Pure EPP and Scrambling*

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Kim, Hakyeon. 2003. Pure EPP and Scrambling. The Linguistics Society of Korea Journal, 11(3), 171–190. The purpose of this paper is to explain scrambling in terms of pure EPP. Object Shift is caused by Agree EPP, and the further movement of the OS-ed object by the pure EPP in Scandinavian languages. In scrambling languages, V-to-T raising and morphological Case markers are important factors for the pure EPP-driven scrambling. The assumption that [D] feature including the case marker causes OS by the Agreement of [D] with Spec vP, and further movement of the OS-ed object to Spec Foc by the Agreement of focus feature with Spec Foc may be explained in terms of the pure EPP.

Key Words: pure EPP, Scrambling, Object Shift, Agreement, Case Marker

1. Introduction

The flat non-configurational phrase structure allows free word order variation in languages such as Japanese (Hale 1980, 1983). Also, Saito & Hoji (1983) proposed that the variation is due to the optional application of a transformational rule. Kuroda (1988) claimed that if we extend the optionality, various properties in Japanese can be explained in terms of "Optional Agreement." In other words, the word order variation is due to the optional Spec-Head Agreement in T, therefore the subject, the object or any other elements can occur in Spec-TP. All

^{*} An earlier version of this paper was presented at the Summer Conference of The New Studies of English Language & Literature at Daegu University on Aug 22, 2003. I thank the audiences of the conference and anonymous reviewers of this journal for helpful comments and suggestions. This work was supported by the fund from Catholic University of Daegu.

of the above theories are based on optional scrambling.

Miyagawa(2001b) claimed that something (subject or object) has to be filled in the Spec TP. According to him, scrambling is triggered by the EPP feature on T. And V-to-T raising and morphological case markers in Japanese are the important factors that the object can be attracted to the Spec TP, while only the subject is attracted in English.

I shall focus on local scrambling. Also, based on the fact that Korean roughly resembles Japanese superficially, I shall accept Miyagawa's theory of EPP driven scrambling in Japanese. However I also propose that scrambling is only caused by pure EPP, not by ΦΕΡΡ, considering Hiraiwa's idea that two kinds of EPP such as pure EPP and ΦΕΡΡ can explain the object shift in Scandinavian. Further, I claim that a different theory of case markers from that of Miyagawa should also be considered in explaining the scrambling. For this purpose, the base generation theory of VP-internal word order is introduced in chapter II. Chapter III will introduce you the Split EPP theory. Chapter IV will be devoted to explain how the pure EPP can explain the scrambling in Korean.

2. Base Generation of VP-Internal Word Order

Saito (1985) suggested that scrambling in Japanese is defined as optional adjunction to XP(VP/IP). However, Miyagawa (1996a,b) claimed that there is no VP-internal scrambling because the word order in the phrase is each base generated according to Hale's (1980) theory of non-configurationality. Therefore the EPP-driven IP-adjunction is the only scrambling. The evidences that VP-adjunction scrambling is A-movement are found in the syntactic phenomena such as no reconstruction, nullification of WCO and anaphoric binding (Saito, 1992; Tada, 1989). However the evidence against VP -adjunction can be found in chain condition, passive, double object construction, etc., as suggested by Miyagawa (1996a).

2.1 Evidence against VP-Adjunct

Unlike IP-adjunction, certain VP-adjunction scrambling does not violate Chain Condition.¹⁾ The VP-adjunction is not a movement because it leaves no trace as shown in the following (1b).

- (1) a. ?* [John kwa Bob]-uli seroi-ka tittavrevss-ta. [John and Bob]-Acci each other-Nomi ti hit- Past. (John and Bobi, each other hit ti)
 - b.(?) John-i [Bill-kwa Mary]-luli seroi-evkey sokay-hayss-ta. John-Nom [Bill and Mary]-Acci each otheri-Dat introduce -Past. (John introduced Bill and Mary to each other)

In direct passive, Theme phrase moves to the subject position to leave a trace before anaphor, thus not violating the Chain Condition as follows.

(2) [John-kwa Bill]i-i Marv-evuvhav ti seroi-evke sokev-tovess-ta. John and Bill i-Nom Mary-by ti each otheri-to introduce-Past. (John and Bill were introduced to each other by Mary)

Since -eykey in Korean denotes Case marker and Postposition in [Dat-Acc] and [Acc-Dat] order respectively, two kinds of double object orders are base generated like those in English. The floated numeral quantifier (in this case an NP is Case marked) makes only the [Dat-Accl word order acceptable as indicated in the following (Haig, 1980).

