

An Agree Analysis of Focusing Adverbs

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1. Introduction

- Focusing adverbs such as *only*, *even*, *also*, etc. have a number of properties that have resisted a coherent theoretical treatment:

- (1) a. They are adverbial adjuncts
b. Compared to other adverbs, they have freer distributions.
c. Their syntactic distributions are focus-sensitive.
d. They manifest properties of A'-dependency.

- Previous studies

- Some analyses aim at eliminating adjunction for theory-internal reasons (Bayer 1996, Kayne 1998, Cinque 1999).
- Some analyses preserves adjunction (Ernst 2002).
- Some analyses focus on issues concerning focus-sensitivity and A'-dependency (Bayer 1996, Horvath 2007, Wagner 2009).

- All of these approaches have empirical and theoretical problems.

- For the approach that eliminates adjunction, focusing adverbs are heads that do not project, and it wrongly predicts grammaticality of following sentence (underline represents focus):

- (2) *Only [TP John likes Mary.]

- For the approach that preserves adjunction, no analysis is provided for the A'-dependency effects.
- More generally, no analysis provides explanations for the syntax of adjunction.

- Objectives of the talk and the main proposal: I offer an extended Agree analysis that treats FAs as 'inflectional affixes writ large'. It provides novel, simpler accounts to the problematic properties listed in (1). It also advances the Agree theory itself.

- Roadmap:

- A general review of the properties focusing adverbs
- Successes and analytical problems for previous approaches
- Analytical solution: focusing adverbs are 'inflectional affixes writ large'
- An Agree analysis of focusing adverbs

2. General syntactic properties

- What is focus?

Definition of focus and focus-sensitivity (cf. Rooth (1985), Krifka (2007), Horvath (2007))

- (3) Focus indicates the presence of *alternatives* that are relevant for the interpretation of linguistic expressions.
- (4) Semantic operators whose interpretational effects depend on focus are associated with focus.
- (5) Prosodic focus is only indirectly related to the syntactically active focus constituent.

- (6) a. John saw [MARY's son living in Taipei].
b. John saw [Mary's son LIVING IN TAIPEI].
c. John saw [Mary's SON living in Taipei].

- The sentences in (6) all involve alternatives which for which the predicate 'John saw *x*' could potentially hold.
- The alternative values of the variable in these cases correspond to the whole bracketed DP.

- A focusing adverb's syntax involves 4 components: the adverb, its focus, its host, and its scope.

- Some components of a focus-sensitive expression:

- (7) a. The focus of a focus-sensitive expression is the expression whose substitution by alternative expressions are relevant for the interpretation of the FSE. (represented with underlines)
b. The host of a focus-sensitive expression is the syntactic constituent it merges with.
c. The scope of a focus-sensitive expression is the syntactic domain

within which it has the ability to affect the interpretation of other expressions. (represented with corner symbols)

• Some evidence for these components:

- (8) a. 'John **only** saw Mary'. (John didn't see other people.)
b. *'Only John saw Mary'.
(9) a. 'The president will **even** meet Mary'.
b. 'Even the president will meet Mary'.
(10)a. 'We are requested to study **only** Syntax'.
b. We are requested to 'study **only** Syntax'.

→ Focus determines the syntactic position of *only* in (8). Host determines the position of *even* in (9). Scope allows different interpretations in (10).

• A focusing adverb has properties of a typical adverbial adjunct:

- (11) a. It can co-occur with various syntactic categories.
b. It does not select and is not selected.
c. Inflectional marking is mostly absent.
d. It doesn't block agreement.
e. It doesn't project nor change the bar-level of its sister constituent.

3. Previous studies

3.1 The clausal head/'minor functional head' analysis (Bayer 1996)

- (i) Focusing adverbs are either clausal heads or 'minor functional heads'.
(ii) The clausal functional head occupies a position below T^0 .
(iii) PRT being a *minor functional head* cannot project syntactic categorical features unless it occupies an operator position; in this case, PRT heads the functionally defined phrase PrtP .

