COPY THEORY OF A-MOVEMENT RECONSIDERED[*]

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1   Introduction

This study is concerned with a treatment of A-movement within the Minimalist framework, viz , copy theory of A-movement (cf Chomsky 1993, 1995, Hornstein 1999, among others) In particular, this preliminary study aims to demonstrate that the copy theory of A-movement cannot be maintained At the same time, we will also see some problems in the treatment of "reconstruction" effects via copy theory of movement in general (Chomsky 1981, 1993, 1995, Huang 1993) Due to its limited scope, this study does not provide a solution to the problems, however, its implication may be taken as a general critique on the copy theoretic account of reconstruction phenomena

In section 2, background issues will be briefly outlined The problems of copy theory of A-movement will be outlined in section 3 An alternative analysis will be presented under which A-movement does not leave a trace (Lasnik 1999) in section 4 Section 5 will present a brief concluding remark, which raises a question on the Copy theoretical account for reconstruction effects

2   Background   Copy theory of A´-movement

Proper treatment of movement transformation has been one of the central topics for transformational generative grammar For the concern of reducing the possible transformation types (Chomsky 1973/1977), various movement rules are subsumed under two major movement 'rules' — NP-movement and Wh-movement, further collapsed into Move α (Chomsky 1981) Under the Move α approach, characteristic differences between NP- and Wh-movement are (claimed to be) derived from "independently motivated" sub-theories of grammar

For example, NP-movement is motivated by Case theory, it is from a Case-less θ-position to a Case-marked non-θ position Wh-movement, on the other hand, is motivated by need to establish an operator-variable structure i e , movement from an A-position (a Case-marked θ-position) to a non-argument (A -) position Differences in the binding characteristics of A- and A -traces are described (though not explained) by the typology of empty categories [±a, ±p] (Chomsky 1982) [1] The standard

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[1]That is, A-traces are [+a, -p] whereas wh-traces (formal variables) are [-a, -p] See Chomsky 1981, 1982, Freidin and Lasnik 1981, for discussions on this typology

treatment of movement in the Minimalist framework (Chomsky 1995 and references cited there) maintains the uniformity of movement approach In the Minimalist framework, movement is a last resort operation of copying and deleting

A copy theory of (A -) movement is suggested by Chomsky (1981) as an alternative to LF Lowering (LF-Copying) operation for reconstruction effects (Langendoen and Battistella 1982, Gueron 1984, Van Riemsdijk and Williams 1986, Clark 1992, for example) [2] Consider (1a)

(1) a John$_1$ wondered [which picture of himself] Bill saw
     b John$_1$ wondered [which picture of himself$_{1/2}$]$_3$ Bill$_2$ saw t$_3$
     c John$_1$ wondered [which x]$_3$ Bill$_2$ saw [x picture of himself$_2$]$_3$
     d John$_1$ wondered [which picture of himself] Bill$_2$ saw [which picture of himself]

The reflexive can be interpreted as coreferential to either *John* as antecedent in-situ (1b), or *Bill* in the 'D-structure' position, as in (1c) Chomsky (1981, 1993) proposes (2)

(2) Traces are a copy of moved item (with PF-deletion) (Cf (1d))

The copies are accessible to LF operations which turn (1d) into (1c)

More precisely, Chomsky (1993) proposes a QR-like operation applied to (3a), yielding (3b) or (3e) Let us refer to this process as 'Make-Op', following Munn (1994)

(3) a John wondered [which picture of himself] Bill saw [which picture of himself]
     b [which [picture of himself]] Bill saw [which [picture of himself]]
     c [which ~~[picture of himself]~~] Bill saw [~~which~~ [picture of himself]]
     d [which [x]] Bill saw [x [picture of himself]]
     e [[which picture of himself]~~α~~] Bill saw [~~ [which picture of himself]~~ α]
     f [[which picture of himself] x] Bill saw [x]

Complementary deletion from (3b) yields the LF representation (3d) via (3c), and that from (3e) yields (3f) The copy theory of movement thus captures the reconstruction effect in (1)

Given that Make-Op can either raise the operator alone or the entire wh-phrase, as in (3b) and (3c), the analysis predicts (4)

(4) The copy theory of movement predicts optionality of 'reconstruction effects '