(3) a. Mary-ka chinkwutul-eykey twumeyng CD-lul ponayss-ta. Mary-Nom friends-Dat 2-CL CD-Acc send-Past (Mary sent two friends a CD)

¹⁾ Following the condition from Miyagawa's(1996) 'Against Optional Scrambling', it is defined that "an anaphor can not c-command the trace of its antecedent" (Rizzi).

b.?* Mary-ka CD-lul chinkwutul-eykey tumeyng ponayss-ta. Mary-*Nom* CD-*Acc* friends-*Dat* 2-CL sent.

Let's take a look at passive construction with numeral quantifier. When a transitive verb accompanies a floated numeral in [Dat-Acc] order, the Dative can be passivized. The following example (4) is normal passive without floated numeral²⁾, where the dative is fronted.

(4) Na-uy hakseyngtuli-i John-ey uyhay ti cohun cikcang-ul edess-ta. I-Gen students-Nom John-by ti good job be given-Past (My students were given a good job by John)

Only the Dative accompanying the floated numeral is assigned structural Case because the Accusative turns into Nominative in the subject position by Case absorption. Yet, the Goal phrase can move to the subject position in the passive if the numeral is stranded as in (5a). Therefore, the Theme object can not scramble to the VP-adjunction position before the numeral as shown in (5b) (Miyagawa, 1996a). This is another kind of evidence for the fixed VP-internal word order hypothesis.

(5) a.? Nauy haksayng*i*-i Johney uyhay t*i* twumeyng cikcang-ul edess-ta.

My studenti-Nom John-by ti 2-CL job-Acc be-given (Two of my students were given a job by John)

b.? *Nauy haksayng*i*-i Johney uyhay cikcang*j*-ul t*i* twumeyng t*j* edess-ta.

My studentsi-Nom John-by ti job-Accj ti 2-CL tj give -passive-PAST.

2) In Japanese, the accusative case marker -O on cikcang in (4) is assumed to be acceptable when the verb cwuta(give) is used, but in Korean it is not. I don't know the reason. So I changed the verb into <code>edta(be given)</code>. I guess it is acceptable.

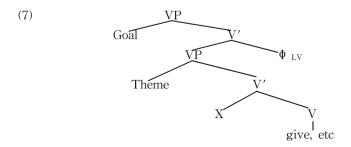
2.2 Case Assignment in the Double Object VP Construction

According to Miyagawa (1996a), the highest argument in [VP Goal-Theme] construction in Japanese is assigned structural Case by light verb (LV), and if PP is included in the Goal, the Theme should raise to higher Spec VP in the layered-VP structure suggested by Marantz (1993).

Even in Korean, the structural objective Case assigned to the internal argument is phonetically realized as [-lul] particle, but that Case assigned to the Goal is exceptional. So, more than one occurrence of [-lul] in a simplex clause is prohibited according to Harada's (1973) Japanese analysis. Only the first argument is realized as [-lul]. As word order variation basically changes the properties of Case assignment, the word order is assumed not flexible but fixed (Miyagawa, 1996a.b). If the Goal-originated numeral is stranded after t in the following (6), the Theme with the structural Case undergoes obligatory movement to the higher Spec VP (Koizumi, 1995; Ura, 1996). As the [Theme-Goal] word order in (6) does not violate Chain Condition, it can not be considered as VP-internal scrambling.

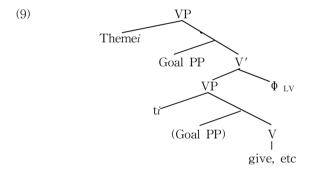
(6) John-i chayki-ul Mary-eykey ti twukwen cwuess-ta. John-Nom booki-Acc Mary-Dat ti 2-CL give-PAST. (John gave two books to Mary)

Miyagawa (1996a), accepting Marantz's (1993) layed-VP, draws the double object structure as in the following (7), and suggests the structural case assignment rule in the structure as in (8).



(8) The light verb in the ditransitive construction must universally assign structural case (Miyagawa, 1996a).

In the [Goal-Theme] order, because the base generated Goal in the higher Spec VP is assigned structural Case by LV including Φ . the Theme can not move to the left side of the Goal, so preventing VP-adjunction. However in the [Theme -Goal] order, the theme moves to the higher Spec VP by (8) as it is always base-generated in the lower Spec VP. Then the Goal is converted into PP because it can not be assigned a structural Case from any verb. The PP is generated under both higher VP and lower VP as in (9).



