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Short

*On the properties of phase heads in raising and
passive clauses: DP movement and
Transfer options*

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Abstract

This short article proposes to eliminate asymmetries between the CP and vP phases by arguing for a more uniform clause structure in which both phase heads, C and v, are always present in a derivation but may be removed from the workspace by Transfer. I argue that C is present in the derivation of raising clauses but is removed from the workspace after DP movement yields intersecting sets, in the sense of Epstein et al. (2012, 2015).

Keywords: A-movement, feature inheritance, phases, transfer

Résumé

Ce court article propose d'éliminer les asymétries entre les phases CP et vP en proposant une structure de proposition plus uniforme dans laquelle les deux têtes de phase, C et v, sont toujours présentes dans une dérivation, mais peuvent être supprimées de l'espace de travail par Transfert. Je soutiens que C est présent dans la dérivation des propositions à montée, mais est retiré de l'espace de travail une fois que le mouvement DP a donné des ensembles qui se croisent, au sens d'Epstein et al. (2012, 2015).

Mots clés: Movement-A, héritage des traits, phases, transfert

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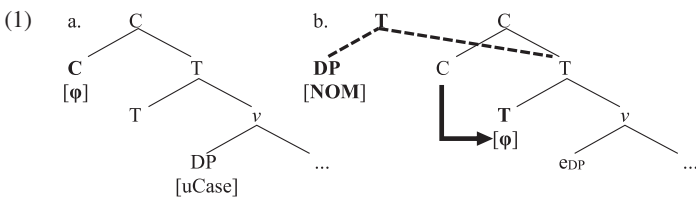
1. INTRODUCTION

Chomsky’s (2008) feature-inheritance approach offers an explanation for why the presence of a C head correlates with the agreement and Case valuation properties of T; φ -features are not inherent to T but are inherited from the phase head C. As for the ν P domain, it is still assumed that the phase head ν is present in all clauses, with a complete set of φ -features in transitive clauses and a defective one in passive and unaccusative clauses. This creates an asymmetry between the CP and ν P phases; when nominative Case valuation does not occur in the CP phase it is assumed that C is absent, but when accusative Case valuation does not occur in the ν P phase, it is assumed that the ν head is φ -defective (yet still present). Moreover, we must assume that matrix V can select either C (*It seems that John lost*) or T (*John seems to have lost*), an asymmetry that is not found in the case of T, as it always seems to select a ν head. The present proposal eliminates both of these asymmetries by arguing for a more uniform clause structure in which both phase heads, C and ν , are always present in a derivation but may be removed from the workspace by Transfer (see section 3).

In this short article I argue that C is also present in the derivation of raising clauses but is removed from the workspace after DP movement yields intersecting sets, in the sense of Epstein et al. (2012, 2015) (henceforth EKS). In section 2, I explore the implications of Chou and Fernández-Salgueiro’s (2020) (henceforth C&F-S) claim that person features are not inherited from C, for EKS’s theory of Transfer, and in section 3, I argue that Transfer may also apply to the phase heads C and ν , yielding the type of syntactic structure associated with raising and passive clauses. In section 4, I discuss ECM and unaccusative clauses.

2. DP MOVEMENT, INTERSECTING SETS, AND FEATURE INHERITANCE

A central property of phases as discussed in Chomsky (2000, 2001) and much subsequent work is that of cyclic Transfer, which applies to the phase head complements TP and VP. EKS wish to establish the fact that it is TP and VP (rather than CP and ν P) that are transferred from feature inheritance. To illustrate, consider the two steps of the derivation in (1):



(1a) shows the derivation prior to feature inheritance, whose structure corresponds to the set {C, T}. After C’s φ -features are inherited by T in (1b), they get a value after Agree with the DP, the Case feature of the DP is valued as nominative, and Merge (DP, T) applies. Since C is already present in the derivation, EKS claim that this operation inevitably creates the doubly-rooted structure depicted in (1b) corresponding to

the intersecting sets {DP, T} and {C, T}. EKS argue that at this point that the derivation cannot continue unless the structure corresponding to the newly created set {DP, T} is removed from the workspace by Transfer, leaving only the object {C} (and its specifier if there is one) available for syntactic operations in the next phase. Notice that since C is both the head of the phase and the root of the derivation, A'-movement to Spec-CP does not create a doubly-rooted structure, and so does not trigger Transfer. As for the *v*P phase, removal of the set {DP, V} after the object DP moves to Spec-VP, is derived in the same way.¹

An empirical challenge for Chomsky's (2008) claim (that the φ -features of T are not inherent to T but inherited from C) which will have implications for EKS's approach comes from VP ellipsis data, as argued by C&F-S. Consider the contrast in (2) below:

- (2) a. He said he doesn't like her much, but he does seem to.
 b. *I consider Pam to like soccer, and I believe Rebecca to as well.