However, this prediction is not borne out, the following data show reconstruction is forced in some cases

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[2]Regarding the LF-Copying/Lowering operation, Chomsky (1993) states that reconstruction "is a curious operation, particularly when it is held to follow LF movement, thus restoring what has been covertly moved " "If possible, the process should be eliminated" (Chomsky 1993) See also Koster 1982, Hornstein 1984, Barss 1986, Lebeaux 1989, 1990, 1991, 1994, and Pollard and Sag 1992, Reinhart and Reuland 1993, Heycock 1995 for alternative analyses

(5) a * John wondered [which picture of Tom₁] [he₁ liked t]
    b John wondered [which picture of him₁] [Bill₁ liked t]]
    c John wondered [which ~~picture of him/Tom~~] [he liked ~~which~~ [picture of Tom]]]
    d John wondered [which picture of him/Tom ~~[α]~~][he liked ~~which picture of Tom~~ [α]]]

Observe the Condition B/C contrast in (5a/b) If "reconstruction" is indeed optional, as the theory
predicts, then both (5c) and (5d) should be available to (5a), in the latter of which Condition C is not
violated In (5a), however, *he* and *Tom* cannot be coreferential, indicating that reconstruction is forced
in (5a)

In order to capture forced reconstruction effects as in (5a), Chomsky (1993) suggests a preference
principle (of reconstruction) in (6)

(6) Do it when you can (i e , try to minimize the restriction in the operator position) (Chomsky 1995,
    p 209)

Since the restriction on the operator position can be minimized as in (5c), the non-reconstructed LF
representation (5b) is not available under (6), hence, the forced reconstruction effect Being a preference
principle, (6) allows non-reconstructed reading with reflexives, assuming that reflexive licensing
involves LF-raising of reflexive *self* to Infl (Cliticization$_{LF}$) Consider (7a), where Make-Op yields two
representations (7b/c)

(7) a John wonders which pictures of himself Bill saw
    b John [self-wonders [[which pictures of t$_{self}$]~~[α]~~] [Bill saw ~~[which pictures of himself]~~[α]]]
    c John [self-wonders [which ~~pictures of t$_{self}$~~] [Bill saw ~~which~~ [pictures of himself]]]
    d John [wonders [[which pictures of himself]~~[α]~~] [Bill self-saw ~~[which pictures of t$_{self}$~~[α]]]
    e John [wonders [which ~~pictures of himself~~]] [Bill self-saw ~~which~~ [pictures of t$_{self}$]]]

Note that in (7c) complementary deletion deletes the trace of the raised (cliticized) reflexive, thus
causing a problem in LF Thus, in this case, (6) allows a non-reconstructed version of LF representation
as in (7b), it simply demands reconstruction, *if possible*

While it yields the desired results, this principle in (6) is not very attractive (6) is roughly the
description of forced reconstruction phenomenon itself, rather than a 'principle' behind the phenomenon
Further, (6), presumably, does not have any semantic ramification For example, the interpretation of
(7b) and (7e), once the binding difference is extrapolated, do not seem to be distinct, in spite of the two
distinct LF representations Finally, (6) must 'look ahead' into further steps of derivation in order to see
if minimizing the restriction in the operator position will cause some problem Thus, (6) has a problem
similar to those of 'global economy' (cf Collins 1997) Therefore, the fact that the copy theoretic
account of reconstruction crucially requires (6) raises some doubt on the account itself [3]

To sum up, copy theory of A -movement is motivated in Chomsky's (1981, 1993) analysis of the
reconstruction phenomena The analysis provides a straightforward answer to the existence of the

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[3]Heycock (1995) raises a number of issues regarding the forced reconstruction effects, including
the preference principle In Section 4 3, I will argue against the copy theoretic account of reconstruction
phenomena and (6) For the time being, however, we accept the correctness of (6)

reconstruction effects   However, in order to account for the forced reconstruction effects, as in (9), the analysis must resort to the preference principle in (6), which lacks independent motivation

3   Problems

3 1   Copy theory of A-movement Lack of empirical motivation

Note that thus far the copy theory has been motivated solely by the reconstruction effect of A - movement   In spite of this, it is now customary to treat A-movement in this fashion (e g (8b))

(8)   a   John$_1$ seems [t$_1$ to have left]
    b   John seems [John to have left]

