

A Note on Locality in Ellipsis*

Bum-Sik Park
Dongguk University

1. Introduction

It is well known that certain violations that are induced by overt (wh-) movement can be repaired by later operations such as ellipsis. For instance, surveying a wide range of cross linguistic data, Merchant (2001) demonstrates that island violations can be repaired by ellipsis (see also Ross 1969).¹ Fox and Lasnik (2003) argue that violations that are induced by locality-violating movement can also be repaired by ellipsis. More specifically, Fox and Lasnik argue that in Sluicing constructions, non-successive cyclic movement of wh-phrase to Spec of CP is allowed because the violations induced by this movement has effects only at PF and thus can be repaired by ellipsis at PF.

Discussing VP ellipsis in Sluicing environments, however, this paper shows that violations that are induced by a certain type of locality-violating movement cannot be repaired by ellipsis at PF. This paper proposes that such violations has effects at LF and thus cannot be repaired by ellipsis at PF.

2. VP-ellipsis in Sluicing

Typical Sluicing constructions involve IP ellipsis preceded by wh-movement to Spec of CP, as shown in (1):²

(1) He saw someone, but I don't know who ~~he~~ saw.

Ross (1969) observed that Sluicing can repair island violations. Some of the examples are provided below:³

- (2) a. I believe the claim that he bit someone, but they don't know who ~~I believe the claim that he~~ bit. (Complex NP Constraint, noun complement)
b. Irv and someone were dancing together, but I don't know who ~~Irv and were~~ dancing together. (Coordinate Structure Constraint)

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¹ See Park (2005) for a proposal that Superiority violations can be repaired in certain contexts where reconstruction of the relevant wh-elements can take place.

² Elements with strikethrough intends to mean that they are elided.

³ Ross gives the examples in (2) ??, but many speakers find them (almost) grammatical.

- c. She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends ~~she kissed a man who bit~~.

(Complex NP Constraint, relative clause)

Assuming PF-deletion approach to ellipsis, Merchant (2001) argues that certain island violations can be repaired by ellipsis since they are PF-islands. However, he shows that in Sluicing environments, VP-ellipsis (VPE) does not repair relative clause island violations, as in (3a):

- (3) a. *They want to hire someone who speaks a Balkan language, but I don't know which (Balkan language) they do ~~want to hire someone who speaks~~.
b. They want to hire someone who speaks a Balkan language, but I don't know which (Balkan language) ~~they want to hire someone who speaks~~.

For (3a), he assumes that relative islands are LF islands, thus cannot be repaired by ellipsis. For the corresponding good Sluicing cases like (3b), he argues that it is grammatical since it may involve a derivation that does not involve an island in the first place, as in (4):

- (4) a. They want to hire someone who speaks a Balkan language, but I don't know [_{CP} which (Balkan language) [_{IP} she should speak]]

However, Lasnik (2001) observed that VPE does not repair other island violations that Merchant called PF islands, as shown in (5):

- (5) a. *It appears that a certain senator will resign, but which senator it does appear t will resign is still a secrete
b. *Sally asked if somebody was going to fail Syntax One, but I can't remember who she did ~~ask if t was going to fail Syntax One~~.

Lasnik also observed that even without an island, VPE is still severely degraded:

- (6) a. They said they heard about a Balkan language, but I don't know which Balkan language they said they heard about.
b. *They said they heard about a Balkan language, but I don't know which Balkan language they did say they heard about.
- (7) a. They heard a lecture about a Balkan language, but I don't know which Balkan language they heard a lecture about.
b. *They heard a lecture about a Balkan language, but I don't know which Balkan language they did say they heard about.

So the contrast between VPE and Sluicing appears, whether or not an island is involved in the elliptical site. In order to account for the contrast, following Chomsky (1986), Fox and

