

# The Syntax, Semantics and Pragmatics of **TOPIC**, FOCUS and *Givenness*

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## 1 Introduction

Standard assumption about focus: A focus bears the most prominent accent in a sentence.

Standard diagnostics for focus: Contrast, Question-Answer Congruence (QAC), and Association With Focus (AWF).

Observation 1: Contrast and QAC do not distinguish FOCUS from **TOPIC**.

Observation 2: Expressions that pass the diagnostics for FOCUS do not always bear the most prominent accent.

Observation 3: Sometimes a focus doesn't bear an accent at all.

### Observations 1 & 2 Illustrated:

#### (1) Single Contrast

A: John talked with Mary. Then,

- B1: a. [BILL] *talked with Mary*.  
b. [BILL] *talked with [MARY]* ...  
c. [BILL] [**TALKED with**] *Mary* ...  
d. [**BILL**] *talked with Mary* ...

- B2: a. *John talked with [SUE]*.  
b. [**JOHN**] ... *talked with [SUE]*.  
c. *John [**TALKED with**] ... [SUE]*.  
d. *John talked with [SUE]* ... #

- B3: a. *John [KISSED] Mary*.  
b. [**JOHN**] ... [KISSED] *Mary*.  
c. *John [KISSED] [MARY]* ...  
d. *John [KISSED] Mary* ...

#### (2) Double Contrast

A: John talked with Mary.

- B4: a. [**BILL**] (in contrast) *talked with [SUE]*.  
b. [BILL] (in contrast) *talked with [SUE]* ... #  
c. [**BILL**] (in contrast) *talked with [SUE]* ...

- B5: a. (In contrast,) *He [KISSED] [SUE]*.  
b. (In contrast,) *He [KISSED] [SUE]* ... #  
c. (In contrast,) *He [KISSED] [SUE]* ...

#### (3) QAC (Question Answer Congruence)

Q1: Who talked with Mary? A1: [BILL] *talked with Mary*.  
A1': [BILL] *talked with [MARY]* ...  
A1'': [**BILL**] *talked with Mary* ...

Q2: Who did Bill talk with? A2: *He talked with [MARY]*.  
A2': [**BILL**] *talked with [MARY]*.  
A2'': *He talked with [MARY]* ...

Q3: What did Bill do? A3: *He [talked with MARY]*.  
A3': [**BILL**] *[talked with MARY]*.  
A3'': *He [talked with MARY]* ...

#### (4) AWF (Association With Focus)

- a. John talked with Sue. Only [BILL] *talked with [MARY]*.  
#Only [**BILL**] *talked with [MARY]*. (requires *only Bill* to be Given)
- b. John talked with Sue. [**BILL**] *only talked with [MARY]*.  
#[BILL] *only talked with [MARY]* ... (requires *only talked with Mary* to be Given)
- c. John asked Mary out to dinner. [**BILL**] *only [TALKED with Mary]*.  
#[BILL] *only [TALKED with Mary]* ...  
(requires *only talked with Mary* to be Given)

Non-explanations: “An expression that lacks a pitch accent in the phonetics needs to be Given in the pragmatics.”

## 2 Analysis

### Basic Syntax:

- Expressions analyzed as Foci are F-marked, and F-marked expressions are foci. (Contra Selkirk)
- Expressions analyzed as Topics are T-marked, and T-marked expressions are Topics.
- Expressions analyzed as Given are G-marked, G-marking of a head agrees with that of its maximal projection, and G-marked expressions are Given.

G-marking is recursive, but F- and T-marking are not.

[NOTE: T, F, and G should be understood as whatever it is that identifies contrastive topics, foci and given expressions in the syntax. They could in principle be syntactic features, heads, composite expressions or other syntactically distinguishable elements.]

