

A Phase Theoretic Account of Coreference Relations in Picture DPs

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1. Introduction

An experimental study of native speaker judgments of picture DPs by Keller & Asudeh (2001) found that pronouns and anaphors are in complementary distribution in some cases (1a-b) and (1c-d), but not in others (1e-f).

- (1) (a) ?*Hannah_i found a picture of her_i.
(b) Hannah_i found a picture of herself_i.
(c) ?*Hannah found Peter_i's picture of him_i.
(d) Hannah found Peter_i's picture of himself_i.
(e) Hannah_i found Peter's picture of her_i.
(f) Hannah_i found Peter's picture of herself_i.

These facts are at odds with the traditional Binding Theory. (1a-b) and (1c-d) are in accord with Principles A and B (2a-b) and (1e) is in agreement with Principle B. However, a problem is that (1f) violates Principle A.

- (2) (a) Principle A: An anaphor must be bound in a local domain.
(b) Principle B: A pronoun must be free in a local domain. (Chomsky 1995:96)

In this paper, we demonstrate how a revised theory of coreference relations that relies on independently motivated elements of Phase Theory (Chomsky 2001, Chomsky 2004) predicts these empirically tested grammaticality judgments.

1. Background

Our analysis assumes a version of Phase Theory (Chomsky 2001, Chomsky 2004). In Phase Theory, a derivation proceeds in phases, and the complement of a phase head is sent to Spell-Out separately from a phase edge, as required by the Phase Impenetrability Condition.

Our analysis builds on work by Kayne (2002), who proposes that pronoun-antecedent coreference relations originate from base generation of a doubling constituent of the form [Spec Head] where the Spec is the antecedent and the head is the pronominal, as in (3a). A Spec can move out of a doubling constituent, but a head cannot. However, the Spec can only move out of a doubling constituent if the doubling constituent has moved. In addition, a reflexive DP (e.g., himself) contains a position for the doubling constituent to move to, as in (3b).

- (3) (a) [John_i him_i] (b) [[John_i him_i] [~~John_i him_i~~] self]

However, a problem for this analysis is that it is not clear why a doubling constituent must move in order for the Spec to be extracted.

3. Proposals

We assume a modified version of Kayne's doubling constituent proposal. We propose that an R-expression is the complement of a pronominal. A pronoun and antecedent have the structure in (4a-b).

- (4) (a) $[_{DP}D [_{NP}Pron_i [_{DP}R-Exp_i]]]$ (b) $[_{DP}D [_{NP}her_i [_{DP}Hannah_i]]]$

An anaphor and antecedent originate in a phase D*P with a D* phase head ‘self’ (5a-b). Morphological merger results in pronunciation of an anaphor as ‘herself/himself’.

- (5) (a) $[_{D^*P}[_{D^*}self][_{NP}Pron_i[_{DP}R-Exp_i]]]$ (b) $[_{D^*P}[_{D^*}self][_{NP}her_i[_{DP}Hannah_i]]]$

Crucially, a pronoun and anaphor originate in a non-phase DP (4), whereas a pronoun and anaphor originate in a strong phase D*P (5).

Our proposal does away with the requirement that a doubling constituent move in order for its Spec to be extracted. Rather, movement occurs via a process of Last Resort, based on the notion that Last Resort operations can save a derivation (cf. Chomsky 1995, Bošković 2007, among others). We assume a modified version of the PIC, whereby when a (strong) phase head is Merged, an entire lower phase is sent to Spell-Out. Last Resort (6a) enables an LI to escape from a phase without moving to a phase edge. In (6b), X* and Y* are phase heads. When X* is Merged, the Y* phrase (Y*P) will be sent to Spell-Out. Z, with an unvalued feature, is reinserted into the current subnumeration as a Last Resort. It is then selected and Re-Merged at the X*P edge, where its unvalued feature is checked.