For example, Chomsky's (1993) states, though somewhat tentatively, that

(9)   An A-chain is a CH= (α, t) at LF (α the phrase raised from its original position t)   Here t is *a full copy of its antecedent, deleted in PF component*   (Emphasis by MK)

The primary motivation for copy theory of A-movement seems to be conceptual i e , uniform treatment of A- and A -movement [4] However, as I will argue immediately below, the copy theory of A-movement does not hold up under empirical scrutiny

To the best of my knowledge, its empirical motivation is not available in literature — perhaps, except for Huang's (1993) unsuccessful attempt, which we will consider immediately below   Consider the forced reconstruction effects observed in degree adjective predicate raising (Huang 1993, Heycock 1995)

(10)   a * The students$_1$ wondered [$_{wh}$ how angry at each other$_1$ (themselves)$_1$] [John was t]
    b   The students$_1$ wondered [$_{wh}$ how [t$_2$ angry at each other$_1$ (themselves)$_1$] [John$_2$ was t]

In (10a), the interpretation indicates that 'reconstruction' is obligatory, the anaphor may not be licensed in [Spec, C]   Huang (1993) argues that the ungrammaticality of (10a) can be independently accounted for, if we assume the copy theory of A-movement, the predicate internal subject (t_2 in (10b)) is the closest potential binder for the anaphors, thus blocking the binding by the matrix subject   Huang (1993) takes this as evidence for the trace in the predicate internal subject position — that is, a copy of the A-moved matrix subject   If this explanation holds, then it constitutes evidence for copy theory of A-movement

However, Huang's (1993) account fails   First, as we shall see in Section 3 3, the copy of the predicate internal subject, if indeed exists, will make wrong predictions for predicate raising in existential constructions   Second, Heycock (1995) shows that forced reconstruction effects obtain even with nominals — i e , without a predicate internal subject trace

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[4]Given the recent derivational view of phrase structure building, and Copy theory of movement, movement can be reduced to Merge, (See Chomsky 1995, Collins 1997, Kitahara 1997 for more discussions), an attractive outcome, in my opinion

(11) a * I would never consider Sally₁ her₁ own worst enemy
    b * [Her₁ own worst enemy], I would never consider Sally₁

Heycock (1995) correctly points out that Huang's solution does not extend to the forced reconstruction effects with nominals, since DP predicates do not have a trace of the subject internally Thus, if Huang is correct, (11b) is expected to avoid the forced reconstruction effect, contrary to the fact

Before we proceed, let us briefly examine Heycock's (1995) alternative account to Huang's, although we cannot fully articulate her proposal in this study, due to the space limitation To put it briefly, Heycock proposes that degree questions (such as *how likely, how intelligent,* etc) always have LF representations parallel to those for which she calls *the nonreferential reading of amount quantifiers,* where the restrictors on the operator are minimal Consequently, a raised predicate with a degree question operator is undone in LF In spite of their differences, Heycock's (1995) proposal is parallel to the preference principle (6), in that they both undo syntactic predicate raising in LF In Section 3 3, however, we will see cases where raised predicates must be interpreted in the raised position, not in the lowered position This is opposite of what Heycock's analysis predicts We will return to this issue in Section 4 3 For now, let us return to the main discussion

To sum up, the copy theory of A-movement is widely assumed, even though empirical motivation is hardly available Copy theory is primarily motivated for A'-reconstruction effects Huang's (1993) account discussed above may have provided an empirical support for A-copy, but Heycock (1995) has shown its inadequacy

3 2 Lack of A-reconstruction

With the Copy theory of A-movement, the parallelism between the A- and A'-movement follows immediately, but their differences demand an explanation Given that the primary motivation for Copy theory of A -movement was its ability to yield 'reconstruction' effects, copy theory of A-movement also predicts existence of A-reconstruction It is generally assumed, though not uncontroversially so, that this prediction is not borne out (Huang 1993, Chomsky 1995, Lasnik 1999, among others)

(12) a * He₁ is surprised t₁ by the picture of John₁ (From Huang 1993)
    b ?*John₁ believes pictures of him₁ to be likely to be on sale

In (12a), after A-reconstruction *he* no longer binds *John*, thus the Condition C violation is unpredicted In (10b), if the A-reconstruction is available, the NP containing the pronoun may be far enough from the matrix subject, thereby avoiding violating Condition B of the binding theory [5] Now, consider (13)