The higher Goal PP let the Chain Condition become violated when the Theme-originated numeral is stranded to the right side of the PP, but the lower Goal PP does not since the Theme never moves across the PP. LV universally assigns structural Case because of Φ , but the lexical verb in Korean (and Japanese) optionally selects the structural Case.

2.3 Extraction out of the Double-Object VP

In the normal [vp Acc-Dat] construction, the Dative usually has postposition since the dative numeral shows marginality in the following (10a). Even when the DO is adjoined to IP, the same marginality

appears in (10b). So the Dative is supposed to turn into postposition, triggering the IP-adjunction movement (Miyagawa, 1996a). The movement proceeds as shown in the (11).

- (10) a.??? Mary-ka CD-lul chinkwutul-eykey twumeyng cwuess-ta. Mary-Nom CD-Acc friends-Dat 2-CL gave (Mary gave two friends a CD) b. ??? CD-lul Mary-ka chinkwutul-evkey twumeyng cwuess-ta. CD-Acc Mary-Nom friends-Dat 2-CL gave (Mary gave two friends a CD)
- (11) DOi SUB-Nom [VP ti Goal-evkey ti V]

We can find the evidence even in the IP-adjunction movement of DO that each word order in the double object construction is base generated.

3. Split EPP/Agree

To explain the different type of Object Shift(OS) between Icelandic (ICE) and Mainland Scandinavian (MSc) and the Stylistic Fronting (SF) in ICE, Hiraiwa (2001) suggested Split EPP/Agree.

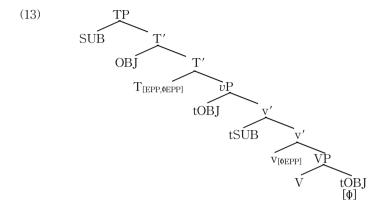
According to him, ICE undergoes (a) optional DP OS and obligatory weak pronominal OS to the outer Spec vP, and (b) SF of non-subject element to the Spec TP, but MSc does only the weak OS. So he assumed the following EPP parameter.

(12) The Split EPP/Agree Parameter (Hiraiwa, 2001: 291) Satisfaction of EPP on T is (not) contingent on a syntactic operation "Agree".

ICE has both [EPP] and $[\Phi]$ EPP] on T, but MSc only $[\Phi]$ EPP]. Both are symbolized as T_[EPP, \PhiEPP] and T_[EPP] respectively. Further movement of OS by T_[EPP] can solve the Defective Intervention Constraint(DIC)³⁾ problem caused by OS.4)

3.1 Full-OS in ICE and MSc

In the Full-OS schematized in (13), Agree (v_[ΦEPP], [v OBJ]) triggers



the OBJ to move to the outer Spec vP resulting OS. T_[EPP] attracts the closest OS to the inner Spec TP, so the SUB can move to the outer Spec TP by Agee(T[\$\phi\text{EPP}\$], SUB) without DIC violation.

3.2 Non-Full OS

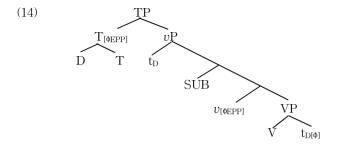
MSc does not undergo full OS (Holmberg & Plazack 1995, Bobaljik & Thraisson 1998). The DIC caused by $T_{[\Phi EPP]}$ -OS blocks Agree ($[\Phi EPP]$. SUB]). But the weak pronominal (=D)5) moves to Spec vP, and then cliticizes on T. which allows the Agree because there is no intervening matching goal between T and SUB. See the following diagram.

³⁾ For Defective Intervention Constraint, see Chomsky (2000)

⁴⁾ Closeness (Chomsky 2000)

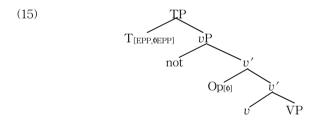
Locality reduces to "the closest c-command" (No multiple Specs are equidistant from a probe P).

⁵⁾ The properties of clitics are that they are not stressed, modified, conjoined and undergo obligatory shift.



3.3 Stylistic Fronting

EPP feature in ICE allows OS to Spec vP and SF to Spec TP, but Φ EPP feature in MSc blocks SF. Take a look at the SF6) in the following diagram.



