

Move is Occur; the First Step to Eliminate Movement*

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Im, Chegyong. 2007. Move is Occur; the First Step to Eliminate Movement. *The Linguistics Association of Korea Journal*, 15(4). 197-221. This paper is an attempt to reduce the heavy burden caused by the operational mechanism of movement. It is argued in this paper that the driving forces of movement such as Case, EPP or some semantic change can be dissolved without recourse to the Last Resort of moving an element within a phase to another phase; the derivational operation constrained by some mechanical restrictions of Activation Condition, Inclusiveness Condition, and Phase Impenetrability Condition. It is also argued that the notion of occurrence without movement can replace the notion of copy or trace of movement under Multiple Sphere Hypothesis which guarantees the displacement of elements with fully specified in each of the three spheres: Θ -sphere, Φ -sphere and Ω -sphere.

Key Words: movement, Multiple Sphere Hypothesis, occurrence, DRESS, PLACE, The Most Specified Survival

0. Introduction

Since the Principles and Parameter theory was introduced, the general principle of movement dubbed as "Move α " has subsumed many separate rules previously known as transformations. It has been the role

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of Universal Grammar that limit the ways in which movement can take place, securing the possible human languages. The necessity of providing constraints to prevent improper movement as well as the spirit of movement has been succeeded by the Minimalist Program (MP) in which the brutal operation of government is replaced by more human operation of Agree for the licensing of movement. Still, you have to Probe down the field to find a Goal to Agree with each other during the derivation which is assumed to be strictly cyclic, with the phase level playing a crucial role. Besides, movement is possible only if an element has uninterpretable features to be checked or Agreed (Activation Condition, See Chomsky 2000, 2001, for detail).

Whatever mechanism is employed, movement presupposes moving an element from one domain (one local area or phase) to another domain, which must obey Phase Impenetrability Condition to reduce the burden of retaining earlier stages of derivation in the phonological component (Chomsky 2001: 10)¹⁾. Besides, as long as the movement itself is induced by some other mechanisms or human language properties such as Case, EPP or some semantic change (in the sense of semantic dualism, (eg. Object Shift), the movement is ego-centric.

This paper is an elaborated attempt to seek for the possibility of eliminating the operation "movement" from grammar under Multiple Sphere Hypothesis (MSH). As is assumed in Im (2003, 2004a, 2004b, 2004c, 2005a, 2005b, 2006), a syntactic object (SO) comes into computation with its features underspecified. The features of SO can be specified when SOs merge with each other in the three spheres called Θ -sphere, Φ -sphere and Ω -sphere respectively. MSH doesn't assume any constructional structure for the computation but the set merge of SOs until Spell-out where the linear order of SOs with fully specified

1) Recently, some scholars suggest Parallel Movement (Chomsky 2005a, Hiraiwa 2005, 2006, among others) under the name of Derivational Simultaneity to evade the empirical problems of the traditional constraints for movement.

(i) The principle of Simultaneity

Apply operations simultaneously in parallel at a probe level.

(Hiraiwa 2005: 35)

(i) guarantees multiple relations between more than one goal and a probe

features is determined. The notion of OCC(urrence) plays a crucial role in our hypothesis because an SO can participate in the computation in the form of more than one OCC. If there are more than one OCC, only one survives in the competition. Since there's no structural starting position, nor any landing site, there's no notion of movement.

This paper is organized as follows: in chapter 1, the basic assumptions of MSH are explicated with the principle to guarantee the PF convergence of a structure. In chapter 2, we show why head movement is not actually movement but a PF phenomenon. We show how our hypothesis can be applied to the typical instances of A-movement phenomena such as passivization, unaccusative subjects, and raising in chapter 3. In chapter 4, we also show how our proposal can be applied to the typical instances of A'-movement such as topicalization, wh-fronting as well as multiple wh-phrases. And then, follows the concluding remarks.

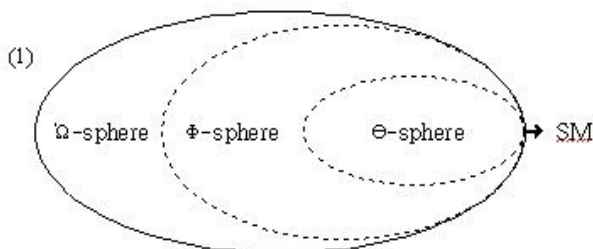
1. Generation in the Spheres

Multiple Sphere Hypothesis assumes that Operations CHL access {F}, features to generate expressions. The language L maps {F} to a particular set of expressions in three spheres: Θ -sphere, Φ -sphere and Ω -sphere.