- (12)a. John will invite only Mary.
b. $[_{IP} \text{John} [_I \text{will} [_{\text{PrtP}} [_{DP} \text{only} [_{DP} \text{Mary}]]_i [_{\text{Prt}} \text{Prt}^0 [_{VP} \text{invite } t_i]]]]]]$

Problems:

- (i) It has to stipulate that certain heads do not project.
(ii) It is unexpected that Prt^0 is lower than T^0 .

- (iii) Unlike all the other heads, Prt^0 has a double identity.
(iv) Reconstruction problem:

- (13) a. Only John will meet Mary.
b. *Only John will **probably** meet Mary.

3.2 The free adjunction approach (Ernst 2002)

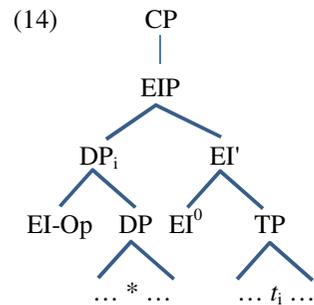
- (i) All adverbs freely adjoin to X's and XPs.
(ii) The positions of adverbs are determined by semantics.
(iii) Focusing adverbs tend to be *light*, so they are generally barred from the sentence-initial position.
- Unfortunately, no thorough analysis has been provided for focusing adverbs.

Problems:

- (i) Although it is acknowledged that adjuncts are distinct from non-adjuncts, and some licensing conditions are provided, it is not explained why this is the case.
(ii) There is no semantic analysis of focusing adverbs, hence no syntactic analysis either.

3.3 Analyses focusing on A'-dependency (Horvath 2007, Wagner 2009)

- (i) 'Focus movement' is triggered by a null EI^0 (EI=exhaustive identification).
(ii) This EI^0 bears an $[\mu\text{EI}]$ feature, an EPP feature, the former enters into a *matching* relation the *goal* in its search domain.
(iii) The EI operator, which is the focusing particle itself, bears an $[\text{iEI}]$ feature. The operator merges with a DP (or a PP, VP, CP). When movement takes place, the phrase containing the operator and its sister phrase is *pied-pied*.
(iv) The operator requires the presence of stressed-based 'information focus' in its c-command domain.



Problems:

- (i) Although it clarifies the semantic nature of focus movement (relating the movement to *EI*), it presents a very confused view of the syntactic status of EI^0 and $EI-Op$.
- (ii) It is unclear what difference is between EI^0 and $EI-op$ besides their syntactic positions; furthermore, it is problematic that EI^0 bears an uninterpretable [μEI] feature.
- (iii) More generally, it is not explained how $EI-Op$ is merged in the first place, and why it doesn't project.

4. Focusing adverbs are 'inflectional affixes writ large'

- A new way of looking at things: focusing adverbs are 'large-size' inflectional affixes.

4.1 Syntax-semantics mismatch

- One defining property of inflection is *syntactic determination* (Stump 1998): a lexeme's syntactic context may require that it be realized by a particular word in its paradigm. (e.g. *John went to the park yesterday. I know him. Mary likes John.*)
- Like inflection, a focusing adverb's attachment to a phrase is determined by the syntactic context. (e.g. *John saw only Mary. John saw probably only Mary.*)
—cf. Property (7c)

4.2 No effect on parts of speech

- Two expressions belonging to the same inflectional paradigm will share

both their lexical meaning and their part of speech (Stump 1998). (e.g. *go* vs. *went*, *he* vs. *him*)

- Like inflection, when a focusing adverb is attached to a phrase, the resultant constituent keeps the same syntactic category and lexical meaning as the original phrase (e.g. *John saw only Mary*. Vs. **John saw with Mary*.)

4.3 Locality effect

- Typically, in the case of agreement, the *controller* and the *target* cannot be too far away:

- (15)a. John thinks₁ they know the answer.
- b. *John thinks they know₂ the answer.
- (16)a. John wants₁ to know the answer.
- b. *John wants to know₂ the answer.