(13) a Everyone hasn't been there yet   ($\forall$ > Not, Not > $\forall$)
    b No one has been there yet
    c Not everyone has been there yet
    d Everyone seems not to be there   ($\forall$ > Not)
    e No one seems to be there yet

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[5]Lasnik (1999) presents a set of further convincing evidence for the non-existence of A-reconstruction, which we cannot extensively review here, due to the space limitation See also Fox 1999

f   Everyone seems [everyone not to be there]

It has been noted (Chomsky 1995) that *everyone* is somewhat exceptional among English quantifiers, *everyone* in the subject position and its clause mate negation exhibit scope ambiguity, as in (13b/c)   The ambiguity disappears (13f), when *everyone* is apparently raised (21d)   This fact is inconsistent with the assumption that A-reconstruction exists, under the copy theory of A-movement, the A-copy of *everyone* should be available at LF, and the ambiguity comparable to (13a) is incorrectly predicted

Thus, we conclude, with Chomsky, that A-movement does not reconstruct   This is a problem, since the copy theory is designed to capture the forced reconstruction effects   Chomsky (1993) states (14), in order to explain the lack of A-reconstruction

(14) If reconstruction is essentially a reflex of the formation of operator-variable constructions, it will hold only for A -chains, not for A-chains [6]

This account, though it certainly derives the desired distinction between A- and A -movement, remains descriptive   Therefore, under copy theory of A-movement, lack of A-reconstruction remains problematic

3 3   Expletives in Predicate Raising

Let us consider another problem of copy theory of A-movement   Consider (15), the data discussed, among others, by Barss (1986), Kroch and Joshi (1985), Lasnik and Saito (1992), Huang (1993), Heycock (1995) [7]

(15) I wonder   a   how likely to win the race John is
                b *   how likely to be a riot there is

The ungrammaticality of (15b) will be impossible to capture, if we assume, with Huang (1993), that the raised predicate contains a copy (trace) of the raised subject

For the discussion below, we will be assuming (16), which I believe is fairly standard, although not completely uncontroversial, either

(16) a   In existential constructions, *there* is "licensed" at LF by c-commanding its associate —
             presumably via raising of the relevant feature(s) from its associate
      b   There is no sideway movement

Under Chomsky's (1993) copy theory of A-movement, the LF representations of (15b) which respects

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[6]He adds that (14) "seems plausible over a considerable range, and yields the right results in this case," without elaboration

[7]This pair of sentences is used by Lasnik and Saito (1992) for the argument for the presence of A-trace and proper binding condition in (15b), whereas the grammaticality of (15a) is due to the presence of Control PRO   Essentially the same solution was put forward by Kroch and Joshi 1986, although theirs is construed within Tree Adjoining Grammatical terms

the preference principle is (17b), after Make-Op and complementary deletion [8]

(17) I wonder
    a   [how likely ~~[John to win the race]~~] John is ~~[how likely~~ [John to win the race]] [9]
    b   [how likely ~~[there to be a riot]~~] there is ~~[how likely~~ [there to be a riot]]

(18) There is likely to be a riot

Given the grammaticality of (18), the ungrammaticality of (15b) must derive from the predicate raising (A -movement) [10] However, in the LF representation in (17b), the relevant difference between (15b) and (18) is lost — a problem [11]

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    [8]The problem persists, when we adopt Heycock's alternative to Huang's (1993) analysis, since it forces the reconstructed LF representation as in (12)

    [9]Make-Op may split how_x and [x likely], rather than the way I noted above The difference is immaterial for our discussion, however

    [10]Thomas Stroik (personal communication) points out the fact that the non-question counterpart of (15b) is not good

(i)   a   John is very/highly/not very/least likely to win the race
     b *   There is very/highly/not very/least likely to be a riot there

Therefore, (15b) may arguably be bad, independent of the predicate raising, as this study assumes In the subsequent discussion, however, I will continue to assume that the ungrammaticality arises in (15b) due to the predicate raising, following the intuition of the researcher mentioned above Naturally, by doing so, I will have to identify the source of the ungrammaticality of (1b)

    [11]This problem is not isolated one, the problem extends to idiom chunks Consider (1)

