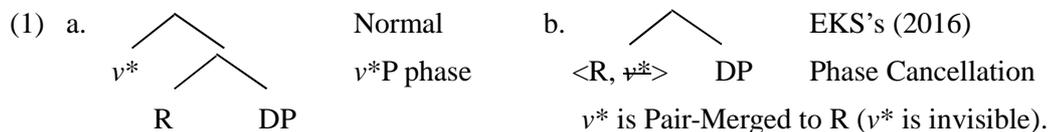


On Two Ways of External Pair-Merge

The aim of this presentation is twofold. Firstly, I claim that the Phase Cancellation via external Pair-Merge of v^* to R proposed by Epstein, Kitahara, and Seely (EKS) (2016), which is based on Chomsky's (2015) latest framework (POP+), has another logical possibility ("reverse" Pair-Merge) and this possibility sheds light on the famous mainland Scandinavian passives with/without agreement. Secondly, I argue that the two ways of external Pair-Merge are also applicable to the CP phase and they explain a defective status of the left periphery of infinitival clauses and a puzzling behavioral difference between the raising/ECM constructions and the control construction in Italian concerning Clitic Left-Dislocation (CLLD). Let us see a brief overview of these arguments.

POP+ develops the phase theory based on free merger and the labeling algorithm. It claims that all merger operations including Internal/External Merge can be freely applied when a phase is constructed (this is free merger). However, the resulting constituents must be properly labeled and, otherwise, they cannot be interpreted at the interfaces, violating Full Interpretation. The labeling process involves the minimal computation-based Labeling Algorithm, which chooses the nearest head in a constituent as the label. Moreover, POP+ assumes two types of merger operations: Set-Merge, which is "normal" merger and connects two items symmetrically, and Pair-Merge, which mainly introduces adjuncts into the derivation and relates two items asymmetrically.

Based on the framework of POP+, EKS (2016) propose that when v^* is externally Pair-Merged to R before it enters the mainstream of the derivation, v^* becomes invisible because of the characteristics of Pair-Merge and v^* P phase cannot be formed. This is EKS's (2016) Phase Cancellation and they argue that it is applied to the bridge verb construction and the passive/unaccusative constructions.



- | | | |
|--|---|---|
| (2) a. John <u>thinks</u> that ... (Bridge Verb) | b. John was <u>hit</u> <i>t</i> . (Passive) | c. John <u>came</u> <i>t</i> . (Unaccusative) |
|--|---|---|

However, although EKS (2016) do not discuss, given that Pair-Merge is an asymmetric operation and that we have two items to merge (v^* and R), then, there are two logical possibilities:

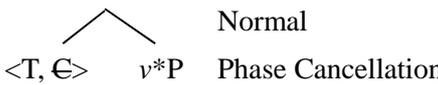
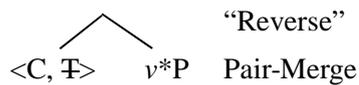
- | | |
|--|--|
| (3) a. $\langle R, v^* \rangle$ (v^* is Pair-Merged to R) | b. $\langle v^*, R \rangle$ (R is Pair-Merged to v^*) |
|--|--|

(3a) is EKS's (2016) Phase Cancellation in (1b), where, since v^* has been Pair-Merged, its Phi features become invisible. Hence, no agreement can occur. However, in (3b), R is Pair-Merged to v^* and thus v^* remains syntactically visible. Thus, its Phi features also remain visible and should be checked. This indicates that under (3b), agreement can occur. Furthermore, if we assume that Feature-Inheritance licenses case assignment following EKS (2012), case assignment is impossible in either of (3a) or (3b): in (3a), Feature-Inheritance does not occur since the Phi features are invisible, while in (3b) Feature-Inheritance is prevented because the R head, which is a Phi-feature-receiver and is necessary for Feature-Inheritance, is rendered syntactically invisible. Then, I claim that (3a, b) correspond to (4a) without agreement (or default agreement) and (4b) with agreement, respectively.

- | |
|--|
| (4) a. Det har blivit <u>skrivet</u> / <u>*skrivna</u> <u>tre böcker</u> om detta. (Swedish) |
|--|

- Expl have been written-Sg/written-Pl three books about this
 ‘Three books have been written about that.’
- b. Det har blivit tre böcker *skrivet/skrivna om detta. (Swedish)
 Expl have been three books written-Sg/written-Pl about this
 (Holmberg (2002: 86))

Moreover, given the phasal parallelism between v^*P and CP, the two Phase Cancellations above should also be applicable to CP. Hence, we have two possibilities in (5a, b) in the CP phase.

- (5) a.  Normal Phase Cancellation
- b.  “Reverse” Pair-Merge

This presentation claims that the Phase Cancellations derive infinitival clauses. Moreover, I propose that (5a, b) correspond to the raising/ECM constructions and the control constructions, respectively.

Interestingly, Haegeman (2012) argues that infinitival clauses do not allow an argument to exist in their left peripheries (at least in English and Italian). In addition, while the Italian raising/ECM complements do not accept CLLD, the control complement does. Now, given that discourse-related features (such as Topic and Focus) are located on C, we can easily explain the impossibility of discourse-related elements appearing in the left periphery of the raising/ECM constructions under (5a); because the C head is invisible due to Pair-Merge, discourse-related items cannot be licensed. On the other hand, in the control construction derived by (5b), C remains visible and we expect that the left periphery is active. However, note that the Phi features in (5b) remain on C without inheritance because T, namely, a Phi-feature-receiver is invisible. Here, I assume that the Phi features must be checked through the <Phi, Phi> label determination following EKS (2014). Then, if an argument is located in the left periphery of (5b), the <Phi, Phi> labeling is circumvented. However, adjuncts can appear there because adjuncts are Pair-Merged and do not hinder labeling. As Haegeman (2012) argues that left-dislocated elements in CLLD behave similarly as adjuncts, if we assume that the left-dislocated elements are also Pair-Merged, the analysis here predicts that CLLD in (5b) is possible.

References

- Chomsky, N. (2015) “Problems of Projection: Extensions,” *Structures, Strategies and Beyond*, ed. by E. Domenico, C. Hamann, and S. Matteini, 3-16, John Benjamins, Amsterdam.
- Epstein, S., H. Kitahara, and D. Seely (2012) “Structure Building That Can’t Be,” *Ways of Structure Building*, ed by M. Uribe-Etxebarria and V. Valmala, 253-270, Oxford University Press, Oxford.
- Epstein, S., H. Kitahara, and D. Seely (2014) “Agreement Is the Shared Prominent Feature Option of POP’s Labeling Algorithm,” ms., University of Michigan, Keio University, and Eastern Michigan University.
- Epstein, S., H. Kitahara, and D. Seely (2016) “Phase Cancellation by External Pair-Merge of Heads,” *Linguistic Review* 33, 87-102.
- Haegeman, L. (2012) *Adverbial Clauses, Main Clause Phenomena, and Composition of the Left Periphery*, Oxford University Press, Oxford.
- Holmberg, A. (2002) “Expletives and Agreement in Scandinavian Passive,” *Journal of Comparative Germanic Linguistics* 4, 85-128.