- 4b. John talked with Sue. **BILL**<sub>T</sub> only [*talked*<sub>G</sub> [*with*<sub>G</sub> MARY<sub>F</sub>]<sub>G</sub>]<sub>G</sub>
- 4c. John asked Mary out to dinner. **BILL**<sub>T</sub> only [TALKED with *Mary*<sub>G</sub>]<sub>F</sub>

**Basic Semantics:** Every expression has, in addition to its normal semantic value:

- a Focus Semantic Value (FSV), a set of alternatives to the normal semantic value (Rooth)
- a Topic Semantic Value (TSV), a set of alternatives to the FSVs (Büring. Constant reduces these to FSVs.)
- a Givenness Semantic Value (GSV), a formula of the semantics (Tancredi, based on Schwarzschild)

Focus and Topic also have scope, the domain in which they generate non-trivial FSVs and TSVs. These are Rooth’s ~ operator for FSVs and Constant’s CT-λ operator for TSVs.

### Basic Phonology:

- F-marking on a constituent boosts the prominence of the most prominent expression in that constituent and generates falling intonation (L-L%) at the following Int(onation)P(hrase) boundary.
- T-marking on a constituent generates a pitch accent on all the prominent expressions in that constituent and generates continuation intonation (L-H%) at the following IntP boundary.
- G-marking on a lexical expression results in lack of a pitch accent and decreased prominence on that expression. G-marking on a higher constituent has no effect in the phonology.

Pragmatics	Semantics	Syntax	Phonology	Phonetics
Contrasting antecedent	FSV	F	Annotates string, L-L%	Prominence boost, Fall
Contrasting antecedent	TSV	T	Annotates string, L-H%	Pitch accent, Continuation
Entailing antecedent	GSV	G	Changes metrical grid	No accent

Do we need separate T, F and G marking?

- (5) T vs. F: Both give rise to contrast and boosted prominence. IntP boundary effects could be independent. (Who did John see? He saw BILL<sub>F</sub>. / He saw **BILL**<sub>T</sub> ...)
- F vs. G: Contrast with something having overlapping content can generate Givenness as a side effect. John saw Mary’s father. Bill only saw [SUE’s father]. (Not Mary’s father)
- T vs. G: Same as F vs. G. Who did John see? John saw Mary’s father. What about Bill? Well, **BILL** saw [SUE’s father] ... (but I’m no sure about Mary’s father)

Schwarzschild (1999): F is the complement of G. (Only F is marked in the syntax. G is unneeded.)

Constant (2014): Topics and Foci are both only F-marked. Topics raise to the Spec position of a Topic operator, while foci remain within the scope of such an operator. (Only F is marked in the syntax. T is unneeded.)

I argue below that all three of T, F and G marking are needed.

## T,F,G Interactions and Contrasts:

### F&G

- (6) **AWF:**  
John saw Mary. In fact, *he*<sub>G</sub> ONLY [*saw*<sub>G</sub> *MARY*<sub>F,G</sub>/*HER*<sub>F,G</sub>]<sub>G</sub> (He didn't see SUE.)  
#*'er*<sub>F,G</sub>  
#*HER*<sub>F,G</sub>/ #*MARY*<sub>F,G</sub>

Points: *Mary/her* is the source of alternatives in the semantics, i.e. it acts as a focus semantically.  
*Mary/her* satisfies all of the requirements of Givenness.  
*Mary/her* gets lengthened and strengthened, but cannot bear a pitch accent.  
Reduction of *her* to *'er* is impossible.

If Givenness were only a side effect of contrast, i.e. if F were marked but not G, then *Mary* should be a focus since it associates with *only* and is contrasted with *Sue*. Its lack of a pitch accent would then be unexplainable.

If focus were only a side effect of Givenness, i.e. if G were marked but not F, then there should be no phonological focus effects on the associate of *only*. In particular, a reduced *'er* should be possible

### (7) Contrast:

John saw Mary and Sue saw Bill. Then,  
*ALICE*<sub>F</sub> [*saw*<sub>G</sub> *MARY*<sub>F,G</sub>/*HER*<sub>F,G</sub>]<sub>G</sub> and *TOM*<sub>F</sub> [*saw*<sub>G</sub> *BILL*<sub>F,G</sub>/*HIM*<sub>F,G</sub>]<sub>G</sub>  
#*'er*<sub>F,G</sub> #*'im*<sub>F,G</sub>  
#*HER*<sub>F,G</sub>/#*MARY*<sub>F,G</sub> #*HIM*<sub>F,G</sub>/#*BILL*<sub>F,G</sub>

If G were eliminated, *Mary/her* and *Bill/him* would incorrectly be predicted to obligatorily bear an accent.