The most fundamental hypothesis MSH assumes is that the process of derivation is not cyclic, nor stepwise but simultaneous²⁾. L contains operations that determine the phonological, syntactic, semantic and pragmatic value of each SO by specifying the features from the lexicon which exist in three spheres: Θ -sphere, Φ -sphere and Ω -sphere³⁾.

2) The notion of simultaneousness of processing is not astray from the traditional track of generative grammar. As is notified in Chomsky (1986: 67), the arrows between the subsystems and levels (D, S, LF, PF) entail nothing about temporal order of speech production or processing.

3) Some of our ideas are adopted from Platzack (2000) and Grohmann (2000). We assume Platzack (2000)'s multiple interface levels: Thematic Form, Grammatical Form, and Discourse Form, and the information exchanged at these levels pertains to the information assembled at the V-domain, the I-domain, and



As proposed in Im (2003, 2004a, 2004b, 2004c, 2005a, 2005b, 2006), when syntactic objects α and β come into computation by Merge, they assume discourse features (of information like specificity, topic, focus . . .), syntactic features (Φ -features, for instance), as well as phonological features⁴.

Θ -sphere is where SOs merge by the interaction of Θ -roles, selectional restrictions and subcategorizations. In Φ -sphere, the selected SOs check their agreement features (Agree in MP), establishing their relation to each other, but no structure because we don't assume any constructional structure (e.g., binary branching or X-bar) but the relation among SOs (e.g. subject, object, predicate of, etc.). Finally, in Ω -sphere, the SOs are specified with their discourse features (of information such as specificity, topic, focus, etc.). When all the features are specified, the SOs get DRESSed with necessary morphemes, ready to be TRANSFERred to sensory-motor (SM) interface.

the C-domain, respectively. We employ Grohmann's terms for the naming of Θ -sphere, Φ -sphere and Ω -sphere. But our Hypothesis differs from theirs a lot since we assume a simultaneous operation of computation of SOs instead of the stepwise derivation assumed in the Minimalist Program. Another great difference is we don't assume one-fell-swoop of lexical Selection but Selection all-the-time. This might be called a radical extension of Distributed Morphology suggested in Marantz (1997).

4) The "features in the spheres" is an extended notion of Chomsky (2005a)'s EF (edge feature) of an LI. We also assume that for an LI to be able to enter into a computation, it must have some property permitting the operation.

(1) DRESS

Get SO dressed with morphemes whenever the features are specified.

(1) ensures the morphological suppletion whenever necessary which reduces the redundancy of evaluation of the already selected elements.

Since Chomsky (1982, 1986), projection principle replaced the PS rules. An SO comes into numeration with its full fledged features which play an important role in the derivation. MP assumes Agreement between Probe and Goal. The earlier MP's assumption that only heads can act as Probe has been weakened. We argue that there must be an operation Agree (feature identification) between SOs which guarantees the merger of two SOs but there's no need to distinguish between Probe and Goal. The notion of Projection is not employed in the Hypothesis. There's no head, nor any hierarchical structure⁵).

SOs come into computation with no features specified (in their root form⁶, metaphorically). We believe when the speaker utters a sentence, the ultimate goal is communication. The phonological features and some of the syntactic features are by-products of Merge, while the semantic features which are inherent induce the primary merge between SO_n and SO_m⁷). For example, when {John}, {loves}, {Mary} are selected, their primary merge is done by their semantic properties like Θ -relation, strict subcategorization and selection restriction in Θ -sphere⁸). These semantic properties operate as glue to unite the SOs, forming a

5) The notion of "dominate" or "command" can be eliminated since we employ "set merge".

6) Our term "root" differs from that of Marantz (1997) (notation borrowed from Pesetsky 1995). Their roots like $\sqrt{\text{DESTROY}}$ and $\sqrt{\text{GROW}}$ are category neutral, neutral between N and V, while our roots like $\sqrt{\text{John}}$ and $\sqrt{\text{love}}$ are feature under-determined.