As can be seen, VP ellipsis is licensed in raising contexts but not in Exceptional Case Marking (ECM) contexts, although C is assumed to be absent in both cases. If Saito and Mirasugi (1990), Lobeck (1990) and others are correct in claiming that ellipsis of a constituent requires that the head that selects it agree with its specifier, it cannot be the case that all φ -features depend on the presence of C. In this respect, C&F-S claim that person features are not inherited from C (while number features are) and further argue that infinitival T in raising clauses carries a person feature (see also Chomsky 2000: 124 on non-control infinitivals), but it carries no φ -features in ECM clauses, hence their different behaviour with respect to VP ellipsis.²

There seem to be two main ways in which C&F-S's approach to (number) feature inheritance can be adapted to EKS's system. It could be that the only difference is that number is inherited, leaving the order of operations intact. The other possibility is that since DP movement to Spec-TP seems to take place independently of C (as evidenced by the properties of infinitival T in raising with respect to VP ellipsis mentioned in section 1, it is reasonable to assume that the person feature of T attracts the DP prior to inheritance.³ This also conforms to Boeckx's (2008: 173) independently motivated claim that "person checking amounts to the EPP effect."

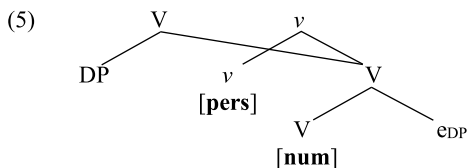
A question raised by one of the reviewers is whether T can attract the DP before C is merged, in which case no doubly-rooted structure is generated. I am still assuming that C is merged prior to DP movement, and thus a doubly-rooted structure ensues, as there are reasons to believe that Spec-TP is not visible to C (while T is). In this respect, Chomsky (2008: 147) observes contrasts such as the following:

¹See also Oseki (2015) for an extension of EKS's approach to the syntax of adjuncts.

²See section 4 for discussion of participial agreement, which suggests a similar distinction between passive V and unaccusative V.

³This is also what C&F-S claim, except that they assume that C is not present in the derivation when A'-movement occurs. In fact, they argue that a welcome consequence of their approach is that intersecting sets are never generated.

Example (5) below shows the structure of a *v*P after DP movement. Person inheritance and φ -feature and Case valuation would then apply, resulting in Transfer of {DP, V}.⁶



A reviewer points out that if Boeckx (2008) is correct in that it is the person feature that is responsible for DP movement, it is not clear that the number feature alone can trigger DP movement to Spec-VP. While this movement is widely assumed in current work (see Chomsky 2008 and subsequent work, among others), it could be dependent on the person feature inherited by V. However, passives with expletive *there*, in which the DP precedes the participle in the absence of V-to-*v* movement (as in *There were many people arrested during the protests*), suggest that this movement is independent of inheritance and (accusative) Case valuation (see section 3 for further discussion).

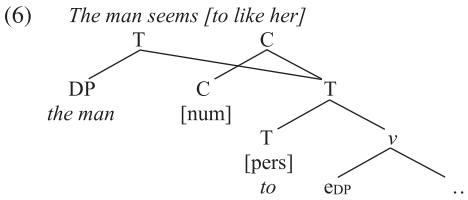
With this modification of EKS’s approach in mind, I would like to propose that this system offers the possibility of finding a more principled account for the apparent lack of C in raising clauses and the asymmetries between CP and *v*P phases mentioned in the Introduction. In the next section, I suggest that besides removing the sets {DP, T} or {DP, V} and maintaining the phase head in the workspace as EKS propose, the derivation can also proceed by removing the phase head instead and maintaining the sets {DP, T} or {DP, V} in the workspace, yielding the effects of raising and passive syntax, respectively.⁷

3. RAISING, PASSIVE SYNTAX AND PHASE HEADS

Let us first discuss the derivation of raising. Consider again the structure in (4) above, prior to insertion of *seems* and number inheritance, repeated here as (6):

⁶As a reviewer mentions, there is now an asymmetry between CP and *v*P with respect to the distribution of features. One possibility is that this asymmetry is related to Case; number with person inheritance values accusative, while person with number inheritance values nominative. This would allow φ -features alone (regardless of whether they are located in T or in *v*) to determine which Case feature is valued.