Lasnik (2003) propose that all maximal projections are potential barriers (see also Takahashi 1994).⁴ As a result, *wh*-movement must take place in a successive cyclic way, adjoining to every intermediate maximal projection. If *wh*-movement takes place in one fell swoop, all the intermediate projections become islands since the one-fell swoop movement skips the intermediate projections. (i.e. for Fox and Lasnik, islands are different from the traditional islands in that every maximal projection is a potential barrier.) They argue that in Sluicing environments, Parallelism condition on ellipsis (cf. Fiengo and May 1994) makes intermediate landing sites of the *wh*-movement unavailable. Avoiding the intermediate landing sites would result in many island violations unless they are all repaired by ellipsis. The repair is possible in case of Sluicing because every intermediate projection is elided. However, in the case of VPE, there are some projection(s) remaining unelided, resulting in an island violation. More specifically, Fox and Lasnik assume, following Reinhart (1997), that the indefinite in the antecedent clause does not move but is bound by existential closure. In Sluicing environments then the *wh*-movement in the elliptical clause must be one fell swoop to satisfy Parallelism. With one-fell-swoop movement of the *wh*-phrase, Parallelism is satisfied since the variables in the antecedent and the elided clause are bound from parallel positions. Adopting the choice function analysis of *wh*-phrases and indefinites, the sluicing construction (8a) can be represented as (8b):

- (8) a. Fred said that I talked to a certain girl, but I don't know which girl Fred said I talked to ~~t~~.
 b. $\exists f \lambda f$ [Fred said that I talked to f' (girl)]
 which g girl $\lambda g'$ [Fred said that I talked to g' (girl)]

Although this one-fell-swoop movement of *wh*-phrase brings about many island violations on the skipped projections, they can be repaired by subsequent IP ellipsis (Sluicing). This is what happens in Sluicing constructions such as (2). Under this analysis, VPE is predicted to be ungrammatical since it elides smaller constituents and thus there are always some projection(s) remaining unelided. Fox and Lasnik assume that AspP is located between VP and IP. Then, AspP and IP will remain after VPE takes place. These remaining projections bring about island violations. This explains the ungrammaticality of the corresponding VPE of (8a) and the VPE in (6)-(7). To see this more clearly, let us consider (8). The corresponding VPE of (8a) is ungrammatical, which is represented in (9):

- (9) a. *Fred said that I talked to a certain girl, but I don't know which girl he did say I talked to ~~t~~.
 b. $\exists f \lambda f$ [Fred said that I talked to f' (girl)]
 which g girl $\lambda g'$ *[_{IP} he *[_{AspP} did *[say *[that *[I *[talked *[to * g' (girl)]]]]]]]]

⁴ For Chomsky (1986), IP is not a potential barrier. However, under the analysis of Takahashi (1994) and Manzini (1986), IP is a potential barrier. Pointing out potential problems for Chomsky's (1986) barriers system, Takahashi proposes that the barrier system be replaced with Shortest Move, proposed by Chomsky and Lasnik (1993). According to Shortest Move, *wh*-movement must take place successive cyclically, adjoining to every intermediate maximal projection including IP. In a similar vein, building on Chomsky (1993), Manzini (1994) proposes a locality condition on movement, according to which *wh*-movement must pass through the checking domain of each head. (See Boeckx 2003 and Bošković 2002c, 2005).

In (9b), *wh*-movement takes place in one fell swoop, and as a result, Parallelism is satisfied. The one-fell swoop movement, however, induces island violations. The subsequent VPE does not repair the island violations in IP and AspP (as marked with *, which is mine). These unrepaired islands result in the ungrammaticality.

Note crucially that there is a potential derivation that would make us predict the VPE sentence to be grammatical. The derivation would involve one-fell-swoop movement of the *wh*-phrase to the AspP-adjoined position, followed by successive cyclic movement to Spec of CP. Since the island violations induced by one-fell-swoop movement will be repaired by VPE, we would incorrectly predict the sentence to be grammatical. The representation is schematically shown in (10):

(10) which girl [IP t [IP he [AspP t [AspP *{VP say *{that *{I *{talked *{to t}}}}}}]]]]]]

↑ _____ | _____ | _____ |

Fox and Lasnik provide two accounts of how this derivation can be blocked. First, the movement, as represented in (10), violates Parallelism since there are variables on the IP and AspP-adjoined position, which are not present in the antecedent clause. Alternatively, they assume that the structure is not allowed since it might violate a possible generalization of ban on improper movement.

In what follows, I will argue that the structure in (10) in fact observes Parallelism. This will leave us only one option: it involves a violation of ban of improper movement. However, given that the notion of improper movement is not clearly defined under Fox and Lasnik’s work, I will attempt to provide an alternative analysis.