7) Chomsky (2005b) notes that there is a basic asymmetry in the contribution to "language design" of the two interface system: the primary contribution may be optimization of mapping to the C-I interface, while mapping to the SM is an ancillary process.

8) Since language design is imperfect, selection of {a stone}, {loves}, {sympathy} can be possible. But the merge of the SOs may cause a failure in communication unless some pragmatic environment is involved.

semantic unit (NP, VP, PP, AP, or S in traditional terms).

In this sphere, some languages like Thai attach classifiers (meaning "human", "animal" or "things") to the nominals according to the property of the nominal since these classifiers are the manifestation of the inherent feature of the nominal, not induced by the syntactic relation on the merge of two SOs. The sphere also guarantees the licensing of inherent case (or semantic case) if we assume "cases" suggested in Fillmore (1968, 1977). We can also solve the problem of so-called "quirky case" in some Scandinavian languages. Therefore, it can be said that the sphere provides generalized argument structure, the first part of semantic dualism⁹).

Φ -sphere provides space for (narrow) syntactic agreement phenomena in many languages. First of all, many languages show syntactic agreement between SOs. For example, {John} and {loves} show agreement in English sentence *John loves Mary*, and {locative} and {verb} show agreement in an African language sentence comprised of "locative verb subject" (Collins 1993). Or we can find agreement between "object" and "past participle" in some Romance languages. Structural case is also fixed in this sphere.

Ω -sphere ensures parametric variations of word order among languages caused by the second half of the semantic dualism. The parametric variation of word order among languages is determined by the features in each sphere (Θ -sphere, Φ -sphere, and Ω -sphere). As is well-known, Merge is a set operation that imposes no intrinsic ordering among its members (Yang 1999, Chomsky 2001, 2005 a, b¹⁰). In order

9) By the duality of semantics, Chomsky (2001, 2005b) suggests that EM yields argument structure, while IM yield discourse-related properties. Since we don't assume IM, we believe that the first half of the duality can be covered by the process in Θ -sphere and the second half, by the process in Ω -sphere.

10) If the notion of "label" is assumed as in Chomsky (2001, 2004, 2005a, b), labeling underlies a variety of asymmetries: e.g., in a head-XP construction, the label will always be the head, and XP a "dependency", where head-complement structure is a set, not an ordered pair. We believe if linear order is restricted to the mapping to the phonetic interface, the basic operations of Merge in the three spheres guarantee the linear order for the SM interface. Under MSH, the properties (features of three spheres) of lexical items and the typological

for a Merger set to be linearized into strings of words at PF, all the features of the SOs should be specified in three spheres.

The effects of Internal Merge suggested in MP can be replaced by the notion of OCC(urrence). Our assertion begins with Zhang (2004)'s proposal: overt movement is remerger of a given term. In Rmerge Theory (RT), when an element comes into computation, it occupies an original position, "old occurrence" and then it travels and appears in a new syntactic position, "new occurrence". For example, in the sentence "A monster ate Fido.", *a monster* is merged with *eat Fido* in VP. The DP *a monster* undergoes another instance of Merge, occupying the SpecIP to check the EPP feature.

Refuting the burden of the operation "deletion" in Copy Theory, she argues that the old occurrence and the new occurrence of the same element, *a monster*, here, cannot be visible with respect to any specific structural consideration. If the old occurrence is considered, as in reconstruction, the new occurrence is invisible while if the new occurrence is considered, this occurrence is active in syntactic derivation. She concludes that the displacement effect is derived from the remerger of an element not from a copying operation; the nominal has two occurrences in the whole derivation, but not two full-fledged sets of features.

We agree with Zhang's idea of occurrence in that the operation of internal merge (move) is not copying an element, leaving its clone behind. But our notion of occurrence is considerably different from that of hers. We believe that more than one occurrence for an SO can occur when necessary, i.e., when the features in the three spheres are specified and ready for the "Placement".

(2) PLACE

Place SO when all the features are specified

It can be said that occurrences are different tokens of the same type.

variation among languages in the manifestation of the properties determine the linear order.

For example, in the sentence, "John seems to be sick," there are three occurrences of John: "John**OCC1** seems John**OCC2** to John**OCC3** be sick." Why **OCC1** beats all other candidates? The answer is simple: it is the most specified one among the three.