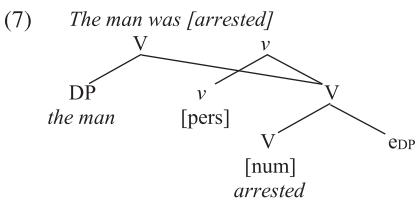
⁷See Pesetsky’s (2021) work on exfoliation for a similar idea. Pesetsky claims that raising and passive clauses are derived by peeling away C and *v*, although under a different set of assumptions and empirical motivations.



As discussed above, number inheritance should now apply, followed by removal of the set {DP, T} from the workspace. Here I adopt EKS's insight that Transfer applies so that the derivation can continue after a doubly-rooted structure is generated, but this deduction is no longer straightforward once the φ -features are split across C and T. Notice that if indeed a doubly-rooted structure is generated in which the number feature is yet to be inherited by T, as in (6), the Case feature of the DP cannot be valued yet either since T is not φ -complete, which means that if the set {DP, T} is to be removed from the workspace, the number feature of C must still be inherited by T so that Case can be valued before Transfer can occur.

Consider a different operation involving the number feature of C in the derivation in (6) that would also allow Transfer to apply, and ultimately derive the main properties of raising. Suppose that, rather than being inherited by T, the number feature of C can probe down and get a value from the DP.⁸ The Case feature of the DP would remain unvalued, but since C now carries no unvalued features, Transfer could remove {C} from the workspace, leaving the object {DP, T} available for further syntactic operations. This would allow the DP to undergo raising to a higher T head and T, lacking number features, would be realized post-syntactically as *to*. Notice that this higher head may also fail to inherit a number feature from C, although in the matrix clause (of a grammatical sentence) number inheritance must have occurred, since the Case feature of the DP does get valued.

To illustrate the derivation of passives, consider the *vP* in (7) (repeated from (5)):



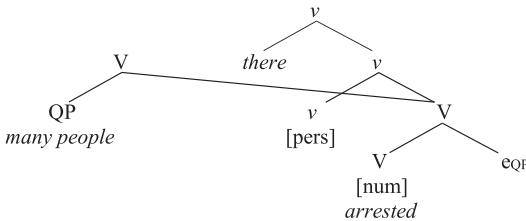
The derivation cannot continue at this point, due to the doubly-rooted structure. However, neither {DP, V} nor {v} can be removed from the workspace, since both objects contain unvalued features. As in the case of C, two different operations can apply now involving v: the person feature can be inherited by V, in turn valuing the Case feature of the DP, or v can probe down and get a value for its person feature from the DP. The former option allows Transfer of the object {DP, V} as expected in transitive clauses, whereas the latter would allow the v head to be removed from the workspace and transferred, leaving the DP available for syntactic operations in the CP phase, chiefly, A-movement to Spec-TP (and ultimately deriving (7)). Since

⁸See Epstein et al. (2018) for a similar idea and its implications for linguistic variation.

transferred material, as in EKS’s proposal, is interpreted at the interfaces, the *v* head can still contribute to the semantics of passive clauses with respect to the interpretation of an implicit agent.⁹ Notice that if the *v* head is removed from the workspace, no V-to-*v* movement is predicted to take place in passive clauses, as has been argued for independently by Caponigro and Schütze (2003).

Consider now the derivation of a passive clause that includes expletive *there*:

(8) *There were [many people arrested]*



Following Richards and Biberauer (2005) and others, I am assuming that expletive *there* must be base-generated in Spec-*v*P, as evidenced by the fact that it is in complementary distribution with an external argument. As mentioned in section 2, I am also assuming DP (in this case, QP) movement to Spec-VP, as evidenced by the fact that the DP precedes the verb in passive clauses with *there*. Removing the *v* head in this case would not yield a single-rooted structure, since *there* would remain in Spec-*v*P. Moreover, *there* and *v* cannot be removed from the workspace together since they do not form a set. If this is correct, the only option in passive clauses with expletive *there* is to remove the set {DP, V}, which would also be the prediction expected under EKS’s approach.¹⁰

Questions arise regarding feature inheritance and the Case properties of the nominal element in these examples, which have long been analyzed as involving partitive Case (see Belletti 1988 and Epstein and Seely 2006, among others). This accounts for the fact that the nominal element cannot be definite and thus tends to be a QP, and it also indicates that feature inheritance and accusative Case valuation do not apply here.

