ECM Constructions as Complex Predicates: A Neo-constructivist Approach

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1. Introduction

The original insight of Chomsky (1955/1975) regarding *Exceptional Case Marking* (ECM) constructions in (1) was that the accusative *him* is the object of the complex predicate *believe-to-like-cheese.* According to the LSLT account, the verb *believe* in (2a) first combines with the infinitive at D-structure, forming a complex predicate, which, in turn, takes *him* as its direct object; at the level of S-structure, the infinitive is then moved to the right by a separational transformational rule.

(1) Mary *believes* **him** *to like cheese.*

(2) a. *D-structure:* [Mary] **believes-to-like-cheese** [him].
b. *S-structure:* [Mary] **believes-t**$_i$ [him]-**to-like-cheese**$_i$.

This fashion of analysis was abandoned with the development of Government-and-Binding (GB) model for both empirical and conceptual reasons. Empirically, since rightward movement presents a lingering problem for the GB model of syntactic displacement, the complex predicate approach cannot straightforwardly account for the surface position of the direct object between the parts of the complex predicate. Likewise, with the subsequent elimination of D-structure in Minimalist Program (MP), it is not entirely clear where/how these complex predicates should be formed. Conceptually, the complex predicate approach is not in accord with the *lexicalist approach* to argument structure manifested in the *Projection Principle* and the *Theta-Criterion* (Chomsky 1981). Within the mainstream GB/Minimalism, *him* is assumed to be thematically related to *like* as its external argument, and hence, following the above principles must be realized in the structure as the "subject" of the infinitival predicate:

(3) Mary believes [$_{\text{S}}$ **him** [$_{\text{InfP}}$ *to like cheese*]].

In this paper, I attempt to revive the core line of Chomsky's original theorizing by proposing a neo-constructivist (non-projectionist) approach to (1), in which syntactic/semantic hallmarks of ECM constructions are epiphenomenal to the syntactic template with which it is associated. Specifically, I will suggest that ECM "shares" the same template with a class of constructions which, according to certain syntactic analyses, instantiate complex predicate and which are commonly referred to as "resultatives" (e.g., Neeleman 1994, Snyder 1995, 2001, Borer 2005, Larson 2014). I will argue that the matrix verb and the infinitival predicate in (1) form a complex predicate in the LF component as a result of the independently motivated head movement, and show the proposed analysis can provide some evidence against postulating an overt (either EPP- or Case-driven) object shift in ECM configurations.

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2. Neo-constructivist model: argument licensing and interpretation

Boeckx (2015), in his criticism of the current minimalist enterprise, observes that "whereas minimalist syntacticians insisted on the demise of *government* as proof of the difference between minimalism and the models preceding it, they remained extremely conservative when it comes to the relationship between syntax and the lexicon." Recently, contra the standard assumption that lexical items determine syntactic structure, several scholars have argued against projecting arguments from the lexicon (Sybesma 1992, Borer 2005, Åfarli 2007; Ramchand 2008, Lohndal 2014, Nygård 2018, *i.a.*). Borer (2005), for instance, develops a generative neo-constructivist (*exoskeletal* - XS) model of syntax, according to which there is no projection of arguments from lexical items; rather, syntax provides a skeleton – a number of syntactic templates/frames in which lexical items are inserted and which determine the interpretation of arguments. Crucially, unlike in GB/Minimalism, lexical items in this model do not determine structure, but rather, function as its modifiers (Borer 2005). Within such an approach, *like* in (1) would not be specified as to assign an external theta-role to *him*. Rather, the fact that *him* occurs in a particular structural slot would trigger its interpretation as the "subject" of the embedded predicate. In support of this thesis, the proponents of the neo-constructivist approach argue that canonical lexical information traditionally associated with certain lexical items can be easily "overridden" by syntax (i.e., by a syntactic template in which they are inserted). In fact, already in 1982, Rivière observed that the traditional lexical classification of verbs into "transitive" and "intransitive" in English can be challenged by the existence of the so-called resultative construction, since "it seems that any non-stative verb of English can be followed by NP R with the resultative interpretation".

(4) a. The audience laughed the actors off the stage.
b. ??The audience laughed the actors.

