

## Research Article

### EXCEPTIONAL CASE MARKING STRUCTURES IN ENGLISH: A PROPOSAL OF COMPUTATION

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#### ABSTRACT

Preservation is a constraint on the computation of syntactic structures stating that, in the course of a computation, the interpretation of an inscription does not change. As for Exceptional Case Marking (ECM), it is an operation where a nominal receives Case feature not from one (01) but two (02) assigners: the second Case assigning is said to be exceptional because not conventional. Nevertheless, when considering some ECM constructions, it is noted that Preservation is violated in the sense that a nominal becomes eligible for two different interpretations during the computation. In addition, so-called infinitival *to* has always been assumed to occupy the head position of an IP; however, under the current assumption, *to* is rather the head of a phase. This paper is then intended to propose a different computation for ECM structures in English where there is no violation of Preservation, with so-called infinitival *to* being the head of a CP phase.

**Keywords:** Preservation, Exceptional Case Marking, merge, Form Copy, phase.

#### INTRODUCTION

According to Radford (2009, p. 456),

[In Exceptional Case Marking (ECM) constructions], accusative subjects of infinitive clauses (e.g. *him* in 'I believe *him to be innocent*') are said to carry exceptional accusative case (in that the case of the accusative subject is assigned by the main-clause verb *believe*, and it is exceptional for the case of the subject of one clause to be assigned by the verb in a higher clause). Verbs (like *believe*) which take an infinitive complement with an accusative subject are said to be ECM verbs.

From the observation above (which is a widespread assumption in Minimalist Syntax), it is noticed that in an Exceptional Case Marking (henceforth ECM) structure like *I believe him to be innocent*, *him* is taken to be the subject of the embedded clause *him to be innocent*, which is also assumed to be the internal argument of *believe*.

However, on the one hand, *him* is inflected for accusative Case, which is not a Case for grammatical subjects as opposed to nominative Case, for instance; for this reason, *him* normally should not be treated or analyzed as the grammatical subject of the embedded clause. On the other hand, by definition, an argument has a referential value because it is semantically relevant; as a result, the clause *him to be innocent* cannot be the internal argument of *believe*, unlike *him*. Furthermore, the fact that *him* is analyzed as the subject of a clause while being inflected for accusative Case, just like objects or complements, means that it receives more than one interpretation: this constitutes a violation of the principle of Preservation. That principle is defined as a constraint on the computation of syntactic structures stating that, in the course of a computation, the interpretation of an inscription does not change. Chomsky *et al.*, (2023, p. 22) explain that

Preservation is a general constraint, normal for all computation in formal systems. There can be no valid computation unless each inscription is interpreted in one and only one way [...] Preservation is not a syntactic operation and is thus not subject to the Markovian property of such operations. Rather, Preservation by its very nature must be able to 'scan' each derivational step to be sure that an inscription has not changed interpretation. Thus, Preservation can detect the identity of inscriptions.

The foregoing urges to reconsider the internal structure and computation of ECM constructions in English, hence this paper. This paper is then intended to propose a different computation for ECM structures where so-called infinitival *to* is not the head of an IP, but the head of a CP phase.

The theoretical framework underlying this paper is the Minimalist Program of Generative Grammar. Within the Minimalist Program, the cornerstone is the Strong Minimalist Thesis which stipulates that the Language Faculty is an optimal solution to the legibility (or interpretation) conditions imposed by the C-I (Conceptual-Intentional) and SM (Sensorimotor) interfaces interacting with the Language Faculty (Chomsky 1995a). In this framework where language is defined as a computational system, there is only one structure-building device: Merge. As a matter of fact, Merge, with its two (02) modes of application which are External Merge (henceforth EM) and Internal Merge (henceforth IM), takes a Workspace (henceforth WS) as input and is the only operation that builds syntactic objects in natural languages. About Merge, Chomsky *et al.*, (2023, p. 18) state that

Merge takes a WS as input; it targets two (and only two) terms P, Q within that WS; it puts P, Q into the set {P, Q}, thereby adding the newly created set to the WS and yielding a new derivational stage, WS'. The key point here is: the binary property of Merge does not have to be stipulated for Merge, but rather it follows from a general notion of simplicity.