If F were eliminated, *her* and *him* would incorrectly be predicted to be reducible to *'er* and *'im*. (Cf. John saw Mary. Then *BILL* saw *'er*.)

### (8) QAC:

John saw Mary. Who did Bill see?  
*BILL*<sub>F?</sub> [*saw*<sub>G</sub> *MARY*<sub>F,G</sub>/*HER*<sub>F,G</sub>]<sub>G</sub>  
#*'er*<sub>F,G</sub>  
#*HER*<sub>F,G</sub>/#*MARY*<sub>F,G</sub>

Same consequences as above.

## Split licensing of F and G:

- (9) A: Everybody knows that John<sub>1</sub> fell.  
B: Most of them, however, only(C<sub>5</sub>) know [[that [*MARY* TRIPPED *John*<sub>1,G</sub>]<sub>F</sub>]<sub>~C<sub>5</sub></sub>]  
C: They don't also know [that that was an accident]<sub>5</sub>.

F: In (B), *only* associates with the embedded CP *that Mary tripped John*. This CP contrasts with the CP in (C) *that that was an accident*. It cannot contrast with the CP in (A), *that John fell*, since that would entail that John did not know that John fell, contradicting (A), but (B) is not felt to contradict (A).

G: Inside of the CP in (B), *John* acts phonologically as Given. The only potential antecedent for *John* that can license its being Given is the occurrence of *John* in (A).

On the non-contradictory reading of A-B-C, the focus antecedent has to be distinct from the Givenness antecedent.

**Conclusion: F and G are independent. Both need to be represented independently in the grammar.**

### Focus:

Semantics of focus: Rooth's (1992).

F-marking gives rise to alternatives in the FSV.

Focus gets interpreted by the ~ operator.

G-marking has no effect on an FSV, but absence of F-marking does.

~C restricts the discourse variable C to a subset of the FSV of its sister.

Pragmatics of focus: Rooth's (1992)

C is anaphoric.

## Givenness:

Semantics of Givenness: Schwarzschild's (1999) (modified).

All expressions have a GSV:

G-marked expressions contribute their content.

Non-G-marked expressions contribute variables.

F-marking has no effect on a GSV, but absence of G-marking does affect a GSV.

Pragmatics of Givenness: Schwarzschild's (1999)

Every GSV needs to be entailed by an antecedent in the discourse context.

Maximize Givenness. (Hence, G-mark as much as possible.)

(10) [*John*<sub>G</sub> [<sub>VP1</sub> ONLY(C) [<sub>VP2</sub> [<sub>VP3</sub> *saw*<sub>G</sub> *MARY*<sub>F,G</sub>]<sub>G</sub>~C]<sub>G</sub>]<sub>G</sub>

FSV of VP3: {saw Mary, saw Sue, saw Bill, ...}

FSV of VP2: {saw Mary} (~ "uses up the focus")

C denotes a subset of the FSV of VP3.

*Only* operates over C and the NSV of VP2 (= the NSV of VP3) to generate the NSV of VP1:

For every element P in C, if P is true of John then P(John) is entailed by *John saw Mary*.

Non-trivial GSVs: *saw, Mary, saw Mary, John, John saw Mary*.

Note: The accent on *only* comes from it's being the only non-G-marked expression in the sentence, not from its being F-marked.

## T&G

(11) John saw Mary. What about Bill? Well, [*he*<sub>G</sub> (TOO) [<sub>saw</sub><sub>G</sub> **MARY**<sub>T,G</sub>]<sub>G</sub> ... (but I don't know about SUE.)

Points: The intonation on *Mary* – a pitch accent combined with a sentence-final rise – suggests there is a question in the air involving an alternative to *Mary* that is not answered.

To get that (contrastive topic) effect, *Mary* needs to be accented. (Cf. *he TOO saw Mary* ...)

However, *Mary* satisfies all of the requirements of Givenness.