(4a) is totally interpretable on a resultative reading, even though the selectional restrictions of *laugh* (as an intransitive verb) have been violated. An important corollary of the neo-constructivist approach is that a verb can in principle be inserted in all possible syntactic templates. However, as (4b) indicates, not all verbs sound natural in all templates/frames. Under the neo-constructivist approach, (4b) is *not ungrammatical* (i.e., it does not violate any grammatical principle like *Theta-Criterion* in GB); instead, it is considered *conceptually bad* and is "filtered out" at the C-I interface for the lack of *harmony* between the semantic content of the transitive frame and the conceptual semantic content of the inserted verb (*laugh)*, as suggested by Åfarli (2007) and Nygård (2018).

3. Resultatives and ECM: related constraints

In order to account for the non-thematic (unselected) status of the direct object in a resultative construction as in (4a), many researches within a generative framework have taken the direct object and the resultative XP to form a constituent – the so-called small clause – a counterpart to the finite clause (e.g., Hoekstra 1988). Conceptually, the small-clause analysis of resultatives appears to be akin to the standard account of the ECM construction in (5a), where the matrix verb (exceptionally) assigns ACC Case to the subject of the embedded predicate across a clause boundary, despite the absence of thematic relation between them (Chomsky 1981):

(5) a. Mary believed [$_S$ Bill to like cheese].
b. Mary drank [$_{SC}$ the teapot dry].

Interestingly, besides being able to occur with non-thematic objects, both ECM and resultative constructions show a number of other related constraints, but remarkably, they are accounted for from different theoretical perspectives. For instance, neither the subject of an (unergative) resultative, nor of an ECM construction can control the embedded predicate (both require "fake reflexives"):

(6) a. *John yelled *(himself) hoarse.
b. *Mary believed *(herself) to be ill.

Unless one analyzes the resultative construction as containing a small clause, the explanation of the ungrammaticality of (6a) and (6b) requires different theoretical repertoires. The badness of (6b) is generally accounted for in terms of PRO-theorem (Chomsky 1981) or Null Case theory (Bošković 1997, Martin 2001), which bar phonetically null subjects from occurring in ECM complements. A similar constraint in (6b) follows Levin and Rappaport Hovav's (1995) Direct Object Restriction (DOR), dictating that the result-state (*hoarse*) can only be predicated of the immediately postverbal NP.

It has also been independently observed that ECM complements and result XPs must describe states:

(7) a. Jane pounded the dough [$_{AP}$ flat].
b.*Jane pounded the dough [$_{NP}$ a pancake].
c. Mary believed [$_{S}$ John [$_{InfP}$ to be the winner]]
d. *Mary believed [$_{S}$ John [$_{InfP}$ to eat a bagel]].

For resultatives, this constraint is thought to follow from the general semantics of a resultative construction, which is supposed to express a state resulting from the action denoted by the matrix verb (see Carrier & Randall 1992). For ECM constructions, Bošković (1997) and Martin (2001) propose that non-finite T in ECM infinitives is specified [-tense] and therefore cannot license eventive predicates.

Relatedly, consider an interesting observation by Ormazabal (1995) (who attributes the observation to Samuel Jay Keyser, p.c.) that adding a prefix *re-* to a verb that generally takes an ECM complement precludes the verb from taking such a complement:

(8) a. Mary discovered [the problem].
b. Mary discovered [the problem to be insolvable].
c. Mary rediscovered [the problem].
d. *Mary rediscovered [the problem to be insolvable].

As has been in shown in Marantz (2007), the same restriction also holds true for (unergative) resultatives (along with some other ditransitive constructions):

(9) *John redrank the teapot dry.

To sum up, this data demonstrates a parallelism between ECM and resultative constructions, which, together with standard considerations of simplicity and parsimony, motivates a unitary treatment of the constructions in questions.

4. Contraria sunt complementa

Despite sharing some similar constraints, resultative and ECM constructions differ in one interesting respect: Hoekstra (1988) notes that resultatives are built exclusively upon agentive verbs, while Pesetsky (1991) makes a generalization that agentive verbs (*wager*-class verbs) do not allow ECM (the so-called Agent/ECM correlation).

(10) a. *Medusa saw the stone flat.
b. *John wagered/yelled/mumbled Mary to have prepared for the class.

Crucially, for semantic interpretation, resultatives – but not ECM constructions – involve a causal relation (see Kratzer 2005). Neeleman & van de Koot (2012) argue, however, that causal relations are not encoded linguistically; rather, causation exists independently of language as a psychological tool, and it does not directly match either the syntactic structure or lexical semantics.