To satisfy the EPP the $T_{[EPP]}$ probes the first Neg, and $T_{[\Phi EPP]}$ probes the first Op to move the Op, satisfying the EPP/\$\phi\$EPP simultaneously. The landing site of T_[EPP]-driven movement of the object is the inner Spec TP, but in scrambling the site is supposed to be the position of TP-adjunction being triggered by the pure EPP.

4. Pure EPP and Scrambling

According to the suggestions in the previous chapters, that two kinds

⁶⁾ In ICE, non-subject elements (adverb, predicate adjective, particles, DPs, etc) can be fronted before the main verb (Holmberg 2000). So he seems to refer it as an Operator movement.

of VP-internal word orders are base generated and the split EPP/Agree can explain the Defective Intervention Constraint caused by object shift, in this chapter, it will be assumed that scrambling may be caused by only the $T_{\rm [EPP]}$ particularly in local scrambling.

4.1 EPP-Scrambling and V-Raising

4.1.1 EPP-Driven Scrambling & LDS

According to Miyagawa (2001b), the driving force for the scrambling of a subject DP is EPP feature on T. In the following OSV order, subject (all=motwu) is within the Neg scope since it stays in Spec vP. So the subject feature in Korean/Japanese is assumed to be not strong.⁷⁾

- (16) a. Motwu-ka ku sihem-ul chici-anhass-ta. all-Nom that test-Acc take-Neg-PAST (All did not take that test) (all>not, * not>all)
 - b. Ku sihem-uli motwu-ka ti chici-anhass-ta. that test-Acci all-Nom ti take-Neg-PAST (That test, all did not take) (all>not, not>all)

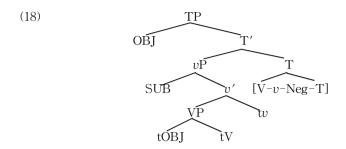
To satisfy the EPP feature, one DP must move to Spec TP, the rest remaining in situ. So the following principle was suggested by Miyagawa..

(17) A-Scrambling is triggered by the EPP-feature on T.

He also assumed that the Subject DP staying in Spec vP is within

⁷⁾ According to Miyagawa's (1996a,b) previous EPP analysis, when [V-v] undergoes head movement to T, subject and object are equidistant from the T. Also the EPP on T can attract any DP and the EPP is checked if an appropriate DP(or PP) moves to Spec TP without requiring specific Case on DP. A language without V-to-T raising (English) attracts only the closest subject, but Japanese attracts an appropriate DP or PP to satisfy EPP since it has the V-to-T raising.

the scope of negation since the DP is c-commanded by negation as in (16b), but the subject outside the negation raises to Spec TP to satisfy the EPP. Then the object under- goes A'-scrambling for the satisfaction of focus as shown in the following diagram.



Furthermore, in the construction with high adverb (fortunately) as shown in (19b) the subject (motwu) stays in the Spec TP because the adverb occurs within the projection of T.8) The quantifier is not interpreted as partial negation in comparison with (19a) which has VP-adverb.

(19) a. Ku nonmwun-uli motwu-ka culkepkey ti ilkci-anh-ass-ta. That paper-Acci all-Nom happily ti read-Neg-Past (That article, all did not read happily) (not>all, not>happily)

b. Ku nonmwun-uli motwu-ka tahavnghi ti ilkci-anh-ass-ta. (That article, all did not fortunately read) (all>not, *not>all)

Accepting Mahajan's (1990) A'-scrambling, Miyagawa assumed that EPP can not be the driving force for the long distance scrambling as shown in the following (20).

⁸⁾ According to Klima(1964), a quantifier is in the scope of negation iff it is c- commanded by negation.

(20) Swukcey-luli motwu-ka [CP sensayngnim-i ti nayess-tako] sayngkakhaci anhass-ta.

Homework-Acci all-Nom [CP teacher-Nom ti assigned] think-Neg-PAST.

(Homework, all did not think that the teacher would assign)

Motwu (all) moves to Spec TP since it is interpreted outside the scope of negation. There is no point where the object in the lower clause and the subject in the matrix clause can be equidistant from the matrix T. So *motwu* which is the closest from the matrix T satisfies only the $T_{\text{[EPP]}}$.

Since the verb in the scrambling languages usually does not inflect in accordance with the Φ -feature, those languages have only the $T_{[EPP]}$. So that is supposed to be an important factor of the scrambling.

4.1.2 V-to-T Raising and Case Markers

According to Miyagawa (2001a,b), V-to-T raise and mor- phological Case Marking are the main causes of EPP-driven scrambling. However, I assume that this EPP can also be a pure EPP, not ΦΕΡΡ.