(3) The Most Specified Survival¹¹⁾

If there exists more than one OCC, the most specified one survives.

John**OCC1** in the sentence "John**OCC1** seems John**OCC2** to John**OCC3** be sick." beats the others because it is specified with Case feature as well as other features with which John**OCC2** and John**OCC3** are not specified.

We part from the tradition in that we don't assume one-fell swoop of lexical selection. Rather, we suggest "lexical selection all the time". So the operation would be 24hr-outlet operation whenever necessary¹²⁾. At the beginning of computation, the root (or bare) SOs with its inherent phonological, syntactic as well as semantic (or pragmatic) features are merged with each other. Whenever the features are specified, each SO assumes its proper morpheme by (1). Simultaneously, the order of the elements is decided by (2) and (3). Then, the set of SOs with its full features and full morphological form escapes the spheres into

11) Recall that "The Fittest Survival" is based on the view from 'the environment'. "The Most Specified Survival" is based on the view from 'the individual'. So we presume that (3) fits in with the biolinguistic perspective beyond explanatory adequacy.

12) UG makes available a set F of features and operations CHL that access F to generate expressions. Chomsky (2000: 13) argues that Operative complexity is reduced if L makes a one-time selection of a subset {F} of F, dispensing with further access to F. He compared the operation "Selection" to the following: "If the derivation accesses the lexicon at every point, it must carry along this huge beast, rather like cars that have to replenish fuel supply constantly." Under MSH, this burden of carrying the huge tank can be reduced because MSH assumes no stepwise derivation or mapping but simultaneous Merge of features in the spheres. There is no recourse to LEX since LEX itself exists in the spheres. We don't carry the pool, we swim in the pool.

sensorimotor systems.

2. Head movement

Traditionally, to explain the asymmetry in the following pair in (4), we needed the rule like (5).

- (4) a. Je mange souvent des pomme.
 b. I often eat apples.
 (5) Verb raising parameter
 Verbs raise to T or T lowers to V.

To evade the problem of the asymmetry, one can assume covert movement after S-structure. But still, (5) assumes an argument structure, a hierarchical one in which V is the head. In MSH, we assume an argument structure to be a set, in which V and its arguments are related by their features (theta relation and subcategorization restriction¹³). Another matter concerned in Head movement is it induces nothing for C-I: a semantically vacuous operation. It contributes nothing for the semantic dualism. Finally, (5) presupposes the word order parameter among languages. It doesn't explain why, just describing the results -- a look-ahead. Consider the following Irish example¹⁴.

- (6) Phóg Máire an lucharachán.
 Kissed Mary the leprechaun
 "Mary kissed the leprechaun."

13) According to Collins (1999: 44), all merge operations establish syntactic relations as in the following list:

- (i) a. Theta (X, Y) X assigns a theta-role to Y
 b. EPP (X, Y) Y satisfies the EPP feature of X
 c. Agree (X, Y) X matches Y, and Y values X
 d. Subcat (X, Y) X subcategorizes for a feature Y

14) VSO order found in tensed sentence in Irish is the basic order of about 9 percent of the world's languages including Tagalog, Welsh, Arabic, Mixtec, mayan, Salish, Turkana, Maasai, to name only a few. (Carnie 2002: 199).

How can we explain the asymmetry of the subject position between English or French type languages/Irish type languages? VP-internal subject hypothesis might solve the problem. That is, if we assume V to T movement in Irish and NP movement of subject from [Spec VP] to [Spec TP] in English or French, the parameter of subject position might be explained. That sort of solution, however, presupposes a stipulation. The subject of English or French type languages moves out of VP, while that of Irish type languages doesn't.

Now let's consider an example of T-to-C Movement.

(6) Have you squeezed the toilet paper?

Subject/Aux inversion is a special case of question complementizers since English doesn't have an overt question complementizer (Irish *an*, Korean and Japanese *-nya*, *-ka*, etc.). The language has to employ a special mechanism of moving T to C.

All these observations and reasoning lead us to suppose that head-raising process is a phonological operation rather than narrow syntactic one. As explicated in Chomsky (2001: 30-31), the interpretive burden is reduced if verbs are interpreted the same way whether they remain in situ or raise to T or C: verbs are not interpreted differently among languages. It should be concluded that overt head movements (V to T, T to C, N to D) are phonological properties, conditioned by the phonetically affixal character of the inflectional categories.