According to Neeleman & van de Koot, language can only emulate causation by using two primitives: 1) culmination of an event in the result (end) state and 2) the so-called Crucial Contributing Factor (CCF) that is held accountable for the whole macro-event and realized as external argument. In support of this thesis, Neeleman & van de Koot argue that "the components that make up the lexical semantic representation of causative predicates are motivated independently" and can be found "in the lexical semantics of verbs that are not causative." Thus, the authors describe a second type of eventuality,

the so-called relation of "maintenance". Maintenance is a relation in which the continuation of a particular state of affairs is dependent on the continuation of an activity or a second state of affairs. They suggest that verbs of maintenance and verbs of causation both have a result-state and a CCF as part of their semantics; however, while the result-state is interpreted as a culmination of the preceding event in the case of causative verbs, it is interpreted as coexisting with and dependent on another state in case of maintenance verbs. Ultimately, Neeleman & van de Koot assign them very similar semantic representations in (11):

(11) a. $\lambda y\, \lambda x\, [[_e\, x\, [_s \ldots\, y \ldots]]\, \&\, x = CCF]$ *causation*
b. $\lambda y\, \lambda x\, [[_s\, x\, [_s \ldots\, y \ldots]]\, \&\, x = CCF]$ *maintenance*

(11a) and (11b) differ only in the semantic type of the first eventuality, capturing Hoekstra's and Pesetsky's observation: while it is an event (as opposed to a state) in causatives, it is a state in maintenance verbs. The very fact that ECM constructions and resultatives appear to be in complementary distribution with respect to agentivity/stativity of the matrix verb implies that they should have some common underlying characteristics at some deeper level.

Let us assume that the difference in the interpretation of result-states in (11) arises at the C-I interface and stems from Parsons's (1990) assumption that the notion of culmination does not apply to states – "a state either holds or does not." In the same vein, Snyder (1995) distinguishes the notion of culmination from the notion of natural endpoint (result-state) and suggests that for a result-state to be interpreted as a culmination, it has to entail a change of state: this is possible in (11a), but not in (11b), since states are [-dynamic] and do not involve any change.

Suppose resultatives, being a species of causatives, correspond to (11a). Now let us further assume that ECM constructions also encode a CCF[1] and express a metaphorical extension of the maintenance relation in (11b) – Brentano's (1973) "intentional relation" – a counterfactual dependency between the "intentional state" (*believe*) and the "intentional object" (state of affairs), which Brentano also originally hypothesized as "correlative concepts of which one cannot be thought without the other" (Taieb 2018).

For a syntactic account of ECM this has an immediate consequence that *believe* in (5a) should combine with a *result-state* complement. One potential objection to this proposal is that since Chomsky (1981) ECM verbs have been widely analyzed as proposition taking (note that according to Brentano, intentional attitudes are non-propositional); thus, given that (12a) and (12b) receive the same semantics[2], it has been argued that ECM verbs must also show the same selectional restrictions they do with finite clausal complement.

(12) a. John believes [$_S$ syntax to be super exciting].
b. John believes that [$_S$ syntax is super excising].

Neeleman (1994), however, questions the necessity of a strict isomorphism between syntactic and propositional structures and argues that "in the model of interpretational semantics one might expect

[1] That ECM constructions, like resultatives, may also encode a CCF argument held accountable for the whole event can be supported by Borkin's (1984) observation that *believe* with an ECM complement cannot be used to describe "the acceptance of the truth of the proposition presented by someone other than the subject of the matrix clause":

(i) The doctor has told Sam that Mary is sick
a. but Sam won't believe that she is sick
b. #but Sam won't believe her to be sick (adapted from Borkin 1984: 79)

[2] This view is controversial, however. Pesetsky (1991, 2021) observes (in the context of Agent/ECM correlation) that a non-agentive *believe*-class verb coerced into agentivity (by use in the imperative) loses its ability to take an ECM complement. Interestingly, this type of coercion has no effect on the ability of the verb to combine with the corresponding finite clause (see also footnote 1):

(i) a. ??No, you can't talk to Bill. Try to understand him to have died.
b. No, you can't talk to Bill. Try to understand that he has died. (Pesetsky 2021: 24)

See Akimenka (forthcoming) for other arguments against the view that ECM verbs take clausal complements.