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Formally and more simply speaking, Merge is defined in (1).

$$(1) \quad \begin{aligned} WS &= [P, Q, R] \\ \text{Merge}(P, Q, WS) \\ WS' &= \{[P, Q], R\} \end{aligned}$$

Crucially, the terms in the WS (like P, Q, R in (1)) on which Merge operates are not the lexical items themselves; they are rather inscriptions of those lexical items.

In addition to operation Merge, this paper resorts to another theoretical tool of the Minimalist Program: Form Copy (henceforth FC). It is an implicit operation whose function is to make sure that all structurally identical inscriptions in a formal proof are assigned the same interpretation before the built syntactic object is sent to the C-I interface, the semantic interpretation interface. In other words, if A and B are structurally identical, FC (A, B) interprets A and B as copies, which means that the inscriptions A and B will be interpreted the same way. Except the Introduction and Conclusion, this paper is divided into two (02) sections. The first one presents an overview as far as the computation (or derivation) of ECM structures in English is concerned. As for the second section, it proposes a different computation for ECM constructions where the embedded clause headed by *to* is not an IP, but a phase.

## AN OVERVIEW OF ECM STRUCTURES IN ENGLISH

### The generally accepted computation of ECM constructions in English

To have an overview on how Merge builds ECM sentences in English, let us consider the computation of two (02) constructions: *they expected the man to come earlier* and *she believed him to speak Japanese*.

Let us consider the assumed computation for *they expected the man to come earlier*.

In (2), Merge takes a WS as input; it targets the terms COME and *earlier* within that WS and puts them into the set {COME, *earlier*}. Merge then adds the newly created element, that is, the set {COME, *earlier*} to the Workspace, leading to another stage in the computation.

$$(2) \quad \begin{aligned} WS &= [COME, \text{earlier}] \\ \text{Merge}(COME, \text{earlier}, WS) \\ WS &= \{[COME, \text{earlier}]\} \end{aligned}$$

In (3), the light verb *v* is merged to create the complex *v*-COME, followed by the EM of its external argument (henceforth EA) {the man} (that has been built independently by merging inscriptions of *the man*) into the specifier position of *v* (-COME). That represents an EM of an argument into a theta position, justified by Duality of Semantics<sup>1</sup>.

$$(3) \quad WS = \{[EA, \{v\text{-COME}, \text{earlier}\}]\} \quad \text{where } EA = \{\text{the, man}\}$$

Next, so-called infinitival *to* is merged, followed by the merge of the ECM root EXPECT. Subsequently, the EA undergoes an IM into the

non-theta specifier position of EXPECT to get a Case and label. (Minimal) Search only accesses the higher inscription of the EA, ignoring its lower inscription.

$$(4) \quad WS = \{[EA, \{EXPECT, \{to, \{EA, \{v\text{-COME}, \text{earlier}\}\}\}\}\}\}$$

Ultimately, the higher *v* is merged and attracts EXPECT to build the complex *v*-EXPECT. Its EA, *they*, is also externally merge.

$$(5) \quad WS = \{[they, \{v^2, \{EA, \{EXPECT, \{to, \{EA, \{v\text{-COME}, \text{earlier}\}\}\}\}\}\}\}\}$$

Here, an EM of  $I^{\beta}$  and an IM of *they* into the specifier position of the former can take place. At this level, FC ({the man}, {the man}) applies to give (6) before the relevant syntactic object is sent to the interfaces for meaning (C-I) and externalization (SM).

$$(6) \quad \text{They expected the man to come earlier.}$$

Now, consider the computation of *she believed him to speak Japanese*.