(i)   a   Advantage is likely to be taken of John
     b *   How likely to be taken of John is Advantage?
     c   [how likely ~~[advantage to be taken advantage]~~] advantage is ~~[how likely~~ [advantage to be taken advantage of John]]
     d   [How likely [advantage to be taken advantage]] advantage is ~~[how likely~~ ~~[advantage to be taken advantage]~~]

Make-Op and complementary deletion yield (ic) and (id), the former of which is preferred by the preference principle (6) Observed that in (ic) predicate raising is effectively undone (ic) is almost identical to (ia) in the relevant respect, thus ungrammaticality is not expected We may be able to rule out (id), even though at LF the idiom chunk is also fully represented therein, thanks to the copy of *advantage* in its "D-structure" position Suppose that (id) presumably undergoes deletion of copies of *advantages* in non-"D-structure" positions in LF Presumably, deletion of superfluous items require identity and c-command *Advantage* in the matrix subject position and that in the raised [Spec, I] do not hold a c-command relation, hence the deletion is not allowed Note that the problem persists, even if we can rule out (id), insofar as (ic) is well-formed

The problem appears to stem from the fact that, whenever possible, the preference principle (6) forces the reconstructed reading, thus 'undoing' the predicate raising in LF Given that the ungrammaticality of (15b) is due to predicate raising, such an 'undo-effect' of (6) is undesirable In order to avoid this effect, we may abandon the preference principle, this is not necessarily a great loss, given the questionable status of the principle mentioned above However, elimination of (6) is not sufficient Consider (19)

(19) I wonder
    a   [How likely [John to win the race]] ~~John is [how likely [John to win the race]]~~
    b   [How likely [there to be a riot]] ~~there is [how likely [there to be a riot]]~~

The LF representation now shows the history of predicate raising before Spell-Out, as desired However, the expletive in (19b) can still be licensed, since the predicate internal subject locally c-commands its associate in situ, thus it should be licensed at LF Recall that predicate raising was used by Huang (1993) to demonstrate the existence of a predicate internal subject trace (or a copy) We have arrived at an exactly opposite conclusion a predicate internal subject trace may not be present at LF, in order to rule out (19b)

3 4 Summary

To sum up, the copy theory of A-movement not only lacks empirical motivation, but also faces descriptive problems, as well It incorrectly predicts the existence of A-reconstruction Further, the predicate raising in existential constructions cannot be ruled out, if A-movement indeed leaves a copy in a predicate internal subject position This is a serious defect of the theory

At this point, we may appeal to many alternatives approaches for example, by abandoning the copy theoretic account of reconstruction phenomena altogether Instead, we will explore a rather conservative extension of Chomsky's copy theory Ultimately, we will be forced to take a more radical departure from Chomsky's position, as to be discussed in Section 4 3

4   Alternative Analysis

4 1   Non-Copy Theory of A-movement (Lasnik 1999)

In the previous section, we saw the need for an alternative analysis to the copy theory of A-movement The copy theory of A-movement lacks empirical motivation, incorrectly predicts existence of A-reconstruction, and incorrectly licenses expletive in existential constructions with a raised predicate As an alternative, we will explore a non-copy theory of A-movement, following Lasnik's (1999) proposal

Recall that faced with the absence of A-reconstruction, Chomsky (1993) suggests (14) namely, "if reconstruction is essentially a reflex of the formation of operator-variable constructions, it will hold only for A -chains, not for A-chains " (14) appears to be the description of the fact about the lack of A-reconstruction, leaving open as to why reconstruction is 'a reflex of operator-variable' construction Lasnik (1999) offers an alternative account namely, (20)

(20) A-movement does not leave a trace (Lasnik 1999)

I believe that (20) is superior to (14) on both conceptual and empirical grounds [12]

Conceptually, (20) is more principled than the standard Minimalist treatment of movement, under which any movement leaves a copy For A -movement of an argument, the need for a copy in its "D-structure position" is demanded by establishment of operator-variable constructions, therefore, a copy is independently motivated No such motivation is available for a copy of A-movement Previously, an A-trace is motivated by the need for preserving the θ-structure of the predicate, for the satisfaction of the Projection Principle and θ-Criterion Assuming the checking analysis of Case and θ-role features (cf Bošković and Lasnik 1999), the D-structure position of an A-moved item need not be represented at LF, without the Projection Principle Since nothing in grammar demands A-movement to leave a copy, the copy theory of A-movement must do so by stipulation [13]