- In the case of focusing adverbs, we can easily find similar locality effects:

- (17)a. John could **only** have dated MARY. (*only* > *could* ok)
- b. John could have **only** dated MARY. (**only* > *could*)

4.4 Solving old problems

- Many of the problems that beleaguered the previous analyses can now be understood in the new perspective.

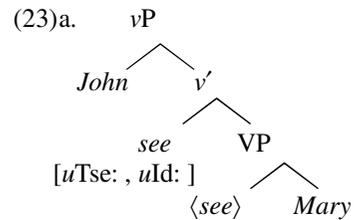
A. Properties of adverbial adjuncts

- Just as inflectional affixes do not project and do not change the lexical semantics of the lexeme they combine with, 'inflectional affixes writ large' also do not change the syntactic category or lexical meaning of the constituents it combine with.

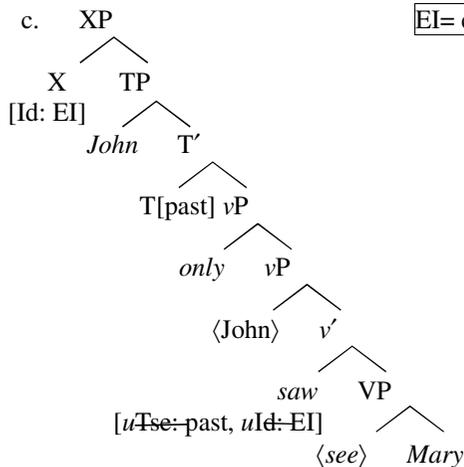
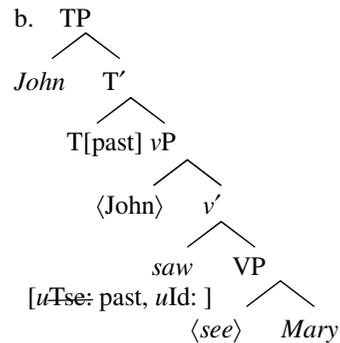
B. Syntax-semantics mismatch

- Just as inflectional affixes typically do not appear in places where they get interpretation directly, focusing adverbs typically appear lower than TP or even VP.

(18)*Only [TP John likes Mary.] (=2)



Id= Identification



EI= exhaustive identification

Note *only* is inserted 'late'

6. Conclusion

- The major properties of focusing adverbs are accounted for. Now consider (1) again, repeated below:

(24)a. They are adverbial adjuncts

b. Compared to other adverbs, they have freer distributions.

c. Their syntactic distributions are focus-sensitive.

d. They manifest properties of A'-dependency.

(i) Property (24a) is due to the fact that FAs serve as *realizers* of Valuation (21c) and are merged *late*.

(ii) Properties (24b,c) are due to the *goal condition* (21a ii).

(iii) Property (24d) follows from the unified Agree theory that captures the similarities between inflectional morphology and syntactic movements.

- The syntax of focusing-adverbs is derived from the machinery already established in the Agree theory: *probe*, *goal*, (feature) Valuation, and the 'duality of semantics' (*focus* determines the locus of the [uF]). They correspond to scope, host, the adverb, and the focus.

- Outstanding issues: cross-linguistic studies, parameter theory, duality of semantics, locality, directionality, the Agree theory...

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Appendix: Motivations and the workings of the Agree theory

- Main motivation: to simplify the minimalist theory of movement.
- Key minimalist features:

– It eliminates specifier-head agreement (Checking theory)

– It eliminates feature movement (Attract theory)

- Architecture:

– Valued interpretable and unvalued uninterpretable features

– Values of uninterpretable features are determined by Agree

– Locality requirement of Agree

- (1) a. Goal G must (at least) be in the *domain* D(P) of probe P.
 b. D(P) is the sister of P.
 c. Locality reduces to “closest c-command.”

– Move is derived in the following steps:

- (2) a. A probe P in the label L of α locates the closest matching G in its domain.
 b. A feature G' of the label containing G selects a phrase β as a candidate for “pied-piping.”
 c. β is merged to a category K.