ones in English.

(19) ilman narisevaa tuolia
without squeaky chair
'without a/the squeaky chair'

These irregularities of word order in Finnish are what my story expects. As Kayne (1994) claims that all human languages should be, Finnish is a head-first language.[5] Then, their "suffixal" prepositions attract their complement to their left adjacent position. On the other hand, the prepositions which are independent words maintain the basic head-first word order.

6. Is head parameter a way to go?

Here, I will show another interesting Finnish fact introduced by Vainikka (1993). There are some adpositions in Finnish, which act either as a postposition, or as a preposition:

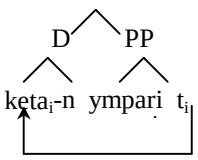
[5] In fact, whether Finnish is head-first language or head-last is still controversial.

(20) Some Finnish adpositions in Vainikka (1993)

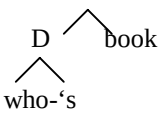
a.	ympari	kenttaa	b.	lahella	maalia	(Preposition)
	around	field-PART		near	goal-PART	
	'around the field'			'near the goal'		
a'.	ketan	ympari	b'.	maalin	lahella	(Postposition)
	field-GEN	around		goal-GEN	near	

Vainikka (1993) points out that when they are prepositions, they take a partitive NP. If she is right in that partitive is the default case in the complement, the partitive corresponds to the accusative case in English, which appears both in complements of verbs or prepositions. Since Finnish is SVO language, I analyze that the preposition version of these adpositions is the basic form, and the postpositions are the derived form. Vainikka (1993) observes that when these adpositions are postpositions, they generally take a nominal which is case-marked with the genitive marker *-n*. Here, exploiting an analysis of the English possessive phrase that I have introduced in the section 2, I suggest that the genitive marker heads these adpositions in Finnish. Then it attracts the complement of the preposition.

(21) a.



b.



The immediate problem would be that it appears to violate the HMC since the adposition is closer to the D head than its complement. However, since the attracted element is not a head but a phrase, the HMC is not applicable here. Therefore, the adposition does not block the movement. That is, I apply to my account Chomsky's (1994, 1995) explanation of long distance clitic climbing. Curiously, Japanese has the similar construction where genitive suffix also shows up.[6] Here, I introduce a Japanese correspondence.

(22)

a.	nohara-no	atari(-de)	b.	gooru-no	chikaku(-de)
	field-GEN	around(-at)		goal-GEN	near(-at)
	'around the field'			'near the goal'	

In short, Finnish has a set of words which sometimes act in the English pattern, a head-first language and which sometimes act in the Japanese pattern, a head-final language.

In fact, this kind of similarity between Japanese and Finnish can be observed in some other place. For example, let us see both the Finnish and the Japanese version of 'under the house' in which a genitive marker occurs.

[6] Tuomo Neuvonen pointed out this fact to me.

(23) talo -n a (-lla)
house -GEN under (-at)
'under the house'

(24) ie -no sita-de
house -GEN under-at
'under the house'

As shown in (23) and (24), the data from both languages are very similar, while Finnish is SVO language and Japanese is SOV. These data cast some doubt on the head parameter approach; If these two languages start from the opposite direction of tree, how can the observed similarities be explained? On the other hand, to the extent that what I have suggested is on the right track, these data support Kayne's (1994) view that Spec-Head-Complement is the universal order of human language and all other ordering is a result of displacement.

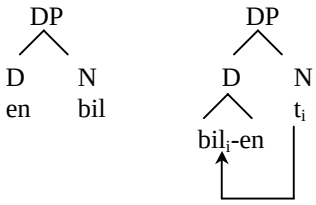
7. On N-to-D movement[7]

There are various languages which undergo N-to-D movement. These languages listed in the table below use the suffixed definite article which is attached to the N head. These phenomena are analyzed to be the result of raising the head N to the head D position shown in (25).[8]

	Indefinite article	Definite article
Rumanian	un	-l(e),-a,-i
Danish	en	-en
Icelandic	∅	-inn
North Swedish	(e)n	-en
Swedish	en	-en

(25) a. en bil
a car
'a car'

b. bilen
car-the
'the car' (Swedish)



[7] The data in this section are from Delsing (1993) and Grosu (1988)

[8] See Delsing (1988, 1989) and Taraldsen (1989, 1991) for Scandinavian languages, Grosu (1988) for Rumanian.