3. A-movement

3.1. Passivization and unaccusative subjects

Traditionally, A-movement has been involved with the movement of an element to what is known as an argument position—roughly, a position in which an element can be base-generated and bear a crucial semantic role with respect to the main predicate of a clause. (7) contains typical examples of A-movements.

- (7) a. John_i was murdered t_i
 b. John_i died t_i

The movement to subject position in (7) can be explained in Burzio's generalization; a predicate that assigns no external theta role cannot assign Accusative Case. But placement of *John* can also be explained under MSH:

- (8) a. John**OCC1** was murdered John**OCC2**
 b. John**OCC1** died John**OCC2**

The principle (3) applies here: John**OCC1** wins in the competition because John**OCC2** is specified with only one feature in Θ -sphere while John**OCC1** is specified with more features in Φ -sphere and Ω -sphere (subject, topic etc.)

The same process applies to the dative shift construction in (9)

- (9) a. John gave some presents to Mary and Jane
 b. John gave Mary and Jane some presents

In Θ -sphere, the same argument structure for (9a) and (9b) is constructed by the merger operation with the thematic relations between the verb and the arguments. The SOs participate in the operation as elements of a set merge, showing no hierarchy, nor linear order among them. In Φ -sphere, agreement between the verb and the arguments shows up. Under no more circumstance, the potential SVO order for English would be applied here. The final word order is fixed in Ω -sphere by the operation (2). As can be easily proved, the dative in (9a) is more prominent in its information weight (comparatively new information) than the direct object (comparatively old information). *Vise versa* in (9b). Compare the following sentences.

- (10) a. John gave some presents to them
 b. John gave them to Mary and Jane
 c. John gave'em some presents

- d. *John gave Mary and Jane them

The encliticization in (10c) and the ungrammaticality of (10d) show that an argument with comparatively old information must precede the one with new information when there's no other apparatus (intonation contour, for instance).

3.2. Raising

So-called raising construction is not the result of moving an element from the embedded clause into the matrix clause.

- (11) a. Someone seems to be here
 b. There seems to be someone here
 (12) a. A man is expected to arrive
 b. There is expected to arrive a man

We believe that the constructions like (11) and (12) has two propositions¹⁵⁾ that are merged in spheres. For example, the sentence "Someone seems to be here" consists of two propositions: " ... seem" and "someone is here". When two propositions are merged like (13), there are two choices:

- (13) {[P1 ... seem], [P2 ... is someone here]}
 (14) someone**OCC1** seems someone**OCC2** to be someone**OCC3** here.

In (14), someone**OCC1** beats someone**OCC2** and someone**OCC3** because **OCC1** is specified with more features ([subject, specificity] etc.) than **OCC2** or **OCC3**. When *someone* has no more features like [subject, specificity], the expletive *there* is inserted to pass through the

15) We use a cover term "proposition" for a structure which has at least one predicate with an argument. "Proposition" differs from "Phase" in that the former comprises "weak phases" of unaccusative and passive constructions which lacks an external argument as well as small clause constructions.

"Subject filter" in English¹⁶) to get the structure (11b).

We believe that our analysis provides better explanation for the factive/non-factive dichotomy as in the following extraposition.

- (15) a. [That he made a mistake] worried us
 b. It worried us [that he made a mistake]
 (16) a.*[That he is innocent]seems/is likely
 b. It seems/is likely [that he is innocent]

We argue that *that*-clause in (15a) is old information, while it is new information in (15b). In (16), however, the predicates *seem*, or *be likely* cannot select an argument with old information as their subject because of their semantic property: non-factive. Only factive predicates presuppose facts. That's why extraposition is obligatory for the non-factive predicates.

We also believe that our analysis explains the asymmetry in the following two constructions.

- (17) a. John is likely to leave
 b. John is reluctant to leave

Traditionally, (17a) has been considered as a raising construction, while (17b), a control construction. But in our analysis, both constructions undergo the same building operations. First, both sentences are the result of merge of two propositions;

- (18) a. {[P1 ... is likely], [P2 John leave]}
 b. {[P1 John is reluctant], [P2 John leave]}

In (18a), when two propositions merge *John* occupies the subject position if it is old information (or topic). Then the two constructions have a seemingly similar construction as follows:

16) The position of subject should be phonologically filled, unless affected by pragmatic environment.

