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Against an Afterthought Analysis of Extrapolation from NP*

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1 Introduction

In the Minimalist Program of linguistic theory as developed in Chomsky (1992, 1995, 1998, 1999, 2001), a basic sentence structure is constructed with two major syntactic operations, merge and move, or in more recent terms, external-merge and internal-merge. These two operations couple a head with a complement or a specifier to produce a superordinate syntactic unit. There must also be, however, adjunction operation introducing modifying expressions such as relative clauses and adverbs. Chomsky (2001) imposes some restriction on adjunction operation but it is not in conformity with a "transformation" named Extrapolation from NP. He then suggests a new analysis of the transformation in order to maintain the constraint on adjunction as it is. The present paper, however, makes an attempt to argue against this new analysis on the basis of several pieces of evidence.

2 The status of extraposed elements

Chomsky (2001:17) proposes a condition on adjunction structure as shown in (1):¹

- (1) In $\langle \alpha, \beta \rangle$, α is spelled out where β is.

This simple restriction provides an explanation of the contrast observed in pairs like (2):

- (2) a. [[which person][who taught at Harvard]] did Bill remember that he heard t had
insulted him
b. *[which person] did Bill remember that he heard t [who taught at Harvard] had
insulted him

Irrespective of how an adjunction configuration is created, the condition given in (1) rules out a sentence where two constituents α and β of the adjunction structure $\langle \alpha, \beta \rangle$ are spelled out in dissociated positions, and therefore (2b) is unacceptable in violation of the constraint in (1): the adjunct [*who taught at Harvard*] is not spelled out where its host [*which*

person] is.²

Chomsky (2001) claims, however, that the condition in (1) would wrongly rule out an acceptable sentence resulting from "Extrapolation from NP" like (3), if we assumed that a hosting nominal projection covertly moves to an "extraposed" adjunct after Spell-Out to produce a legitimate LF object with a coherent semantic interpretation.

(3) a man came in with blond hair

Or, for that matter, (1) is not in harmony with any analysis of "Extrapolation from NP" as long as it regards a host nominal expression and an extraposed element as constituting an adjunction configuration $\langle \alpha, \beta \rangle$, since, in such an analysis, a "host" and an "adjunct" are spelled out in positions not adjacent to each other.

For the purpose of evading this problem, Chomsky (2001) briefly mentions the possibility of treating an extraposed element as part of afterthought, namely something independent of a basic narrow-syntax sentence structure (see Jespersen (1954) for an earlier conception of the term). If we follow Chomsky, (4a) relates in a very direct way to (4b):

(4) a. I gave him a painting yesterday [from John's collection]

b. I gave him a painting yesterday, [a painting from John's collection]

The sentence-final bracketed phrase [*a painting from John's collection*] in (4b) can certainly be counted as afterthought, since the speaker must be attempting to restrict the reference of the direct object, *a painting*, by repeating it in more detailed fashion at the end of the sentence. Sentences like (4a) are derived from a construction like (4b) by some rule outside the narrow syntax that deletes the head of the noun phrase added in the sentence-final position.³ This analysis treats an extraposed element as something outside the narrow syntax computation and therefore Extrapolation from NP is not subject to (1), a condition in the narrow syntax.

In the subsequent sections, the author will attempt to argue against an analysis of the construction depending upon anything outside the narrow syntax.

3 Wh-movement out of an extraposed element

If an extraposed element is related with afterthought, an object outside the narrow syntax, operations in the narrow syntax such as movement rules like

wh-movement should not be applicable to any subpart of the extraposed material. The fact is, however, that a wh-phrase can often be extracted from an extraposed element, as we can see in (5)⁴:

- (5) a. which book has a review come out of t (Fiengo 1980:153)
 b. which topic has discussion occurred about t (ibid.)
 c. okay, you saw a picture yesterday, but just whom did you see a picture yesterday
 OF t (Huck and Na 1990:56)

These sentences suggest that an extraposed constituent is visible to narrow syntax computation. If an afterthought element, as Chomsky (2001) suggests, does not belong to the narrow syntax, an extraposed element must not be anything associated with afterthought. In fact, it is not possible for a wh-phrase to be moved out of an element arising as afterthought: the example sentences in (6) confirm that it is indeed the case. My informants consider (6b) to be unacceptable:

- (6) a. a review has come out, a review of *Tokyo Story*
 b. *which book has a review come out, a review of t

The ill-formedness of an interrogative sentence like (6b) in which a wh-phrase originates in an afterthought element could be attributed to the incompatibility of afterthought with a wh-question regarding reference: afterthought is something with which the speaker tries to restrict the reference of its antecedent showing the hearer more clearly what (s)he wants to talk about whereas in (6b) an afterthought constituent asks the hearer for a value of an operator far from restricting the reference of its antecedent.