Question: When *Mary* is analyzed as a contrastive topic, is it simultaneously analyzed as Given? *Mary*<sub>T,G</sub> or *Mary*<sub>T</sub>?

*Mary*<sub>T</sub>: Requires that Maximize Givenness doesn't apply to contrastive topics.

*Mary*<sub>T,G</sub>: Allows Maximize Givenness to be universal, but requires T to win out over G in the phonology.

This example by itself does not *motivate* treating T and G as independent, but it is *compatible* with their being independent. If Given contrastive topics can be shown to exist, then T and G will have to be independent.

## Are there Given contrastive topics?

### Empirical Evidence:

I: Post-final-fall contrastive topics must be Given.

II: When a sentence contains 2 contrastive topics only 1 of which can qualify as Given, the potentially Given topic can be half-accented but the obligatorily non-Given topic cannot.

### I:

#### Post-final-fall contrastive topics are unacceptable when not Given

(12) Why is Bill smiling and John not?

- Well, you KISSED<sub>L-L%</sub> **BILL**<sub>L-H%</sub> ...
- #Well, you KISSED<sub>L-L%</sub> **MARY**<sub>L-H%</sub> ...
- Well, **BILL**<sub>L-H%</sub> ... KISSED *me*<sub>L-L%</sub>
- Well, **MARY**<sub>L-H%</sub> ... KISSED *me*<sub>L-L%</sub>

Here, *kissed* has final fall intonation typical of a focus, and *Bill* and *Mary* have continuation intonation typical of a contrastive topic. In the context, *Bill* is Given but *Mary* is not. For (c) and (d) this distinction makes no difference. For (a) and (b), however, it is crucial: only the Given *Bill* is acceptable as a post-final-fall contrastive topic. The non-Given *Mary* is not. This distinction can only be explained if Given contrastive topics are potentially distinct from non-Given contrastive topics.

## Post-final-fall contrastive topics behave like Given expressions w.r.t. connectedness.

Connectedness:

- (13) A: John saw Mary.  
B: i. (Then,) **BILL** saw JOHN.  
ii. (I know because) **BILL** SAW *John*  
iii. (Then, / I know because) #BILL saw *John*.

In (Bi-iii), *John* by itself qualifies as Given, since there is an antecedent occurrence of *John* in the first conjunct of (A). However, it can't be *analyzed* as Given if *saw* is also analyzed as Given. Givenness shows connectedness: if a head like *saw* and one of its arguments like *John* are both analyzed as Given, then an antecedent is needed not only for *saw* and for *John* separately but for their combination *saw John* as well. Since there is no such antecedent in (A), it is impossible to simultaneously analyze both *saw* and *John* as Given in (Biii).

Post-final-fall contrastive topics show connectedness.

- (14) A: John and Mary are good friends. They recently went to a party. There, John introduced Mary to Bill.  
B: a. {TOM<sub>F</sub> introduced 'er} to **BILL**<sub>T,G</sub> ... (ok since *introduced her to Bill* is Given)  
b. # {TOM<sub>F</sub> introduced 'er} to **JOHN**<sub>T,G</sub> ... (not ok since *introduced her to John* is not Given)

Connectedness will follow if post-final-fall contrastive topics are G-marked, but not otherwise.

## II: Dual contrastive topics

(**REDUCED BOLD CAPS** indicate a half-accented contrastive topic, i.e. one having an accent with a lowered peak and diminished fall compared to that of a pure contrastive topic.)

### T vs. T&G:

- (15) Q: Did Edward see anyone?  
A: a. Well, **EDWARD**<sub>T,G</sub> ... saw **ELIZABETH**<sub>T</sub> ...  
b. #Well, **EDWARD**<sub>T,G</sub> ... saw **ELIZABETH**<sub>T</sub> ...  
(though I don't know if he saw MARY. But who did JOHN see? That's what I want to know.)
- (16) Q: Did anyone see Elizabeth?  
A: a. Well, **EDWARD**<sub>T</sub> ... saw **ELIZABETH**<sub>T,G</sub> ...  
b. #Well, **EDWARD**<sub>T</sub> ... saw **ELIZABETH**<sub>T,G</sub> ...  
(though I don't know if JOHN did. But who saw MARY? That's what I want to know.)