Our interest here is in how these languages react when the complement of D is larger than N^0**.** In Rumanian, there are two options;(i) the suffixed article draws the closest head, adjective, instead of N in (26a). (ii) The head N raises to D position stepping over adjective in (26b). The contrast in (26bc) appears to show that the phenomenon involves head-raising not affix-hopping in Chomsky (1957) or affix-lowering as Bobaljik (1994) proposes. That is, if the affix were the moved element, (26c) not (26b) would be an option. Here, the suffixed article is an "attractor".

(26) a. viteazu-l print
brave-the prince
'the brave prince'
b. printu-l viteaz
prince-the brave
'the brave prince'
c. *viteazu printu-l (Rumanian)

The option in (26a) is a typical example of Chomsky's (1995) Attract: looking down to its c-commend path and attracting the closest corresponding element.

(27) $[_{DP}$ viteazu$_i$-l t_i print]

(26b) seems to correspond with AUX raising in English. In both case, the moved element steps over an intervening element (adjective or negative item).

(28) a. printu$_i$-l viteaz t_i

b. John $[_{IP}$ could$_j$+I_{nfl} not t_j win the game]

Danish does not allow long distance N-to-D raising or the attraction of the closer element other than N. Instead, this language uses *det*-support to avoid a stranded morpheme just like do-support in English. (cf. Delsing 1993)

(29) det store hus
the big house
'the big house' (Danish)

(30) a -et store hus
*
det-support
⇓
det store hus

b. I_{nf} not walk

*

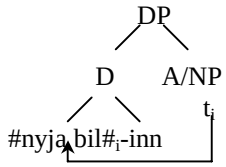
do-support

⇓

do not walk

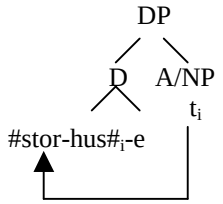
In both Icelandic and Northern Swedish, the whole phrase, A/NP is attracted and adjoined to the D head, when the complement of D is larger than N^0. Here, we observe additional examples of the adjunction of non-head to a head.

(31) nyja bil-inn
new car-the
'the new car' (Icelandic)



Especially, Northern Swedish makes the attracted phrase compounded. This is what Uriagereka's (1999) Multiple Spell Out conjunctures; 'the phrase maker that has undergone Spell-Out is like a giant lexical compound.' (Uriagereka 1999:256).

(32) stor-hus-e
big-house-the
'the big house' (Northern Swedish)



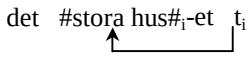
Finally, in Swedish, the raising of the whole phrase, A/NP to the head D position does happen. However, at the same time, a word like the article, *det* 'the', must be also inserted to the pre-nominal position. I leave it open why (and where) this article must be inserted.[9]

[9] An anonymous reviewer points out that a suffixed postposition is spread to both the adjective and the noun when Finnish NPs, which are in the complement of PP are modified by an adjective.

Punuaise-lla tua-lla

This might be related to the double occurrence of determiner that Swedish DPs show

(33) det stora hus-et
the big house-the
'the big house' (Swedish)



8. Summary

What I have proposed in this paper is that even when the derivation operates the head adjunction (or the head movement), some heads can attract a maximal projection, and Uriagereka's (1999) Multiple Spell Out can be exploited in these cases. I have shown that this innovation can attribute the formation of the postpositions of Japanese and Finnish to their properties as suffixes, defending LCA without AGRP and any special status of the Spec-head relations. Specially, Finnish data may be problematic for the Head parameter-approach, while fairly supporting my proposal.

To sum up, given what we have seen so far, even within the current framework proposed by Chomsky (1998), syntax can be antisymmetric in Kayne's (1994) sense. And I do hope that my work here would shed some light on remaining mysteries of the word order formation in languages.

Acknowledgments

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