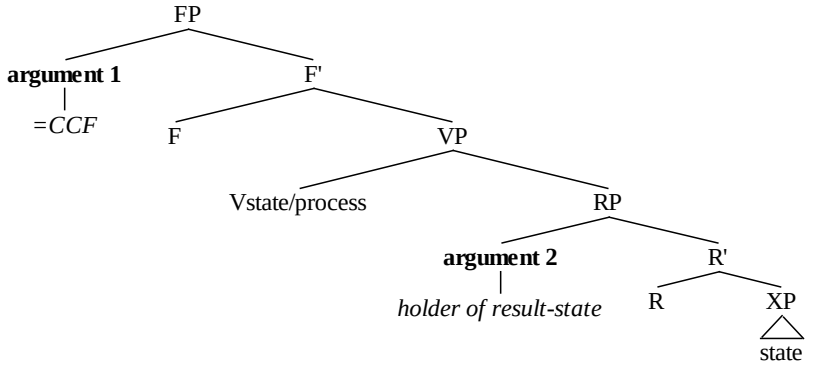
semantic interpretation to be sensitive to syntax, but there is no reason why propositional and syntactic structures should be isomorph", since "syntactic knowledge and propositional knowledge are different in nature, stated in different terms, and represented in different modules of grammar." In such a model, syntactic structures are fed into semantic module that can derive independent propositional interpretation. This view aligns well with King's (2007) theory of *structured propositions*, according to which sentential relation provides all the structure to the propositional relation and to the proposition itself.

5. ECM=Resultatives: toward a non-discrete syntactic account

Pursuing the hypothesis that both resultatives and ECM constructions involve a CCF argument and a result-state as part of their semantics, I will argue for the existence of the syntactic frame in (13), whose meaning can be enriched (modified) by lexical insertion in the dedicated slots, giving rise either to a "resultative" (14a) or an "ECM" interpretation (14b) at the C-I interface.

Suppose now that the "result" component of the result-state is contributed by a Case-licensing resultative head R(esult) which combines with another overt (or covert) stative XP, imposing a requirement that this XP be the endpoint of the event expressed by V. I will now argue that the obligatory presence of the unselected ACC marked NPs in both resultative and ECM constructions follows from the Inverse Case Filter (ICF), a requirement that Cases assigners *must* check/assign their Case in Spec-Head configuration (Bošković 1997, 2002). I assume that at the C-I interface an NP merged in [Spec, RP] receives an interpretation as the "subject of result-state" (see Ramchand 2008), thus indirectly deriving the propositional "status" of the ECM complement:

(13)



ICF

Case ⟵ *Result* *State*

(14) a. [$_{FP}$ John [$_{VP}$ drank$_{process}$ [$_{RP}$ the teapot R [$_{XP}$ empty]]]].

b. [$_{FP}$ John [$_{VP}$ believed$_{state}$ [$_{RP}$ the teapot R [$_{XP}$ to be empty]]]].

Next, given Levin's (2017) suggestion that the objects of result verbs must be expressed "because to know that a state holds requires looking at the entity it holds of", ICF can be potentially restated in terms of legibility requirements imposed by the C-I interface – as a means of making a result-state semantically visible.[3] I will further assume that Neeleman and van de Koot's CCF argument is merged in the specifier of the functional projection FP. An F-argument in this position has an irreducible general property of being an "initiator" of the event irrespective of the basic semantic type of the verb.

This analysis captures the intuition that the subject of ECM complements to certain non-stative verbs like *declare* can be "affected" by the event in question (see Pesetsky 1991, Branigan 1992, Ito 2014). Consider (15), discussed by Pesetsky (1991):

[3] If *re-* itself is the head of RP (**John recrossed over the street/John recrossed the street*) as proposed by Alexiadou et.al (2014), then *re*-affixation and ECM/resultatives would be mutually exclusive, correctly predicting the contrast in (8).

(15) Congress declared March to be National Syntax Month.

Recall that according to Pesetsky (1991), there is a systematic correlation between agentive verbs and their ability to combine with certain types of infinitival complements: agentive verbs do not generally allow ECM:

(16) *John wagered/yelled/muttered Mary to be the winner.