Empirically, the copy theory of A-movement needs the stipulation in (14) in order to account for the lack of A-reconstruction, with (20), on the other hand, no such stipulation is necessary Below, assuming the correctness of (20), we will consider its implications to the problems discussed above 1 e , the ungrammaticality of (15b)

4 2   Predicate raising in an expletive construction revisited

Below, we will examine the further consequences of (20), non-copy theory of A-movement In other words, assuming the correctness of (20), we will explore what we need to say, in order to derive the ungrammaticality of (15b)

Consider (21a), which is essentially (15b), but without copies of A-moved expletive Make-Op yields two LF-representations (21b/c), and complementary deletion yields (22)

(21) a   [how likely to be a riot]   is there [how likely to be a riot]
      b   [[how likely to be a riot] x] is there [[how likely to be a riot] x]
      c   [how likely [to be a riot]] is there [how likely [to be a riot]]

(22) a   [[how likely to be a riot] x̶] is there [{̶how likely to be a riot̶} x]
      b   [how likely {̶ to be a riot̶}] is there [̶how likely [to be a riot]]

Note that in the LF representation in (22b), where the predicate raising is undone, the expletive c-commands its associate, thus incorrectly licensed With the LF representation in (22b), thus, the problem persists If, on the other hand, the entire content of trace except for x is deleted, as in (22a), then the expletive has no associate in its c-command domain, thus left unlicensed This is therefore the

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[12]A proposal is found in Fox 1999 which also attempts to derive the lack of A-reconstruction effects Fox (1999) suggests that A'-movement leaves a full copy of the moved item, whereas A-movement leaves 'a simple copy', denoted by t However, this distinction is largely descriptive, lacking explanatory force, since the analysis does not explain either what 'simple copy' is nor why this dichotomy exists He concedes that A-chains need a "stipulative distinction" for their absence of reconstruction

[13]Perhaps, aside from some cases, such as successive cyclic A-movement and A-movement of idiom chunks (Chomsky 1993)

target LF representation, (which incidentally mirrors the corresponding PF) Recall that with the copy theory of A-movement, we were unable to rule out any LF representations associated with (21a) Now, we have at least a chance to rule out (21a) — if its LF representation is (22a) In this particular sense, we have made visible progress with the independently motivated (20) Yet, there remains a challenge ahead, (20) alone does not completely solve the problem, as we saw We must somehow block (22b) from being an LF representation associated with (21a), if (22b) is indeed available, the preference principle (6) prefers it over (22a), hence, a problem will persist [14] Even if we discard (6), the problem remains, since two LF representations are still allowed one ill-formed representation, and the other, well-formed

At this stage of the research, I am unable to provide a fully satisfactory solution to this problem, instead, I shall outline a solution that seems to me to be promising namely, to abandon the copy theoretic account of reconstruction [15]

4 3 An alternative

We shall now consider an option which appears to me to be fairly promising namely, to drop the copy theoretic account of reconstruction Recall that the problem with the copy theory of A-movement, Make-Op and complementary deletion, is that they undo predicate raising of (21a) at LF, as in (22b), repeated here

(22) a [[how likely to be a riot]̶x̶] is there [̶{̶h̶o̶w̶ ̶l̶i̶k̶e̶l̶y̶ ̶t̶o̶ ̶b̶e̶ ̶a̶ ̶r̶i̶o̶t̶}̶ x]
      b [how likely ̶{̶ ̶t̶o̶ ̶b̶e̶ ̶a̶ ̶r̶i̶o̶t̶ ̶}̶] is there [̶h̶o̶w̶ ̶l̶i̶k̶e̶l̶y̶ [to be a riot]]

In that case, we have no way of distinguishing (22b) from the grammatical (23b)

(23) a * How likely to be a riot is there?
      b How likely is there to be a riot?