As mentioned in the Introduction, the purported absence of C in raising clauses appears to go against the very logic of Chomsky’s phase-based system, which generates what Richards (2007: 570–571) has called “the familiar core sequence

⁹This analysis raises questions about the extra Voice/Passive head typically assumed in the literature: Embick (1997) assumes both a Voice head, responsible for the agent-related semantics, and a *v* head that acts only as a verbalizer. But in later work (Embick 2004), he takes the *v*P to be the locus of agentive interpretation, a claim also found in Pesetsky’s (2021: 124) attempt to account for passive clauses as exfoliated *v*Ps. A more general question is whether a singleton set can contribute to the semantics of a structure that has not yet been transferred. One possibility is that the Merge operation itself provides the relevant information to the interfaces, as argued for in some derivational approaches (e.g., Epstein et al. 1998 and Epstein and Seely 2006).

¹⁰Notice that Transfer of the set {DP, V} correlates with the syntactic structure of typical sentence fragments like *twenty people arrested*, *several cases reported*, or *e-mail sent*.

C – T – v* – V,” in which “neither phase heads nor nonphase heads may successively cooccur; rather, phases should consist, maximally and minimally, of one phase head [...] and one nonphase head.” It should not be expected then that a derivational system based on phases (and especially the φ -feature properties of phase heads) may fail to involve a phase head. Under the approach developed here, the absence of C is only apparent; the sequence of heads just mentioned is preserved regardless of what kind of clause (i.e., transitive, passive, raising) is ultimately derived. C is always introduced in the derivation, though it may be removed from the workspace after a doubly-rooted structure is generated.¹¹

These considerations also relate to the concerns regarding selection mentioned in the Introduction. Even though the very concept of selection has been demoted in recent work on syntactic theory (see e.g., Chomsky et al. 2019), selectional properties did ensure that heads were introduced in the order just discussed. The approach developed here readily accounts for the fact that a raising verb like *seem* can be followed by a C head (as in *It seems that John lost*) or by a T head (*John seems to have lost*), without alluding to specific lexical properties; a verb that selects a clause is always merged after C.

Additional evidence for the presence of a C head in raising may come from *for to* infinitives in Belfast English. Consider the examples below, taken from Henry (1995):

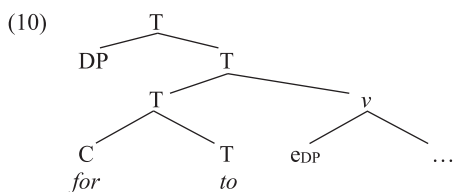
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| (9) a. | I tried for to get them | Henry 1995: 84 |
| b. | For to stay here would be just as expensive | Henry 1995: 83 |
| c. | John seems for to be better | Henry 1995: 86 |

As can be seen, Belfast English differs from standard English in that *for* realizes the C head not only in *for* infinitives as in standard English but also in infinitival clauses containing PRO, both in the case of controlled PRO (9a) and arbitrary PRO (9b). Example (9c) shows that *for* can also appear in raising clauses, which suggests that a C head is present as well (see section 4 for discussion of ECM clauses). Under the approach that I develop here, the fact that A-movement out of the embedded clause is possible is expected, since the C head would be inserted in the derivation, but removed from the workspace after the doubly-rooted structure is created.

The fact that *for* appears between the matrix verb and *to* in Belfast English still needs to be explained, however, since the approach that I develop here in principle predicts that the C head should be interpreted at the interface before Transfer applies to the rest of the clause. One possibility is that rather than being removed from the workspace, the C head adjoins to T after its number feature gets valued, which is actually what Henry (1995) proposes independently in order for PRO in

¹¹As noted by a reviewer, Sugimoto (2021) (based on ideas put forward by Epstein et al. 2016), also argues that C is present in infinitival clauses, but external pair-Merge of C and T makes C invisible. Sugimoto’s approach, however, entails that in both raising and ECM clauses movement to the embedded Spec-TP is optional (Sugimoto 2021: 157). As discussed, C&F-S’s observations regarding VP ellipsis suggest that this is not the case (see (1) above).

Spec-TP to escape Case assignment from *for*. Evidence for this adjunction analysis comes from the fact that *for* and *to* need to be adjacent in Belfast English.¹² This adjunction operation is illustrated in (10):¹³



4. REMARKS ON ECM AND UNACCUSATIVE CLAUSES

Given the analysis of raising and passive clauses that I have proposed here, questions arise regarding the status of ECM and unaccusative clauses. As is well known, the syntax of ECM and unaccusative clauses shows similarities with that of raising and passive clauses with respect to Case valuation. In both raising and ECM clauses nominative Case valuation fails, while in both unaccusative and passive clauses accusative Case valuation fails.