3. Locality and Parallelism

As discussed in the previous section, Fox and Lasnik’s Parallelism, which is adapted from Fiengo and May (1994), has a global property, in that it needs to be checked outside of the elliptical site. Let us call this Global Parallelism. Recall that under the analysis, Parallelism requires that a *wh*-phrase in the elliptical clause in Sluicing undergo one-fell-swoop movement, so that a parallel dependency is established in the antecedent and the elliptical clause. However, the Parallelism condition as such faces some problems. Let us consider (11):

- (11) a. I wonder who John stood near *t* and who Bill thinks that Sally did ~~stand near *t*~~.
 b. I wonder who John selected a picture of *t* and who Bill thinks that Sally did ~~select a picture of *t*~~.

The examples in (11) suggest that it is not necessary to satisfy Parallelism outside of the elliptical clause. In (11a) and (11b), there are variables present on matrix VP or AspP in the second conjunct. Such variables are not present in the first conjunct.

In order to account for the grammaticality of (11), I propose a modification of Parallelism as in (12), which I call Local Parallelism:

(12) Local Parallelism

Parallelism needs to be satisfied only within elided constituents (VP/IP).

Local Parallelism is different from Global Parallelism in that Local Parallelism does not apply outside of the elliptical constituent: it only applies within the elliptical constituent. Local Parallelism is satisfied in (11) since within the antecedent and the elliptical VP there are parallel dependencies.

It also accounts for the Sluicing constructions such as (6a), which is repeated in (13):

- (13) They said they heard about a Balkan language, but I don't know which Balkan language ~~they said they heard about~~.

If we assume that the indefinite in the antecedent clause does not move but is bound by existential closure, Local Parallelism prevents the *wh*-phrase in the elliptical clause from undergoing successive cyclic movement, dropping by every intermediate maximal projection. Otherwise, Local Parallelism would be violated since there would be intermediate traces/variables within IP of the elliptical clause, which are absent in the antecedent clause.

Local Parallelism also accounts for the ungrammaticality of VPE in Sluicing contexts, as in (6b), which is repeated in (14):

- (14) *They said they heard about a Balkan language, but I don't know which Balkan language they did ~~say they heard about~~.

If the *wh*-phrase moves successive cyclically, Local Parallelism will be violated, as some intermediate traces will be present within the elided VP but not within the antecedent VP. If the *wh*-phrase in the elliptical clause undergoes one-fell swoop movement to Spec of CP, no intermediate traces exist within the elided VP, as in the case of the antecedent VP, and thus no dependency is established within this constituent. Hence, no issue of satisfying Local Parallelism arises. However, if we follow Fox and Lasnik (2003), the one-fell-swoop movement leaves a * on every skipped projection, and some of them, such as the ones left on AspP and IP, will survive VPE. This results in the ungrammaticality of (14).

Another argument against the Global Parallelism condition comes from the following constructions:

- (15) a. JOHN suspected MARY, but I don't know who BILL did ~~suspect~~-t.
b.*JOHN stood near MARY, but I don't know who BILL did ~~stand near~~-t.
c.*JOHN selected a picture of MARY, but I don't know who BILL did ~~select a picture of~~-t.

In the examples above, the capital letters indicate focused elements. If we assume that the focused correlate, *MARY*, undergo focus movement at LF (cf. Chomsky 1976), and that focus movement takes place in the same way *wh*-movement takes place, we would expect there to be parallel dependencies in both conjuncts in (15). Yet, (15b) and (15c) are ungrammatical.

The derivation involves one-fell-swoop movement to the AspP-adjoined position, followed by successive cyclic movement to Spec of CP:

(20) which B. language_{[IP} t_{[IP} they_{[AspP} t_{[AspP} *_{[VP} say *[that*[they*[heard*[about t]]]]]]]]]]]]

↑ _____ | _____ | _____ |

In the structure in (20), Local Parallelism is not violated since no dependency is established within VPs in both antecedent and elliptical clauses. (Recall that nothing moves in the antecedent clause in (19)).

This leaves us only one option to account for the ungrammaticality of (19). As suggested by Fox and Lasnik (2003), it may be the case that this kind of movement violates a possible generalization of ban of improper movement. But as mentioned above, the notion of improper movement is not defined at all in their work. In the following section, I will attempt to provide a potential direction towards account of why derivation in (20) is not allowed.