Evidence for V-to T raising (Kuroda, 1965) comes from the fact that emphatic element (*kkaci*=even) intervening between a verb stem and tense marker blocks V raise, and light verb(*do*) bears the tense.

(21) a. Normal Construction

Sensayngnim-uli motwu-ka ti pinan haci anh-ass-ta.

Teacher-Acci all-Nom ti blame not did.

(The teacher, all did not criticize) (not>all, all>not)

b. Emphatic Construction

Sensayngnim-uli motwu-ka ti pinan **kkaci** haci anh-ass-ta.

Teacher-Acci all-Nom ti blame- even not did.

(*not>all. all>not)

In (21a), the object scrambles to Spec TP to satisfy EPP on T

because of V-to-T raising but the subject remains in the Spec vP within the scope of negation. However, the object in (21b) can not raise to Spec TP because the emphatic element blocks V-raising. Instead, the subject has to move to the Spec TP to satisfy the pure EPP thus being outside of the Neg-Scope. The object has undergone focus scrambling to the sentence initial position.

Here again we can assume that pure EPP can attract either subject or object to the Spec TP. Also the driving force for the focus scrambling of the object in (21b) might be the pure EPP if that can not be considered as a pure syntactic feature.⁹⁾

As nominative and accusative Case markers identify subject and object respectively the scrambling languages allow free word order permutation, which is called functional morphological Case marking (Mivagawa, 2001b). Therefore the EPP driven scrambling of the object is caused even by the morphological Case marking in addition to V-to-T Raising. 10) Based on the fact that tense licenses the morphological case markers which will be illustrated right below, those Case Markers enable the EPP on T to attract nominative or accusative object if both of the Case markers agree with T (Chomsky, 2000).

The reasons that Case markers agree with tense are; first, the Accusative Case correlates with the morphological Nominative Case, which shows that the same T licenses both the accusative and the nominative. Second, the correlation need not obtain in the case of abstract_case.

For the empirical evidence, we can find that subject in a relative clause can alternate with genitive marker in Japanese (Harada, 1971; Miyagawa, 1993; Watanabe, 1996), but genitive and accusative case can not co-occur as shown in the following (22).

⁹⁾ I am not sure whether we should include focus in the class of pure syntactic feature just like Φ . And if it is considered to be a pure feature, we should also need to add a lot of pragmatic features such as INT, specificity, force etc., to the category of syntactic features.

¹⁰⁾ In Scandinavian and Swedish where V-to-T Raising triggers the object shift and V raises only in root clause in the respective languages, V-raising has nothing to do with marking the function of DPs (Miyagawa, 2001b)

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(22) a. [John-uy/i on ] iyu.

[John-Gen/Nom come] reason

(the reason why John will come)

b. *[John-uy Mary-lul kkwucicun] iyu

[John-Gen Mary-Acc scolded] reason

(the reason why John scolded Mary)
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So the corelation between the nominative and the accusative shows that the same T can license both the cases. The genitive-subject can co-occur with something other (instrumental PP) than morphological case marker as well as empty object (Abstract Case) as shown in (23) respectively (Harada, 1971; Miyagawa, 2001b).¹¹⁾

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(23) a. [John-uy chepencay-uy kicha-ro on] iyu.
[John-Gen first-Gen train-by came] reason
(the reason why John will come by the first train)
b. [John-uy/i ei kkwucicun] haksayngi
[John-Gen/Nom ei scolded] studenti
(the student who John scolded)
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However, the genitive-subject can co-occur with dative because the latter is suppressed to postposition when it is together with the former as shown in (24) (Miyagawa, 1996b; Watanabe, 1996).

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(24) [Mary-eykeyi John-*uy/i ti pilreycwun] chayk

[Mary-Dati John-Gen ti lent] book

(the book that John lent to Mary)
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(24) with genitive is also unacceptable in Korean. Thus I can conclude that for the exposition of the pure EPP-driven scrambling, in addition to the V-raising morphological case marking should also be taken into consideration. I am sure that there are some differences in acceptability

¹¹⁾ There is difference between Korean and Japanese because the structure with genitive-subject is variant in acceptability. I have no solution to this yet.

of the above examples between Korean and Japanese.¹²⁾ The differences may be dependent on the different properties of predicates between the two languages, but the exact reasons of the differences remain to be solved.