Agentive verbs like *declare* thus seem to form an exception to Agent/ECM correlation and, according to Pesetsky, involve a double θ-marking of the embedded subject: in (15) *declare* θ-marks *March* across a clause boundary because Congress's declaration changes the property of March – March becomes the National Syntax Month by virtue of declaration. It is interesting to note that this interpretation mirrors the semantics of the resultative construction: some individual or entity is changed by means of the matrix predicate and enters the result condition described by the resultative phrase. This creates some sort of a duality paradox: the construction in (15) appears to have both "ECM" and "resultative" characteristics. But which is it? No such paradox arises under the analysis presented above: the syntactic frame in (13) represents neither a "resultative" nor an "ECM" structure. "ECM" and "resultatives" are not phenomena of syntax but rather heuristic labels describing what is happing in the cognitive system of a speaker. Put it differently, the template in (13) is syntactically in a "superposition" and "collapses" into either an ECM or a resultative reading after the lexical insertion at the C-I interface depending on stativity/agentivity of the matrix verb.

This analysis can give us a grip on understanding the nature of the Agent/ECM correlation: since there is nothing that may prevent *wager* from being inserted in the syntactic frame in (13), (16) can be ruled out at the C-I interface for interpretive deviance ("conceptual weirdness" – Lohndal 2014): while it is possible, given our real-world knowledge, to change someone's status by means of declaring/ruling, it is not possible to do so by means of wagering or yelling. If, however, there is a supporting context (e.g., a fairy-tale scenario), in which John has a magic power to make Mary a winner by yelling, (16) may allow a resultative interpretation similar to (15).

6. Zero R, head movement, and Case theoretic effects

The analysis thus far suggests that the infinitival subject is licensed via ICF outside the domain of the matrix predicate, in [Spec, RP]. This assumption, however, raises an empirical problem with regard to (17), as it incorrectly predicts that all sentences below should be acceptable:

(17) a. *[$_{RP}$ Bill to be a spy] would be unusual.
b. *Mary is sure [$_{RP}$ Bill to be a spy].
c. *It is believed [$_{RP}$ Bill to be a spy].
d. *Mary's belief [$_{RP}$ Bill to be a spy].

In GB, where ACC Case is supposed to be licensed by (transitive) V, the whole paradigm in (17) is ruled out by Case Filter: the infinitival subject fails to get Case in the absence of a Case licenser (i.e. V). But if *Bill* receives ACC in [Spec, RP], Case Filter cannot be a suitable candidate for ruling out (17). It is also unlikely that structures like (17) can discarded at the C-I interface for semantic deviance, so we must find an independent grammatical principle that would account for their weirdness.

I suggest that the ungrammaticality of (17) follows from Ormazabal's (1995) proposal (which in turn draws on Pesetsky 1991, 1995) that all zero heads are universally bound morphemes (affixes). Let us assume that zero R in (13) is specified as an LF-affix (Chomsky 1995). Suppose now that being a verbal LF-affix, R must covertly raise via head movement into the matrix V, creating a complex [[$_{R}$ Ø$_{affix}$] [V]] (recall that R requires that its complement be the endpoint of the matrix V).

(18) John believed [$_{RP}$ the teapot R$^{0}_{[+LF\ affix]}$[$_{InfP}$ to be empty]].
LF incorporation

Now we can derive the Case-theoretic effects in (17) in the spirit of Ormazabal (1995): in (19a) the free-standing affix cannot receive a full interpretation, while in (19b-d) the affix is attached to a non-verbal host (but see Pesetsky 2021 for an alternative non-lexicalist account of (17)).

(19) a. *[$_{RP}$ Bill [Ø$_{affix\ R}$] to be a spy] would be unusual.
free-standing affix
b. *Mary is [[$_R$ Ø]$_i$ [$_A$ sure]] [Bill [$_R$ t$_i$] to be a spy].
c. *It is [[$_R$ Ø]$_i$ [$_A$ believed]] [Bill [$_R$ t$_i$] to be a spy].
d. *Mary's [[$_R$ Ø]$_i$ [$_N$ belief]] [Bill [$_R$ t$_i$] to be a spy].
non-verbal host

7. "Through the wormhole": dislocation without movement

Lasnik and Saito (1991) observe, following the original insight of Postal (1974), that an ECM subject behaves like a direct object NP in simple transitive constructions with respect to binding and NPI licensing. They show, for instance, that *the defendants* can c-command the adjunct modifying the matrix verb in (20a) but not in (20b), where *the defendants* is unambiguously the subject of the (finite) embedded clause:

(20) a. The DA proved the defendants$_i$ to be guilty during each other$_i$'s trials.
b. *The DA proved that [the defendants$_i$ were guilty] during each other$_i$'s trials.