- (19) a. JohnOCC1 is likely JohnOCC2 to leave
 b. JohnOCC1 is reluctant JohnOCC2 to leave

Now, JohnOCC1 beats JohnOCC2 in both constructions by (3) because JohnOCC1 with its Case feature has more specified features than JohnOCC2. Our analysis has the benefit of dispensing with the PRO theorem.

Our analysis can also help to dissolve the toughness in deriving tough-movement construction in (20).

- (20) a. It is easy to please John
 b. John is easy to please

Two propositions merge at some time of derivation.

- (21) {[P1 (we) please John], [P2 ... is easy]}

If the whole clause P1 has the feature [Foc], then we get the structure (20a). If *John* gets more informational feature, [Top], then we get (20b) by (2) and (3).

3.3. Raising-to-Object (RTO)

Now we'll show how the assumptions of MSH work for RTO constructions. Let's consider an RTO sentence with an anaphor in matrix clause first.

- (22) Jack believed himself to be immortal
 (23) a. [P1 JackOCC1, believe ...]
 b. [P2 JackOCC2, be, immortal]
 c. [P1 JackOCC1, believe ...] + [P2 JackOCC2, be, immortal]

We believe that in Θ -sphere, SOs in P1 and P2 merge with their Θ -roles specified. In Φ -sphere, they check their Φ -features with each

other (morphological agreement, if any, or Agree for Case etc., in MP framework). Nothing happens in Ω -sphere. When P1 and P2 merge as I (23c), some SOs' D-features such as [Top], [Foc], [Specificity], etc. are specified.

Now our concern is how Jack**OCC2** becomes an anaphor, occupying the object position of matrix sentence. We argue that when Jack**OCC2** is specified with its [Top] feature and stays at lower subject position, (i) it should be pronominalized by the operation (1) and pronounced thus at PF in languages like English, (ii) it should be deleted at PF in languages like Korean and Japanese. Otherwise, (iii) it should find some other place, e.g., object position of matrix sentence in many languages. Since Jack**OCC2** is identical to Jack**OCC1**, it is phonologically manifested as the anaphor *himself* by (1) in English¹⁷.

The examples such as (24) and (25) in Lasnik & Saito (1991) can be reanalyzed in our framework.

- (24) a. The FBI proved that few students were spies
 b. The FBI proved few students to be spies
- (25) a. There are few students such that the FBI proved them to be
 spies (wide scope)
 b. The FBI proved that there were few students who were
 spies (narrow scope)

(24a) can have either of the interpretations given in (25), in which (25a) asserts the existence of *students* and (25b) does not. In (24b), on the other hand, *few students* can only have the wide scope interpretation given in (25a)

17) Reuland (2005: 3) suggests that IDI shows the biological nature of human languages.

(i) IDI = Inability to Distinguish Indistinguishables

(i) forces us either to reduce a valence of a reflexive verb or to evade (i) with an extra operation. We argue that the morphological suppletion of "-self" is such operation under the operation DRESS.

Under MSH, we assume that *few students* in (24b) occupies the position (e.g., SpecCP in Rizzi 1997, Hiraiwa 2005) when the SO is specified with its D-feature, [RTop¹⁸], in Ω -sphere. Since the feature [RTop] presumes the semantic meaning of existence, (24b) is interpreted as (25a), with the wide scope interpretation.

Bruening (2001a, b)'s stipulatory structure in (26) for (27) can be explained under MSH.

- (26) a. Movement to Comp
 [... V (NP) [CP NP_i [... ti ...]]]
 b. Movement from Comp
 [... V (NP) NP_i [CP ti [... pro_i ...]]]
- (27) a. John un Mary ka/lul papo la ko sayngkakhayssta
 J TOP NOM/ACC fool is COMP thought
 'J thought M was a fool' or 'J thought M to a fool'
- b. Yamada wa Tanaka ga/o baka da to omotteita
 Y TOP NOM/ACC fool is COMP thought
 'Y thought T was a fool' or 'Y thought T to a fool'

Now, we have to answer the question: what makes the Case alternation in (27) possible? We claim that the choice between *-ka* and *-lul* is not optional, i.e., RTO is not an optional operation but an compulsory operation PLACE (2) due to the D-features of SO. If the NP has D-feature [Foc], it occupies the lower SpecCP marked with *-ka* at morpho-phonemic interface by the rule (1). If the NP has D-feature [Top] but is reintroduced, it occupies object position of the matrix sentence marked with *-lul* by the operation (1)¹⁹.