While the structure of (23b) is not immediately clear, it is easy to see that we will lose the relevant contrast in (23), if predicate raising is undone in LF In other words, the "S-structure" position of the expletive and its associate matters in expletive licensing, which the standard analysis does not capture

I consider this to be a defect in the copy theoretic account of reconstruction phenomena That is, the theory allows too much freedom in the LF-PF deviation This LF-PF deviation afforded an advantage in accounting for the reconstruction effects of reflexives, but not for the cases with existential constructions in (23) In short, in the case of predicate raising in existential constructions, we demand

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[14]Likewise, Heycock's (1995) analysis also prefers (22b) over (22a), since degree questions (such as *how likely, how intelligent,* etc) always have LF representations, where the restrictor on the operator is minimal

[15]Other solutions have been proposed For example, Collins (1994), in his unpublished version of the paper, presents a rather technical way to disallow the complementary deletion to apply to the relevant LF representation, hence, the LF is ill-formed However, this analysis appeals to a rather fine-grained notion of 'identity' which cannot be generalized to typical copy and delete operations Thus, I believe that the analysis does not go through

LF to mirror PF, in that when predicate raising occurs, the predicate must remain raised in LF I shall therefore suggest (24), as the first approximation toward solution

(24) Complementary deletion for Make-Op must mirror PF

Although its motivation is primarily descriptive — i e , with it, we can distinguish (22b) from grammatical (23b) — (24) is, in my opinion, a step toward the right direction The conceptual advantage of (24) is that the theory demands a more closer LF-PF relation, thus more restrictive, thus perhaps in accord with the spirit of Minimalism (See Brody 1995 for a similar point) Further, it has also been noted in many languages (e g Hungarian (E Kiss 1992) and Japanese (Kawai, 1998)), a certain kind of scrambling — in particular, of short varieties — is, at least in part, to yield the appropriate LF representation For example, surface order of Hungarian scope bearing items reflects the LF scopal relation, as well Thus, it is natural to expect natural language to show some (varying degree of) LF-PF coordination How much deviation between LF and PF can a language tolerate is naturally an empirical issue Yet, too much freedom for the LF-PF deviation would result in too much leg-room for a theory

A question immediately arises with (24) Namely, (24) fails to predict forced reconstruction effects with raised predicates Recall that Huang (1993) and Heycock (1995) show the existence of forced reconstruction effects in raised predicates and nominals

(25) a * [How afraid of some question Gore₁ hadn't prepared for]₃ do you think he₁ is t₃?
     b * [How afraid of Margaret₁]₃ do you think she₁ expects John to be t₃?
     c * [Sally₁'s own worst enemy]₃, I would never consider her₁ t₃   (Heycock 1995)

Condition C violations in (25) suggest that the r-expressions in the raised constituents are c-commanded at LF, reconstruction appears to be necessary for (25), in order to account for their ungrammaticality It seems that we now have a contradiction Namely, (26)

(26) a   A raised predicate may not be reconstructed, if *there* is involved
     b   A raised predicate must be reconstructed, if pronoun and r-expression are involved

There seems to be no single simple solution in terms of reconstruction, for both the binding facts in (25) and the expletive construction in (23)

I believe that a solution lies in how to treat binding phenomena in (25) The apparent contradiction in (26) arises, under the assumption that both cases must be handled in terms of reconstruction This assumption seems to be necessary, under Chomsky's (1993) position on the binding theory namely, it applies only at LF However, there is alternative (more traditional) treatment of binding phenomena where satisfaction of binding condition is not limited to LF For example, consider Lebeaux's (1988, 1990, 1991, 1994) proposal of binding theory

(27) a   Condition A is an anywhere condition, which can be satisfied at one point of the derivation
     b   Condition C is an everywhere condition, which must be satisfied throughout the derivation

With (27), the sentences in (25) do not need reconstruction in order to violate Condition C, Condition C is violated before predicate raising In short, the r-expression is interpreted *as if it was reconstructed* Further, a reflexive can be licensed at the D-structure position, at the S-structure position, or at some other intermediate step in derivation This 'on-line' nature of reflexive license is reminiscent of Belletti

and Rizzi's (1989) proposal on Condition A This 'on-line' Condition A seems to be sufficient in accounting for the reconstruction phenomena involving reflexives Therefore, with (27), the "forced reconstruction" phenomena in (25) and the predicate raising in existential constructions in (22a) ceased to be a paradox (24) can hold in all the cases, while successfully ruling out (25) as Condition C violations, and (23a), as an unlicenced expletive