In the context given above it would be acceptable to answer the question without employing any contrastive topics. Alternatively, an answer could highlight either *Edward* or *Elizabeth* as a sole contrastive topic. In these cases there is no clear and consistent distinction between the pronunciation of *Edward* as sole contrastive topic and that of *Elizabeth* as sole contrastive topic. However, if the answer highlights both *Edward* and *Elizabeth* as contrastive topics and one of them is given a half-accent, then the only acceptable patterns are those in (15a) and (16b). This correlation can only be explained if Given contrastive topics are formally distinct from non-Given contrastive topics.

**Conclusion: Given contrastive topics exist, so T and G are independent.**

### T&F

- (17) a. Who saw Mary?  
JOHN<sub>F</sub> saw **MARY**<sub>T,G</sub> ...  
b. John saw Mary.  
In fact, *he* ONLY saw *Mary*<sub>F,G</sub>

In (a), *Mary* is a post-final-fall contrastive topic, and hence has to be Given. In order to be interpreted as a contrastive topic, though, it has to bear an accent. Thus, an expression marked with both T and G is obligatorily accented.

In (b), *Mary* associates with *only*, and hence has to be a Focus. It is also Given, though, and cannot bear an accent. Thus, an expression marked with both F and G cannot be accented.

**Conclusion: T and F are distinct.** (N.B. This still allows for T, for example, to be analyzed as a combination of F plus some other element X, where F gives contrast and X a pitch accent.)

**Grand Conclusion: T, F and G are all necessary.**

**Constant 2014:** Both contrastive topics and foci are F-marked in the syntax and give rise to a Focus Semantic Value (FSV) consisting of alternatives. Topics are raised to a position above a contrastive topic operator (CT-λ) while foci remain below that operator. The semantics of the operator produces a FSV that is identical to Büring’s Topic Semantic Values (TSV).

$$\begin{aligned} \llbracket \text{CT-}\lambda_i \varphi \rrbracket_g^o &= \lambda x. \llbracket \varphi \rrbracket_{g[i \rightarrow x]}^o \\ \llbracket \text{CT-}\lambda_i \varphi \rrbracket_g^f &= \{ \lambda x. \llbracket \varphi \rrbracket_{g[i \rightarrow x]}^f \} \end{aligned}$$

- (18) Focus: [Elizabeth<sub>F</sub> smiled]  
 FSV = {Elizabeth, John, Mary} + {λx. x smiled}  
 = {Elizabeth smiled, John smiled, Mary smiled}
- Contrastive Topic: [Elizabeth<sub>F</sub> [CT-λ<sub>i</sub> t<sub>i</sub> smiled]]  
 FSV = {Elizabeth, John, Mary} + {λx. {x smiled}}  
 = {{Elizabeth smiled}, {John smiled}, {Mary smiled}}
- Mixed: [Elizabeth<sub>F</sub> [CT-λ<sub>i</sub> t<sub>i</sub> smiled<sub>F</sub>]]  
 FSV = {Elizabeth, John, Mary} + {λx. {x smiled, x laughed}}  
 = {{Elizabeth smiled, Elizabeth laughed},  
 {John smiled, John laughed},  
 {Mary smiled, Mary laughed}}

Advantages of Constant’s approach:

- F-marking is the only source of alternatives in the semantics.
- Only posits one additional type of semantic value, an FSV.
- Accounts for nested topics in addition to non-nested multiple topics.

Disadvantages of Constant’s approach:

- Posits an extra operator (CT-λ) not required under Büring’s analysis.
- Can’t distinguish topics from foci locally at the interface between Syntax and Phonology.

**Constant’s proposal for the phonology:**

- (19) Scope-Prosody Correspondence (SPC)  
 CT-λ and the phrase it associates with are realized in the same intonation phrase [with an L-H% boundary tone].

**Problem 1:** The association is only established at LF, and so on standard treatments is unavailable at PF. This makes it impossible to distinguish Foci and Topics at PF.