18) Our notion of "resumptive topic" differs from "Resumed Topic" in Dik (1989: 267). Whereas Resumed Topic refers to a topic revived and re-established as a Topic, resumptive topic refers to a topic which is phonologically manifested where it is normally phonologically null.

19) If the NP has D-feature [Top], it can also occupy lower subject position, but it is normally deleted at PF as in the following.

(i) A: Ne-un Mary ka ttoktokhata ko sayngkakha-ni?
 you-TOP NOM bright COMP think
 'Do you think that Mary is bright?'

4. A'-movement

4.1. Topicalization and wh-(non)fronting

Traditionally, A'-movement involves topicalization, wh-movement. Let's consider an example of topicalization of (28) under MSH.

(28) Himself, John likes.

(29) John**OCC1**, John**OCC2** like John**OCC3**

In (29), John**OCC1** beats the others because it is specified with more features such as [top] than the others. When the operation (2) and the principle (3) is applied to (29), the order of (29) will be (28). But why does John**OCC1** have the form of "-self"? We have to resort to IDI (see ft. 16) and (1)²⁰.

Languages differ in expressing interrogatives²¹. English-type languages show wh-fronting, while Korean-type languages have their whs in-situ for their primary concatenation.

B: Ani, (na-nun) (Mary ka) papo la ko sayngkakhay
 (I-TOP) NOM fool is COMP think
 'No, I think she is a fool.'

In (1B), *Mary* is the old information occupying lower subject by (1) and (2), which is normally deleted at PF

20) Remember that the operation DRESS is an everywhere operation. In this sense, Binding is a sort of operation which induces a morphological change in a local domain.

21) The classifications suggested in Bošković (1999) and Lee (2002) can be summarized as table 1.

Table 1

language type	wh-movement to [Spec, C]	multiple-wh	focused wh-in-situ (multiple questions)
English	0	X	0
Bulgarian	0	0	X
Serbo-Croatian	X	0	X
Korean, Japanese	X	0	0
Italian, Irish	0	X	X

(30) Who wrote the book, *Syntax: Generation in Spheres*?

(31) What did you have for lunch?

We argue that (30) and (31) has the following computation under MSH,

(32) someone[wh] wrote the book , *Syntax: Travel in Spheres*

(33) something[wh]OCC1 you have something[wh]OCC2 for lunch

In English, some-[wh] is manifested in wh-form by the operation (1) and get its place by the operation (2).

Now let's consider Korean examples.

(34) Nu-ka kɨ chæck-ɨl sse-t-ni?
 who-NOM that book-ACC write-PAST-Q
 "Who wrote the book?"

(35) Cheolsu-ka mwuess-ul mek-ess-ni?
 C-NOM what-ACC eat-PAST-Q
 "What did C eat?"

We can observe that in Korean, some-[wh] is manifested in [nasal stop] form by (1) in-situ.

The variation in wh-question found in English and Korean is a typological one which depends on the operation (1) and (2). Wh-fronting in English can be explained by the operations (1) and (2), while wh-in situ with its [nasal stop] form in Korean can be explained by the operation (1).

What happens to the wh-phrase which is assumed to cross more than one node or phase as in (36)?

(36) Who_i did he think t_i would win?

We believe that (36) has the computation of (37) under MSH.

(37) a. {[P1 he thought ...], [P2 who would win]}

b. *whoOCC1* he thought *whoOCC2* would win

(36) has two propositions as in (37a). P1 is inserted in (P2) when the propositions merge, resulting in (37b). In (37b), *whoOCC1* beats *whoOCC2* as can be predicted by (2), (3). The same procedure is applied to a similar structure of (38).

(38) *John_i* he thought *t_i* would win.