4. Uniform Chains

Given the state of affairs so far I would like to suggest that the derivation that involves one-fell-swoop movement, followed by successive cyclic movement, can be ruled out by a version of Chain Uniformity (Chomsky 1991, Chomsky and Lasnik 1993, Takahashi 1994). Chomsky (1991) and Chomsky and Lasnik (1993) propose Chain Uniformity, according to which a chain C is a legitimate LF object only if it is uniform (see also Browning 1987). They assume that uniformity is a relational notion: the chain C is uniform with respect to P if each member of chain has property P or it has non-P. Takahashi (1994) adopts a version of Chain Uniformity. He argues that if something adjoins only to the head of α_1 of $(\alpha_1, \dots, \alpha_n)$, then α_1 becomes distinct from the rest of the chain, resulting in a nonuniform chain. The Chain Uniformity condition, if combined with the VP-internal subject hypothesis, has the effect of excluding adjunction to subjects that have raised out of VP. In languages like English, subjects move to Spec of IP in overt syntax, heading a nontrivial chain, and hence cannot host adjunction. If combined with the Shortest Movement Condition/Minimal Link Condition (SMC/MLC), which requires that movement land at the nearest target, the Subject Condition can be deduced from the Chain Uniformity condition. Let us consider the following examples:

- (21) a.?*Who did [a picture of t] please you?
 b.?*Who was [a picture of t] selected?

The derivation of (21a) involves raising of the subject DP from Spec of VP to Spec of IP. When *who* is extracted from Spec of IP, it first needs to adjoin to DP due to the MLC. However, this is not allowed due to the Chain Uniformity condition, as the chain from Spec of VP to Spec of IP results in a nonuniform chain. The same account applies to (21b), which unlike (21a), however, involves raising of the DP [a picture of *who*] from the object position to Spec of IP, followed by the extraction of *who* to Spec of CP.

To instantiate Chain Uniformity for the elliptical construction in question, I propose that locality-violating movement not only leaves a * on the crossed projections (Fox and Lasnik 2003), which is only relevant at PF, but also on the moved element and its trace. In fact, as a way of marking certain violations, *-marking has a long history in various guises. For example, Chomsky (1972) suggests that * (# in his presentation) is marked on an island when it is crossed by a movement operation. Chomsky (1991) and Chomsky and Lasnik (1993) suggest that * is assigned to traces that are left by ECP-violating movement. Lasnik and Saito's (1984, 1992) Y-marking can be understood in a similar way.

I further propose that chains be uniform with respect to *. More specifically, if a member of a chain is marked with a *, then every member of the chain should also be marked with a *, or none of the members should be marked with a *. This can be put, as shown in (22):

- (22) If (a_1, \dots, a_n) is a chain ($1 \leq n$), then for any i ($1 \leq i \leq n$), $P(a_i)$
 [where $P(a) = a$ has property P and $P =$ 'is marked with *' or 'is not marked with *']

The Chain Uniformity condition in (22) allows successive cyclic movement, as no member of the chain would be marked with a *. It also allows the derivation that involves only one instance of one-fell-swoop movement. The derivation satisfies the Chain Uniformity condition, as every member of the chain is marked with a *. This is what happens in English Sluicing, as schematically shown in (23):

- (23) John saw someone, but I don't know $\boxed{\text{wh-} \dots}$ $^*_{[IP \text{ he } ^*_{[AspP \text{ } ^*_{[VP \text{ saw } \dots]}]]}]]}$

In (23), the wh-phrase undergoes one-fell-swoop movement to the Spec of CP, to satisfy Parallelism. According to Fox and Lasnik (2003), this leaves a * VP, AspP and IP, which will be eliminated by ellipsis at PF. The one-fell-swoop movement also induces a * on the head and the tail of the chain, yielding (*who, *t). This chain (*who, *t) is uniform, since every member of the chain is marked with a *. Hence, the chain is legitimate at LF.

The Chain Uniformity condition, however, rules out the derivation that intermingles successive cyclic movement with non-successive cyclic movement. For example, the Chain Uniformity condition blocks the derivation in (20) that involves one-fell-swoop movement of the wh-phrase to the AspP-adjoined position, followed by successive cyclic movement to Spec of CP. Let us consider the point of derivation where the wh-phrase has undergone one-fell-swoop movement to the AspP-adjoined position, as in (24a). In (24a), the one-fell-swoop movement leaves a * *which B. language* in the AspP-adjoined position and its trace, as well as the skipped projections. Subsequently, the wh-phrase moves to Spec of CP successive cyclically. First, it drops by the IP-adjoined position, as shown in (24b). Being local, this instance of movement, however, does not leave a * on the head *which B. language* in the IP-adjoined position. *which B. language* further moves locally to Spec of CP, as shown in (24c). This instance of movement does not leave any * on *which B. language*:

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Bum-Sik Park
bumsikpark@yahoo.com