Lasnik and Saito's observation thus appears incompatible with our (implicit) assumption that an ECMed subject should remain in [Spec, RP] throughout the derivation, and implies that (at some relevant point) it must be located in the A-position of the matrix clause in order to be able to bind the anaphor. But this raises another interesting question: what motivates the dislocation of the embedded subject? Two main options have been explored in the literature: 1) either LF (post-Spell-Out) (e.g., Branigan 1992) or overt (pre-Spell-Out) (e.g., Bošković 1997) *A-movement for Case-checking* and 2) *EPP-driven A-movement* (e.g., Lasnik 1999). Due to space limitation, I cannot discuss the details of these proposals here (see Akimenka, forthcoming). Our proposal that ACC of the ECM subject is licensed in the embedded clause in [Spec, RP], rules out the Case-driven option as a possible trigger of the movement. We are left with the EPP-driven option, but the problem with EPP – "a pervasive mystery since it was first formulated by Chomsky (1981)" (Lasnik 2003) – is its *ad hoc* nature: EPP does not explain *why* movement has occurred but rather simply restates the fact that some element has been dislocated from its original position.[4] Instead of looking for a legitimate trigger for A-movement in (20a), I explore an alternative, "no-trigger" option for the raising of the infinitival subject.

According to Baker (1988), a complex head derived via head movement retains certain properties of the incorporated head in the derived structure. Baker famously proposed that incorporation has the syntactic effect of extending the governing domain of the incorporated item reflected in his Government Transparency Corollary (GTC):

(21) An Y° which has an X° incorporated into it governs everything which X° governed in its original structural position.

Stepanov (2012) proposes an interesting minimalist reformulation of GTC, which captures its intuition, but does not make a recourse to government. Stepanov assumes that syntactic HM does not leave a trace and suggests that if head α has projected to a phrase αP and then moved to adjoin to head β, the traceless HM would affect the backbone of αP in a lethal way: it would cease to exist. For the structure of the vanishing head this has the following consequence: if α takes a complement γP and then

[4] As Branigan (2010) puts it, "the obviously stipulative nature of the EPP is convenient, inasmuch as the concept serves as a placeholder within the theory for something that everyone can agree is missing an explanation, making it easier to address other theoretical questions without being sidetracked. But on the other hand, we would like to actually find an explanation, or at least make progress toward one."

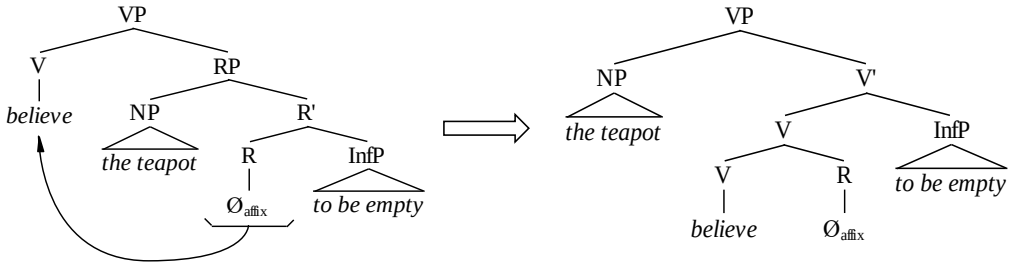
undergoes HM, αP collapses, and γP becomes a complement of the conglomerate head β (β+α), which is very reminiscent of Baker's idea of the "extended domain."

(22) $[_{\beta P}\ \beta\ [_{\alpha P}\ \alpha\ [\gamma P]]] \rightarrow [_{\beta P}\ \beta{+}\alpha\ [\gamma P]]$.

A similar idea is ingrained in Müller's (2017) operation Remove – a mirror image operation of Merge – that is supposed to remove structure. Müller suggests that the material that has been originally included in the removed projection is reassociated (reassembled) in their original hierarchical order within the projection of the head responsible for the structure removal.