That computation is fundamentally the same as the one yielding (6). Thus, let us assume that Merge has applied many times to build (7), by merging SPEAK and *Japanese*, creating the complex *v*-SPEAK by merging in *v*, and externally merging the EA of *v* which is *him*.

$$(7) \quad WS = \{[him, \{v\text{-SPEAK}, \text{Japanese}\}]\}$$

We can then merge in so-called infinitival *to* and the ECM root BELIEVE. In order to obtain Case and label, *him* is internally merged into the non-theta specifier position of BELIEVE.

$$(8) \quad WS = \{[him, \{BELIEVE, \{to, \{him, \{v\text{-SPEAK}, \text{Japanese}\}\}\}\}\}\}$$

The higher phase head *v* and its EA *she* can be merged, and *v* attracts BELIEVE to create the complex *v*-BELIEVE. Also, the head *I* is externally merged and *she* undergoes an IM to the specifier position of *I*.

$$(9) \quad WS = \{[she, \{v, \{him, \{BELIEVE, \{to, \{him, \{v\text{-SPEAK}, \text{Japanese}\}\}\}\}\}\}\}\}$$

Finally, FC (him, him) applies to yield (10) which goes to the interfaces for meaning and externalization.

$$(10) \quad \text{She believed him to speak Japanese.}$$

### Consequences

Considering the assumed computation of ECM sentences (6) and (10) above, some issues arise. First, *the man* in (6) changes interpretation in the course of the computation. Indeed, *the man* is not only interpreted as the subject of the embedded clause *to come earlier*, but also as the object of the predicate EXPECT. Needless to say, this aspect of the computation violates the Preservation principle, as defined in the Introduction. Likewise, in (10), *him* is subject to the same changing of interpretation in the course of the derivation. In fact, it is interpreted as both the subject of the clause *to speak*

<sup>1</sup>Duality of Semantics: External Merge, and only External Merge, creates theta positions.

<sup>2</sup>The light verb *v* functions like an affix to which the predicate EXPECT is adjoined, meaning that the latter is externalized or pronounced in the position of higher *v*.

<sup>3</sup>I = INFL = Inflection. This may also stand for T(ense), under other assumptions.

Japanese and the object of BELIEVE: hence a violation of Preservation.

Besides, it is said that the infinitival clause in ECM structures, such as *the man to come earlier* in (6) and *him to speak Japanese* in (10) are internal arguments of the main verbs EXPECT and BELIEVE, respectively. As a result, it is assumed that there is no intermediate CP phase (Chomsky *et al.*, 2023, p. 41). Nonetheless, by definition, an argument has a referential value because it is semantically relevant; therefore, a clause like *the man to come earlier* or *him to speak Japanese* cannot be an argument. Rather, the arguments in (6) and (10) are the nominals *the man* and *him*, respectively. Hence, the grammaticality and acceptability of (11) and (12).

(11)

They expected **the man**.

(12)

She believed **him**.

For all these reasons, a different assumption is adopted in this paper, leading to the proposal of a different computation of ECM sentences in English.

## COMPUTING ECM SENTENCES IN ENGLISH

### Proposal

About the computation of ECM sentences in English, I sustain that so-called infinitival *to* is the head of a CP phase. In addition, the internal argument selected by the so-called ECM verb is not the subject of the embedded clause.

### Illustrations

To see how this works concretely, let us consider the computation of two (02) sentences: *the prosecutor wants them to testify against the boss* and *they require her to present the findings*.

One inscription of each, *the* and *boss*, is selected from the Lexicon and merge to give the set {*the*, *boss*}. Then, one inscription of *against* is selected and merged with {*the*, *boss*} to build {*against*, {*the*, *boss*}}. This is shown in (13).

(13)

$$WS_1 = \{\{\text{against}, \{\text{the}, \text{boss}\}\}\}$$

Next, the predicate TESTIFY is merged, followed by the merge of light verb *v* to create the complex *v*-TESTIFY. Now, *them* (the EA of *v*) is merged into the specifier position of *v* or the complex *v*-TESTIFY, which is a theta position sanctioned by Duality of Semantics.

(14)

$$WS_1 = \{\{\text{them}, \{v\text{-TESTIFY}, \{\text{against}, \{\text{the}, \text{boss}\}\}\}\}\}$$

Then, so-called infinitival *to* is merged, and its being a phase head makes it impossible for its complement to be accessible for any further operations due to Phase Impenetrability Condition (PIC)<sup>4</sup>, as shown by the grey in (15).