- (6) (a) Last Resort: A Lexical Item (LI) with an unvalued feature, when contained within a phrase that is about to be sent to Spell-Out, is reinserted into the current working subnumeration.
 (b) Last Resort: $[_{X^*P} Z_{[Feat:X]} X^* \dots [_{Y^*P} Y^* \dots Z_{[Feat:_]} \dots]]$

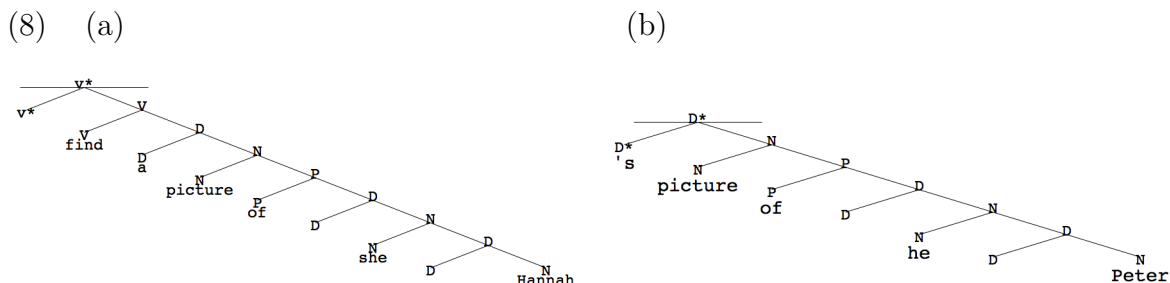
3. Derivations

We next demonstrate how our proposals predict the judgments in (1a-f). Horizontal lines in tree diagrams indicate phase edges.

The ill-formed derivations of (1a) and (1c), repeated below, proceed as follows.

- (7) (a) $?^*Hannah_i$ found a picture of her_i . (b) $?^*Hannah$ found Peter $_i$'s picture of him_i .

In (7a), when v^* is Merged, ‘Hannah’ is not contained within a phase that can be sent to Spell-Out. Thus ‘Hannah’, which lacks case and a theta-role, cannot undergo the Last Resort process. The subject theta-role does not get assigned and the derivation crashes, as shown in (8a). In (7b), when ‘s, which we assume is a D* phase head, is Merged, the Last Resort process similarly cannot apply, since ‘Peter’ is not contained within a phase that can be sent to Spell-Out. The derivation crashes because ‘Peter’ is not licensed, as shown in (8b).

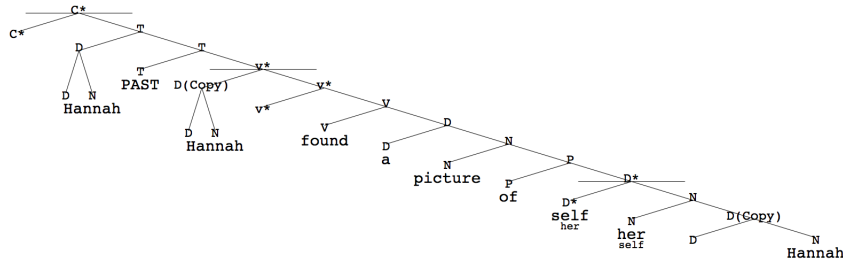


In the well-formed (1b) and (1d), repeated below, the R-expression antecedent is base generated within a D*P anaphor.

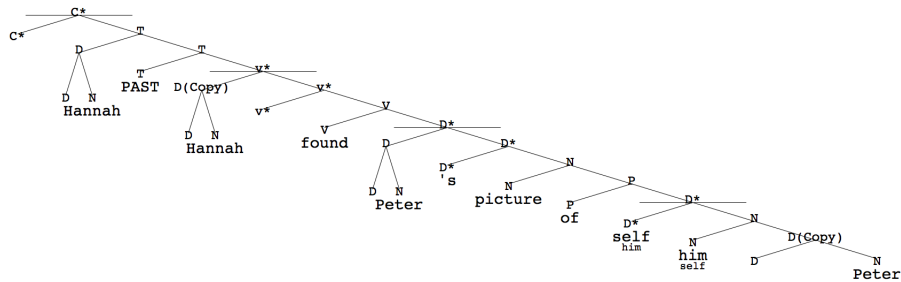
- (9) (a) Hannah_i found a picture of herself_i. (b) Hannah found Peter_i's picture of himself_i.