(38) has two propositions as in (39a). [P1] is inserted in [P2] when the propositions merge, resulting in (39b). In (39b), *JohnOCC1* beats *JohnOCC2* as can be predicted by (2), (3); *JohnOCC1* has its [Top] feature specified which *JohnOCC2* doesn't²².

(39) a. {[P1 he thought ...], [P2 John would win]}

b. [[P2 *JohnOCC1* [P1 he thought] *JohnOCC2* would win]]

4.2. Asymmetries in *wh*-movement and Multiple *Wh*-Phrases

The following asymmetry is a typical example of Superiority Effect: the C^0 that attracts the *wh*-words prefers to attract *who* rather than *what*, since *who* moves a shorter distance.

(40) a. *who* *t* bought *what*

b. **what* did *who* see *t*

If (40a) is an echo or a surprise question, *who* is specified with the feature [specific] and occupies the *wh*-position by (3) and (2). (40b) is out because *what*, not a pure *wh*, cannot occupy the *wh*-position. If (40a) is a question with single-pair or pair-list reading, the answer

22) The following sentence differs from (38) because whereas *John* in (38) has [Top] feature, *John* in the sentence below doesn't. In (i), the whole embedded sentence has [Foc] feature.

(i) He thought that *John* would win.

always begins with the subject. So the logical form would be: [for x, x a person, [x bought y]], where x has wider scope than y. Then, the operations (3) and (2) apply to get the order of (40a).

In certain other languages, Superiority phenomena seem to take on a rather different form as in (41).

- (41) a. *Koj kakvo kupuva?* (Bulgarian)
 who what buys
 "Who is buying what?"
 b. *Ko šta kupuje?* (Serbo-Croatian)
 who what buys (Rudin 1988, cited in Bošković, 2005: 8)

Rudin (1988) argues that in Bulgarian, all fronted *wh*-phrases are located in the interrogative [spec, CP], whereas in Serbo-Croatian, only the first *wh*-phrase is located in [spec, CP]. Bošković (1999, 2002, 2005) argues that *wh*-fronting in MWF languages that does not involve *wh*-movement involves focalization, i.e. it is an instance of focus movement. According to Bošković (1999), focus movement is not sensitive to Superiority. This means that with respect to *wh*-movement, the highest *wh*-phrase always must move first while with respect to focus movement, all *wh*-phrases undergo multiple movement to the same position. Based on these observations, Bošković (2005) argues that many movement operations creating operator-variable relations, namely, *wh*-movement, focalization, topicalization, quantifier raising, and NPI-licensing movement show so called "operator freezing effect which prevents an instance of operator movement from feeding another operator movement, including its own reapplication.

Our version of Bošković (1999, 2002, 2005) is that when a *wh*-phrase has wider scope than other(s), it occupies *wh*-position. Consider the following.

- (42) a. *Koj kogo kakvo e pital?*
 who whom what is asked
 "Who asked who what?"

b. *Koj kakvo kogo e pital?*

In (42a, b), *koj* has wider scope in single-pair reading or pair-list reading, occupying the *wh*-position by (3), while the other *wh*-phrase with the feature [Foc] comes freely since their order cannot be decided by (2) or (3).

Let's consider the contrast observed in Kiss (1993: 91). The acceptability of the (a) sentence is lower than that of (b).

- (43) a. *How₁ do you wonder how many questions₂ to answer t₂ t₁?
 b. ?? In which way₁ do you wonder how many questions₂ to answer t₂ t₁?

Uriagereka (1999) claims that the following pair can be better explained in his Multiple Spell-out Hypothesis than in Chomsky's notion of *distance*.

- (44) a. which professor_i t_i saw which student
 b. which student_i did which professor see t_i

We argue that (43b) and (44a, b) are acceptable because those D-linked *wh*-phrases occupying *wh*-position are specified with more features than their counterparts; that is, (43b) and (44a, b) are saved by the principle (3) which guarantees the survival of the most specified.

5. Concluding remarks

Under MSH, seemingly complicated CHL operations occur simultaneously by the operations (1) DRESS and (2) PLACE. In the process, the principle (3), The Most Specified Survival applies when there are more than one OCC competing to be TRANSFERred to SM. In this paper, we have shown that the notion of movement in tradition can be replaced by the operation PLACE under the principle (3). We argue that the traditional mechanism using the notions of trace, copy or

PRO can be dispensed with in our system.

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