With respect to the status of the phase head C, if the approach I develop here is on the right track, a C head carrying a number feature should also be present in ECM clauses (recall the core sequence C – T – v* – V mentioned above). In this respect, consider the Belfast English examples below, which show that *for* also appears in ECM clauses:

- (11) a. I wanted Jimmy for to come with me Henry 1995: 85
 b. I want there for to be some peace and quiet sometime Henry 1995: 86

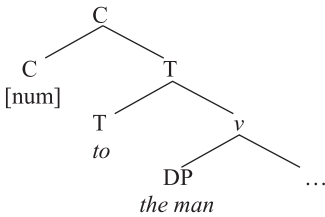
If these assumptions are correct, the structure of an embedded clause in ECM clauses should be the one in (12), in which no DP movement to Spec-TP occurs due to the absence of person features in T (recall the discussion of VP ellipsis in (2) above, based on C&F-S):¹⁴

¹²In Belfast English, negation can only appear between *for* and *to* in a standard English-like *for*-infinitive like *for John not to go* or *for John to not go*. See Henry (1995) for discussion.

¹³Depending on the properties of the ϕ -features of C, adjunction to T could help provide a new analysis for inflected infinitives. Furthermore, possible evidence that the *v* head in passives may adjoin to V (as C adjoins to T in (10)) may come from the so-called reflexive passives with the verbal clitic *se* in several Romance languages. These are issues that I leave for further research.

¹⁴As one of the reviewers notes, whether T carries person or not must be lexically specified (see also C&F-S). Independent evidence for this claim may come from the fact that there seems to be no verb that can be found in both raising and ECM contexts.

(12) *I believe the man [to like her]*



Since DP movement to Spec-TP does not apply in ECM clauses, a doubly-rooted structure is never generated, which correctly predicts that the TP is not removed from the workspace, and thus the DP is predicted to undergo movement. Moreover, the φ -defective C head can obtain a value for its number feature from the DP (and adjoin to T in Belfast English).

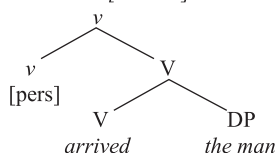
The question that arises now is whether the Belfast English examples should be taken as evidence that every C head that does not undergo number feature inheritance adjoins to T, rather than being removed from the workspace, or whether they indicate only that adjunction to T is another possibility besides Transfer of C. Claiming that every C head that remains defective must adjoin to T is a reasonable hypothesis, but more empirical evidence should be found to support it. This is an issue that I leave for further research.

As with passives, evidence for the presence of a *v* head in unaccusative clauses comes from the fact that they are compatible with expletive *there*, especially with verbs like *remain*, *exist*, and *occur*. Unaccusative clauses seem to differ from passive clauses in that the V head does not carry a number feature, as suggested by the fact that in a number of languages unaccusative past participles do not show agreement with the internal argument, whereas passive participles do show number (and gender) agreement. The following Spanish examples illustrate this well-known contrast:¹⁵

- (13) a. Han llegado varios jugadores
 have.3PL arrived several players
 ‘Several players have arrived.’
- b. Fueron expulsados varios jugadores
 be.PAST.3PL expelled.PL.MASC several players
 ‘Several players were expelled.’

If the above assumptions are correct, unaccusative clauses do not involve a doubly-rooted structure either, but rather a *vP* structure like (14) in which the DP is also predicted to undergo movement:

¹⁵As is well known, Italian and French unaccusatives do show number (and gender) agreement and use the equivalent of *be* as an auxiliary verb. I take unaccusative clauses in Iberian Romance to be closer to their English counterparts, given that the same type of auxiliary verb (*have*) is used.

(14) *The man [arrived]*

5. CONCLUSIONS

In this short article I have argued that C and *v* are present in raising and passive clauses, but are removed from the workspace by the Transfer operation after DP movement yields intersecting sets. I have followed the main idea behind EKS's approach, but have proposed that besides removing the sets corresponding to the phase complements TP and VP, Transfer may remove the phase heads C and *v* instead, yielding the type of syntactic structure associated with raising and passive clauses. I have also discussed the properties of ECM and unaccusative clauses under this approach.

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