4.2 OS and Scrambling

According to Wonbin & Sunggeun (2000), when an indefinite object is morphologically Case marked, it is OS-ed to the outer Spec vP. The Case marker on the object is head of the [D] because the case marker of an NP belongs to [D] (Ahan, 1988; Jeong, 1999). When the [D]-features on the object agrees with v, the object undergoes OS to the Spec vP to satisfy EPP where the object obtains INT because it is correlated with specificity.¹³⁾ Then in order to get contrastive focus interpretation the object raises to Spec Foc through the agreement of Foc-feature (Wonbin & Sunggeun, 2000).

They claimed that only A'-movement is scrambling because their idea could solve the problem of anaphor as indicated in the following.

(25) a.*Marv-ka sero-uvi kvoswu-evkev kutl-ul sokev-hav-ess-ta.

Mary-Nom each other-Gen Professor-Dat they-Acc introduce -PAST.

(Mary introduced them to each other's professor)

b. Kutul-uli Mary-ka t'i sero-uyi kyoswu-eykey ti sokeyhay-ess -ta.

they-Acci Mary-Nom t'i each other-Geni prof-Dat ti introduce -PAST.

(Them, Mary introduced to each other's professor)

¹²⁾ In Korean, the nominative case marker [-i] is much better than [-uy] in (22a), and in some cases [-uy] can not be used.

¹³⁾ The specificity of the object occurs as a result of OS: [±OS] property depends on the EPP-feature of v, and v has a D-feture (or EPP-feature) only if the output effects (i.e. new/old information, specificity/definiteness, focus or topic, etc) occur.

(26) Caki-casin-uli Maryi-ka ti salangha-n-ta. self-Acci Mary-Nom ti love-Pres (Herself, Mary loves)

(26) violates Chain Condition, but it is licit. The OS-ed object in Spec vP is bound by the antecedent, then the object undergoes focus movement to the Spec Foc. They also claim that their theory solves the mitigation of WCO effect (Mahajan 1990).¹⁴⁾

(27) a. * Whoi did hisi mother see ti?
b. John-uli kui-uy emeni-ka ti salangha-n-ta.
Johni-Acc hei-Gen mother-Nom ti love-Pres
(John, his mother loves)

As the object trace in Spec vP is converted into resumptive pronoun by the Vehicle Change indicated in (28), (27b) is licit.

(28) Vehicle Change (Safir, 1999)

A derivational variable v is converted into a resumptive pronoun iff v is not bound by a true quantifier.

However, if we consider the A'-scrambling to be triggered by pure EPP as suggested in the previous chapter, there will be no problem. The object is OS-ed by Φ EPP and the further focus movement of the object can be a scrambling triggered by the pure EPP to the TP adjunct position. However, the object is not considered to scramble to the TP adjunction position via outer Spec vP because in scrambling languages the DP has no feature to be agreed with that of v. The binding problem in (25) and WCO effect in (27) can be explained because those anaphors contained in a larger DP do not c-command their traces. But (26) is exceptional which remains to be solved by the pure EPP. 15)

¹⁴⁾ According to the previous suggestion(Miyagawa,1996a), two kinds of word order in double object construction are base generated.

5. Concluding Remarks

Accepting the suggestion that the two kinds of word order in VP-internal double object construction are each base generated and the split EPP/Agree, pure EPP is considered to be an important factor of scrambling, In scrambling languages, either subject or object moves to Spec TP to satisfy the pure EPP because both of them are equidistant from T if V raises to the T. Also morphological case markers should be taken into consideration as a factor for the scrambling. When the subject moves to the Spec first, the object undergoes direct Focus -driven scrambling of adjunction to the TP without landing to the Spec vP unlike non-scrambling languages.

In order to incorporate the Wonbin et.al' idea, that the object undergoes focus-driven scrambling if the objective case marker denotes specificity into the pure EPP analysis, I'd like to suggest that the pure EPP simply and directly attracts the object with the specific case marker to the TP adjunction position. The two questions, from an anonymous reviewer, regarding how we can solve the problem of the same T having two kinds of EPP, and whether there is no syntactic problem if we get rid of the Foc-feature, remain to be solved. I suggest that the [-V]-feature or inherent Case related with θ -role suggested by Oka (1995) and Takano (1998) will provide some solution. However, this remains to be further studied.

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¹⁵⁾ But (26) is easily explained in terms of reconstruction suggested by Saito (2001), The reconstructed anaphor is not operator bound, so it is A-scrambling.

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Received: 10 August, 2003 Accepted: 23 August, 2003 Revised: 16 September, 2003