I will now argue that the incorporation of R into the matrix V proposed above causes the projection of RP to disappear. Thus, (13) is only an underlying structure, which LF affixation transforms as in (23):

(23)



At a relevant point of the derivation of LF, R undergoes traceless HM, incorporating into matrix V. The RP collapses, and the complement of R, InfP, becomes a complement of a new complex head V+R, forming a complex predicate *believe-to-be-empty*. Likewise, the specifier of R, NP *the teapot*, automatically becomes the specifier of V (inner subject of the complex predicate) without formally undergoing A-movement into the higher clause. As a result, the ECM subject can now bind into the higher clause adverbial, correctly predicting Lasnik & Saito's contrast in (20) (on the assumption that binding principles hold at LF – see Chomsky 1995). The advantage of this approach is that it makes no reference to any principle motivating the raising of the infinitival subject. Instead, the dislocation in (23) is, in fact, "movement through the wormhole": it is simply a side-effect of the independently motivated HM rather than a result of the Internal Merge.

8. (Non-)arguments for the overt object shift in ECM

The complex predicate account of ECM constructions straightforwardly accounts for the surface position of the direct object between the parts of the complex predicate, since the complex predicate is formed in the covert component. Likewise, as a result of the "reassociation", the infinitival subject appears in the matrix clause at LF, correctly predicting the binding facts in (20). However, some analysts (Koizumi 1993, Runner 1995, *i.a.*), following Postal (1974), pointed out several facts that seem to indicate that the movement of the infinitival subject to the matrix clause must have happened overtly (pre-Spell-Out).

For one thing, certain manner adverbs with a matrix scope can appear to the right of the subject of the embedded clause in ECM constructions, but not in finite clauses. Hence the ECM subject in (24a) must be in the matrix clause at Spell-Out (note that in order to derive the correct word order, the overt raising hypothesis has to stipulate an additional main verb's movement to a position to the left of the landing site of the infinitival subject):

(24) a. Mary proved John ~~prove~~ conclusively [~~John~~ to be a spy].
b. *Mary proved [that John conclusively was a spy].

Bowers (2018) argues that adverbs are licensed by heads and that manner adverbs should be licensed by v_{tr} – a head responsible for ACC Case assignment. Bowers suggests that the linearization direction of adverbs is left unspecified by the Spell-Out algorithm: they can occur either on the left edge or on the right edge of the constituent they modify. Given these considerations, assume that *conclusively* in (25) is licensed by R (which is responsible for ACC Case on *John*).

(25) *Spell-Out:* Mary proved [$_{RP}$ Bill [$_{R'}$ conclusively R^0[$_{InfP}$ to be a spy]]].

On the complex-predicate approach developed here, the V-NP-Adv-Inf word order in (25) follows without overt object shift because the matrix scope of the adverbial is indirectly determined post-Spell-Out: after R undergoes covert HM, *conclusively* (along with other material in RP domain) is reassembled within the higher VP, taking scope over the formed complex predicate *prove-to-be-a spy:*

(26) *LF*: [$_{VP}$ Bill [$_{V'}$ conclusively [$_{V'}$ prove+R^0[$_{InfP}$ to be a spy]]]].

Another piece of evidence for the overt object shift in ECM is the observation that particles in verb-particle constructions can appear to the left of the infinitival subject, but not of the finite subject:

(27) a. Mary made Bill out [~~s Bill~~ [$_{InfP}$ to be a spy]].
b. *Mary made that Bill out was a spy.

Given that the core meaning of the Germanic verb-particles can be characterized as resultative (see Brinton 1988), I will make a proposal that particles identify R. Potential evidence for this assumption comes from the fact that they are incompatible with prefix *re-* (**reheat the soup up*) and can license unselected arguments (via ICF) (*the cats meowed the dogs*(out)).* Now, the V-NP-Prt word order can be essentially derived without overt A-movement of the infinitival subject, as (28) illustrates:

(28) *Spell-Out:* Mary made [$_{RP}$ Bill [$_{R}$ out] [$_{InfP}$ to be a spy]].

The possible (for some speakers – see Lasnik 2003) V-Prt-NP word order in (29) can be seen as an instance of PF-movement (see Rothstein 1995), resulting in the particle cliticizing onto the higher V:

(29) ?/*Mary made out Bill to be a spy.

Crucially, V-Prt-NP word order is impossible when the embedded subject is a weak pronoun. Given that weak pronouns are clitics that must undergo incorporation to V (Oehrle 1976), the ungrammaticality of (30) is due to the failure of *him* to cliticize, the clitic position of *make* being occupied by *out.*

(30) *Mary made out him to be a spy.

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