(15)

$$WS_1 = \{\{\text{to}, \{\text{them}, \{v\text{-TESTIFY}, \{\text{against}, \{\text{the}, \text{boss}\}\}\}\}\}\}$$

The main clause *the prosecutor wants them* is built independently. Firstly, Merge takes one inscription of *them* (internal argument) and one inscription of WANT (the so-called ECM root) to create the set {WANT, *them*} as in (16).

(16)

$$WS_2 = \{\{\text{WANT}, \text{them}\}\}$$

Secondly, in (17), *v* is merged to build the verbal complex *v*-WANT. the EA (*the prosecutor*) is externally merged into the specifier position of *v*(-WANT) as A THETA position filler, after having been created by merging one inscription of *the* and *prosecutor* independently. Subsequently, *I* is merged and the EA undergoes an IM to the specifier position of *I*.

(17)

$$WS_2 = \{\{\text{the}, \text{prosecutor}, \{v\text{-WANT}, \text{them}\}\}\}$$

where EA = {*the*, *prosecutor*}

At this level, (15) and (17) can be merged. Finally, FC(*them*, *them*) applies<sup>5</sup> before the whole construction is sent to the interfaces with meaning (C-I) and sound (SM). As a result, the two instances of *them* are interpreted the same way, and (Minimal) Search cannot access the lower inscription or instance of *them* which is, then, not pronounced or externalized. Ultimately, we have (18).

(18)

The prosecutor wants them to testify against the boss.

Now, let us turn to the computation of *they require her to present the findings* under the assumption developed in this paper.

On the one hand, just like the computation in (15), Merge builds {*the*, *findings*} out of two inscriptions from the Lexicon. Afterwards, the predicate PRESENT and *v* are merged and give rise to the complex {*v*-PRESENT}. To fill in the theta position of *v*, *her* is externally merged into the specifier of *v*. The computation moves on with so-called infinitival *to* being externally merged as well. Because (19) is a phase headed by *to*, the set {*her*, {*v*-PRESENT, {*the*, *findings*}}} is no longer accessible for further operations.

(19)

$$WS_1 = \{\{\text{to}, \{\text{her}, \{v\text{-PRESENT}, \{\text{the}, \text{findings}\}\}\}\}\}$$

On the other hand, (20) is built independently by merging REQUIRE and *v* to create the complex *v*-REQUIRE; and the internal argument *her* (which is another inscription of *her* independently selected from the Lexicon) of REQUIRE is externally merged in its theta position. Next, *they*, the EA of *v*, is externally merged into the specifier of *v*, which is its theta position. Then, the head *I* is merged and *they* is internally merged to the specifier of Inflection.

(20)

$$WS_2 = \{\{\text{they}, \{v\text{-REQUIRE}, \text{her}\}\}\}$$

At this stage, (19) and (20) are merged and FC (*her*, *her*) applies as to obtain the same interpretation for the two inscriptions of *her* at the C-I interface. Also, Search only finds the higher instance of *her* which is externalized at the SM interface, to the detriment of the lower instance. Therefore, (21) is fully computed.

(21)

They require her to present the findings.

It is worth noting that, with the computation for ECM sentences in English proposed here, the principle of Preservation is not violated.

<sup>4</sup>A constraint on grammatical operations which specifies that the domain or complement of a phase head is inaccessible to an external probe (i.e. to a c-commanding probe which lies outside relevant phase).

<sup>5</sup>FC is not blocked by the PIC because, even though it is an operation, it is an implicit one that does not involve any probe.

## CONCLUSION

In a nutshell, the objective of this paper has been to propose a different computation for ECM sentences in English that does not violate the Preservation principle. That principle is not violated under the computation proposed here, inasmuch as, the embedded clause headed by *to* being a phase, the PIC blocks any IM out of the complement of that phase to a higher position that can give rise to more than one interpretation of the IM item. Also, the approach developed in this paper has shown that the argument of the so-called ECM root is not the embedded clause, but rather the (pro)noun following *to*. In fact, by definition, an argument is a nominal with a specific referential value: so, it cannot be a full clause.

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