Another potentially negative consequence of (24) is that we lose Chomsky's (1993) account for reconstruction phenomena namely, the copy theoretic account of reconstruction discussed in Section 2 above However, I do not consider this to be a crucial draw-back Recall that the original proposal itself was on rather shaky ground First, the analysis does not work correctly in short of the rather stipulative preference principle (6) Second, it is not the case that reconstruction effects lack any alternative accounts, as we have already seen above, that is, reconstruction effects may be handled in a different version of binding theory Further, it is sufficient for us to assume that expletive licensing is also an everywhere condition, it must be satisfied at every step of derivation after its introduction to the structure [16] Naturally, this is against Chomsky's program of placing binding theory strictly at LF, by eliminating any on-line account of binding phenomena However, the issue seems to be ultimately empirical The ultimate cost of adopting Lebeaux's binding theory remains open at this point

5   Conclusion Implications

In this study, we have examined the copy theory of A-movement We rejected the copy theory of A-movement since it lacks independent motivation, incorrectly predict the existence of A-reconstruction, and fails to rule out the ungrammatical (15b) As a principled alternative, we adopted Lasnik's (1999) (20), namely, non-copy theory of A-movement With (20), the absence of A-reconstruction follows immediately, and the ungrammaticality of (15b) becomes predictable, if we abandon the standard copy theoretic account of reconstruction I (rather tentatively) suggested (24), which demands LF to mirror PF in terms of predicate raising (24) is also incompatible with the copy theoretic account of forced reconstruction effects I thus suggested to appeal to Lebeaux's (1988, 1990, 1991, 1994) binding condition in order to capture the forced reconstruction phenomena While the alternative solution suggested in this study need to be explored further, it has also become clear that the standard copy theoretic account of reconstruction has many obstacles

In what follows, let us consider a consequence of (20) Note that this analysis is incompatible with Chomsky's (1995) view of phrase structure (i e , essentially Bare Phrase structure of Chomsky 1994), where term erasure is prohibited, and tree pruning disallowed If A-movement does not leave a trace, the 'moved item' cannot be Merged in its D-structure position, otherwise, we must delete a copy, which is not allowed by the theory This result, then, may be taken to favor a non-movement analysis of A-movement phenomena (passive, raising, etc), i e , what is traditionally analyzed as 'A-moved items' is Merged in-situ and θ-role checking is done under a certain local configuration While the 'certain

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[16]This is a bit too simple, given the grammaticality of (i)

(i)   How many solutions are there?

The associate is not in the c-command domain of the expletive We must include expletive licensing by some sort of adjacency, in addition to licensing by the traditional 'c-command'

local configuration' needs appropriate formulation, a descriptive generalization is already given in Lasnik and Saito's (1992) extended uniformity condition

(28) a α assigns inherent Case to β only if α θ-marks β
      c Suppose that β bears θ-role assigned by α Then, if γ is a barrier for α, γ dominates β (S Structure)

The (extended) uniformity condition is designed to capture the tight locality of A-chain, each A-chain must be within a single θ-domain defined by the minimal barrier for the θ-assigner In other words, A-movement of β may not cross the barrier for α (28) rules out super-raising cases as well as A-raising within nominals It is possible to translate (28) into a non-movement analysis of A-movement phenomena [17] Perhaps, the θ-role licensing is a different mechanism than other feature checking for A'-movement, either a different locality constraint for feature raising — rather ad hoc approach, or it is not feature checking at all — but a kind of an A-relation without the direct checking under a local (such as spec-head or head-complement) X -relation If this line of inquiry is on the right track, then we will have to conclude that there is only A'-movement [18]

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[17]A proposal is found in Fox 1999 which also attempts to derive the lack of A-reconstruction effects Fox suggests that A'-movement leaves a full copy of the moved item, whereas A-movement leaves 'a simple copy', denoted by *t* However, this distinction is largely descriptive, lacking explanatory force, since the analysis does not explain either what 'simple copy' is nor why this dichotomy exists He concedes that A-chains need a "stipulative distinction" for their absence of reconstruction

[18]A similar proposal is said to be found in Manzini and Rossum's manuscript (Howard Lasnik and Cedric Boeckx (personal communication)) Unfortunately, I was unable to obtain a copy of their paper in time for this article

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