4 Wh-in-situ

Not only a fronted wh-phrase but also a wh-in-situ can be adopted as evidence against the afterthought analysis of an extraposed element.

An extraposed material can often dominate a wh-in-situ, as exemplified in (7):

- (7) ?which of you bought a book yesterday that which of them wrote

My informants find (7) to be fairly acceptable, if not perfect.⁵ As long as the principle of full interpretation requires a relevant uninterpretable feature in a non-d-linked wh-in-situ (like *what*) to move covertly to the checking domain of some appropriate +Q +WH Comp for the purpose of feature

checking and the same principle forces a d-linked wh-in-situ (like *which car* or *which of these two cars*) to undergo some interpretative process in the LF component (perhaps unselective binding in the sense of Pesetsky (1987)), it can be claimed that a wh-in-situ is generally affected by the narrow syntax computation for interpretative reasons. It then follows from the acceptability of examples with a wh-in-situ in an extraposed element like (7) that an extraposed constituent must be a syntactic object in a narrow sense.

5 An Extraposed element between narrow syntax objects

Examples like (8) show that an extraposed relative clause can intervene between some verbal projection and an adverbial (phrase):

- (8) a. John ate some beans yesterday that should have been cooked raw
(Culicover and Rochemont 1990:58)
- b. a man was painting the wall (who was) from Philadelphia fully clothed (ibid.)
- c. a man came into the room that Mary recognized as quickly as he could
(Culicover and Rochemont 1990:33)

The fact that an extraposed relative clause in (8) is adjacent to two narrow syntax objects (a verbal projection and an adverbial (phrase)) without any clear intonational break is indicative of the narrow syntax status of the extraposed relative clauses, because non-narrow-syntax materials like a vocative expression is usually accompanied by an intonational pause when it is located between two narrow syntax objects as we observe in examples like (9):

- (9) if you don't mind, John, I'd like to have a date with your sister

(8) now demonstrate that an extraposed constituent belongs to the narrow syntax.

6 Multiple extraposition

More than one piece of afterthought can not be licensed in a single clause as witnessed in (10):⁶

- (10) *a man came into the room last night, the room that I had just finished painting, a man who had blond hair

Two occurrences of an extraposed constituent in a single clause, however, are often acceptable:

- (11) a man came into the room last night that I had just finished painting who had

blond hair (Rochemont and Culicover 1990:166)

These facts are evidential of an extraposed phrase not constituting a subpart of afterthought. Otherwise, it would wrongly predict that (10) and (11) have a similar degree of grammaticality.

7 Break

An afterthought element can be detached from a clause leaving a period or a dash:

- (12) a. There he sat, a giant among dwarfs.
 b. There he sat. A giant among dwarfs.
 c. There he sat – a giant among dwarfs.

An extraposed element is quite different from afterthought in this regard. The following examples look quite awkward:

- (13) a. A man came in. Who had blond hair.
 b. A man came in – who had blond hair.

Here also we can make a claim that an extraposed element is quite distinct in nature from afterthought and that an afterthought analysis of Extraposition from NP is seriously questioned.

8 VP-Preposing

VP-Preposing (or VP-Topicalization) is a major "transformation" that moves or topicalizes some verbal projection to the initial position of a clause:

- (14) VP-Preposing

Bill said he would eat ten apples in five minutes, and eat ten apples in five minutes
 he certainly did

VP-Preposing is usually conceived of as a kind of topicalization. Since topicalization is believed by many to be an operation within the narrow syntax, VP-Preposing is also considered to be a phenomenon during a derivation headed for LF.

If VP-Preposing, or VP-Topicalization, applies within syntactic computation, the fact that it affects an extraposed relative clause as we see in the contrast shown in (15) gives further supporting evidence of the view against an afterthought analysis of Extraposition from NP:

- (15) a. John said he would meet a man at the party (who was) from Philadelphia, and
 meet a man at the party (who was) from Philadelphia he did

- b. *John said he would meet a man at the party (who was) from Philadelphia, and
meet a man at the party he did (who was) from Philadelphia
(Culicover and Rochemont 1990:28)

On the other hand, a sentence in which a topicalized verb projection includes an afterthought element ought to be degraded, because a topicalized projection represents given information and therefore it is not in harmony with afterthought that is supposed to bear new information.