In (9a), when v^* is Merged, the lower D*P anaphor, which is a phase, is sent to Spell-Out. ‘Hannah’, which lacks case and a theta-role, undergoes the Last Resort process. ‘Hannah’ is reinserted into the current subnumeration. Then it is selected and Re-Merged at the v^* P edge where it receives a theta-role, after which it moves to the TP edge to satisfy an EPP feature and obtain case, as shown in (10). In (9b), we assume that the D* ‘s is a phase head. Therefore, when D* ‘s is Merged, the lower D*P anaphor phase is sent to Spell-Out. Since ‘Peter’ has unvalued features, the Last Resort process applies. ‘Peter’ is reinserted into the current subnumeration and is then selected and Re-Merged at the picture D*P edge, where it is licensed, as shown in (11).

(10)



(11)

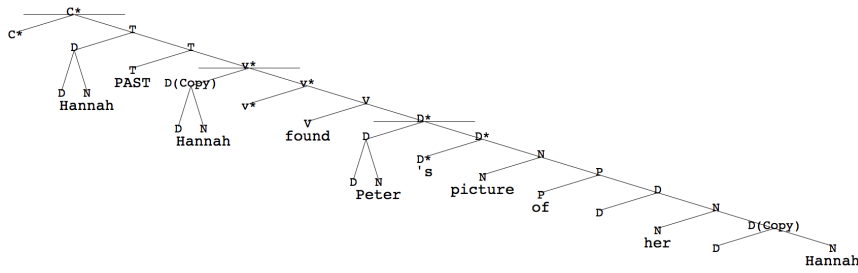


Lastly, this analysis predicts the possibility of either an anaphor or a pronoun in a picture D*P, as in (1e-f), repeated below.

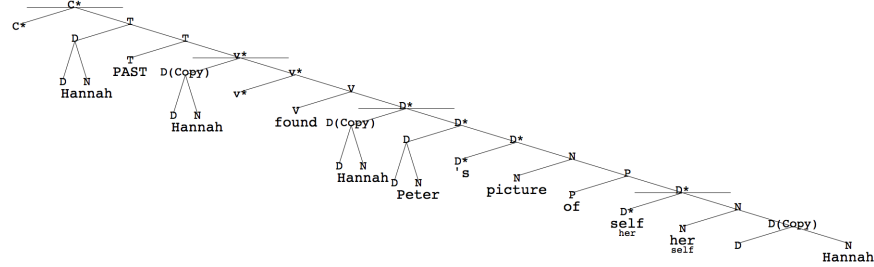
- (12) (a) Hannah_i found Peter's picture of her_i.
 (b) Hannah_i found Peter's picture of herself_i.

In each of these constructions, the Last Resort process enables the R-expression ‘Hannah’ to move out of the doubling constituent and be re-Merged in theta-position. In (12a), when v^* is Merged, the picture D*P is sent to Spell-Out. Last Resort applies and ‘Hannah’, due to its unvalued features, is reinserted into the current subnumeration. ‘Hannah’ is then selected and Re-Merged at the v^* P edge, where it is licensed, as shown in (13). In (12b), when the D* ‘s is Merged, the anaphor D*P is sent to Spell-Out. Thus, Last Resort applies and ‘Hannah’ is reinserted into the current subnumeration. ‘Hannah’ is selected and Re-Merged at the edge of the picture D*P. It is not licensed in this position. This is a process of adjunction forced by the need to empty out a subnumeration. When v^* is Merged, ‘Hannah’ again undergoes the Last Resort process. It is reinserted into the current subnumeration. ‘Hannah’ is selected and Re-Merged at the v^* P edge, where it is licensed, as shown in (14).

(13)



(14)



5. Conclusion

This analysis predicts the grammaticality judgments in (1a-f), as found by Keller & Asudeh (2001). In particular, the perplexing possibility of both an anaphor and pronoun in (1e-f) is accounted for. Coreference relations are accounted for in terms of base generation of a pronoun and antecedent within a DP/D*P, and the possibility of Last Resort movement (that can carry an R-expression into theta-position) as determined within the confines of Phase Theory.

References

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