- (20) [CT-λ [Elizabeth<sub>F</sub> laughed<sub>F</sub>]]
- |   |  |  |
|---|--|--|
| LF  |  | PF   |
| [Elizabeth <sub>F</sub> [CT-λ <sub>i</sub> [t <sub>i</sub> laughed <sub>F</sub> ]]] |  | {CT-λ Elizabeth <sub>F</sub> } {laughed <sub>F</sub> } |
|   |  | L+H*    L-H%    H*    L-L%                             |

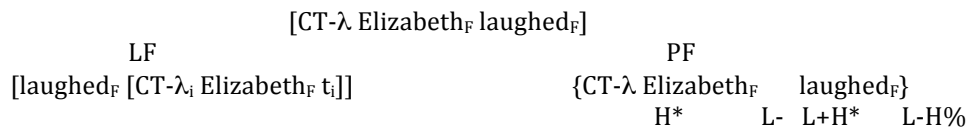
**Constant’s solution:** Encode the LF relation in the overt syntax, e.g. by the Copy Theory of Movement:

- (21) [Elizabeth<sub>F</sub> [CT-λ<sub>i</sub> [Elizabeth<sub>F<sub>i</sub></sub> laughed<sub>F</sub>]]]
- |   |  |   |
|---|--|---|
| LF  |  | PF  |
| [Elizabeth <sub>F</sub> [CT-λ <sub>i</sub> [Elizabeth <sub>F<sub>i</sub></sub> laughed <sub>F</sub> ]]] |  | {Elizabeth <sub>F</sub> [CT-λ <sub>i</sub> [Elizabeth <sub>F<sub>i</sub></sub> laughed <sub>F</sub> ]]} |
|   |  | L+H*    L-H%    H*    L-L%  |

**Problem 2:** Post-final-fall contrastive topics are predicted to never form an independent intonation phrase. Use of parentheticals suggests, however, that they can.

(22) Q: Who laughed?

- A: a. ELIZABETH, or so I hear at least, **LAUGHED**.  
 b. #ELIZABETH, or so I hear at least, *laughed*.



Strange (but not fatal) features of the analysis:

*Elizabeth* is not distinguished locally at PF from *laughed*. It's only distinguished via its non-local relation to CT-λ.

CT-λ has no pronunciation, and yet is obligatorily included in an Intonation Phrase.

CT-λ is responsible for the shape of an IntP boundary tone (L-H%), but the position depends on the location of the phrase it associates with and so it can't introduce the boundary tone where it sits at PF.

SPC mixes syntax, semantics and phonology without making it clear whether and if so how these components can remain independent of one another.

Given the need to distinguish T from F at PF, is there a way to maintain the advantages of Constant's analysis, overcome Problems 1 and 2, and avoid the strange aspects listed above?

**Minimal variant of Constant's analysis:**

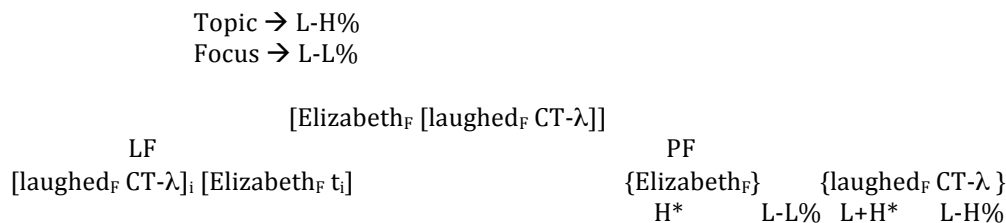
T = F-marking + a CT-λ head, with the semantics as in Constant (2014).

CT-λ and its sister raise together at LF.

CT-λ marks its sister as a Topic in the phonology.

Topics get an L-H% boundary tone that floats to the nearest rightward IntP boundary.

Topics bear an accent.



F-marking has a constant effect on interpretation in the semantics, but its effects are overridden by G and T in the phonology.

**Summary:**

Contrastive Topic, Focus and Givenness are three distinct, independent phenomena.

They are distinguished at every level of the grammar.

T, F and G are distinguished locally in the syntax, though it is possible to reduce T to F + CT-λ.

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