9 Restriction on a verb

There is some restriction on the kind of a verb when extraposition takes place as we can observe in examples like (16):

- (16) a. a man spoke/*grumbled/*whispered/*yelled yesterday with blond hair
(Takami 1990:207)
b. a book appeared/*fell by Chomsky (Gueron 1980:663)

When *speak* is used, (16a) is neutral as to how the speaker spoke whereas the other verbs, *grumble*, *whisper* and *yell*, belong to a group of verbs dubbed manner-of-speaking verbs in Zwicky (1971) that describe how the speaker speaks. The latter verbs can be analyzed as speaking in some particular manner and therefore heavier in meaning than *speak*. When a verb is sufficiently heavy in meaning, an element that extraposes for the purpose of being informationally conspicuous, if it moves across the heavy verb, fails to draw attention of the hearer generating a degraded status of a sentence. Something similar is true of (16b), in which *appear* is semantically lighter than *fall* because a book is something that is supposed to be published while falling usually does not characterize a book.

An afterthought expression, however, is compatible with the contexts given above. The unacceptable examples in (16) will be well-formed if an extraposed element is replaced with an afterthought expression. (17) are comparatively acceptable with any of the verbs:

- (17) a. a man grumbled/whispered/yelled yesterday, a man with a blond hair
b. a book appeared/fell, a book by Chomsky

If an extraposed element constitutes (a part of) an afterthought expression, the discrepancy between (16) and (17) will lose an appropriate explanation.

10 Restriction on an adverbial

We can make a similar argument in favor of a non-afterthought analysis of extraposition on the basis of a restriction on the type of an adverbial when extraposition takes place across it:

- (18) a. John read a book yesterday/*carefully by Chomsky
 b. John hit a woman in the meeting/*with a bat from Los Angeles
 (Takami 1990:197)

No matter how different the two adverbials in each of the examples in (18) are in terms of informational weight, the acceptability of (19) suggests that an extraposed element is different from afterthought in nature:

- (19) a. John read a book carefully, a book by Chomsky
 b. John hit a woman with a bat, a woman from Los Angeles

11 An adjunct wh-movement

The afterthought analysis of an extraposed element makes a wrong prediction concerning overt wh-movement of an adjunct. The principle (1) rules out a simple wh-question like (20), where an adverb *how* base-generated in a position adjoined to some verb projection is attracted by +Q +WH Comp head and spelled out at a clause-peripheral position independently of any verbal projection:

- (20) how did he solve the problem t

For that matter, any adverbial detached from a projection it modifies provides support for a non-afterthought analysis. Focus movement of an adjunct predicate like (21) is one such example:

- (21) penniless_i I knew that Mary_j left John (Napoli 1989: 109)

12 Conclusion

We saw nine pieces of evidence against an afterthought analysis of extraposition from NP. We could add some more evidence, but we will not go into their details to save space. Although I remain noncommittal as to what the best way is to account for extraposition from NP, I hope that the present article has shown convincingly that an analysis without recourse to afterthought is more promising.

NOTES

- * -- I was inspired to write the present paper through discussion on the recent development of the minimalist syntax in monthly meetings of the Fukuoka Syntactic Circle, to whose members I feel much obliged for their insightful remarks. My thanks also go to two of my colleagues at Kyushu University who acted patiently as excellent informants, Philip Backley and Robert Mark.
- 1 -- $\langle \alpha, \beta \rangle$ represents an adjunction configuration in which α is adjoined to β whereas $\{ \alpha, \beta \}$ is a syntactic object arising as a result of the application of Merge.
- 2 -- We do not take "phase" into consideration when we consider derivations of example sentences, although the recent development of the linguistic minimalism focuses on how it can be integrated into a grammatical theory. It takes us too far afield to deal with phase in addition to an afterthought analysis of Extraposition from NP.
- 3 -- The deletion operation should be assumed under the afterthought analysis to lie outside the narrow syntax, since the noun phrase including the deletion site is located outside the narrow syntax by definition.
- 4 -- Wh-movement out of an extraposed element has not always been regarded as acceptable in the tradition of generative study. For example, Baltin (1978: 113) does not tolerate examples like (i):
(i) *which book has a review just appeared of t
Based on examples like (5c), we could argue that the absence of a contrastive stress on the preposition preceding a wh-trace gives rise to unacceptability in sentences like (i).
- 5 -- One of my informants suggests that the slightly degraded status of examples like (7) lies in many speakers' preference for the use of two independent wh-questions.
- 6 -- One of my informants, a linguist, claims that it is extremely difficult to have two afterthought expressions in a single sentence.

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