

# Can focus accenting be eliminated in favor of deaccenting Given constituents?

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## 1 Aims of this paper

What are the rules that govern the distribution of sentence accent? Among the various factors that have been discussed, such as word accent, rhythm rules and the formation of prosodic phrases, one has aroused particular interests among linguists: focus. The idea that focus is expressed by sentence accent can be traced back to Paul (1880), who argued that what he called the “psychological predicate” receives the main accent. Up to today, it has been assumed by most if not all researchers that putting an expression in focus means putting an accent on it (perhaps in addition to doing other things, such as moving it to a particular position in the sentence).

But there is also a general awareness that the focus accent rules can be distorted by other rules that require given expressions not to carry accents. Deaccenting rules, which have been introduced by Ladd (1980, 1996), figure in the work of many researchers, such as Selkirk (1984, 1995), Gussenhoven (1983, 1992), Uhmann (1991), Féry (1993) and Jacobs (1991). They do so most prominently in the influential theory of Schwarzschild (1999), who even proclaims:

By establishing givenness as the mainstay of our theory, we break ranks with those who assume that focus provokes interpretation.

One question that has not been investigated yet, to the best of my knowledge, is whether we can eliminate rules of accenting focused expressions completely in favor of rules of deaccenting given expressions. In my own research, I found that the accent sensitivity of the interpretation of sentences with adverbial quantifiers, which is explained by focus rules in Rooth (1985, 1995) and Krifka (1995), to be better handled by deaccenting rules, cf. Krifka (2001). So there is a temptation to get rid of focus accent rules altogether, and just work with rules that deaccent given expressions.

The final result of this paper is that we should resist this temptation, even though working with deaccenting rules alone leads us farther than we may think. I will start with reminding readers of the theory of Schwarzschild (1999), who comes closest to a theory that works with deaccenting given constituents, but who does not quite go as far as suggesting a theory based solely on deaccenting. I will show that by eliminating the notion of focus, examples of the kind that he treats are actually explained in a way that is more congenial to his enterprise. At the end, though, a number of problems for Schwarzschild (1999) and the radical theory of Givenness will appear that, to my mind, suggest that we better work with both focus and givenness as basic notions that exert their influence on the prosody of sentences. Hence one result of this paper is that the great majority of researchers is indeed on the right track. I am aware that this affirmation of the received view is perhaps not earth-shattering, but I can promise that the excursion in the land without focus is worthwhile and that there will be new reasons to believe in

the received view. Also, patient readers will find an answer to the long-standing question why focus projects from the argument, and not from the head.

## 2 The theory of Schwarzschild (1999)

While Schwarzschild (1999) makes use of focus and givenness as basic notions, he has only one rule governing accentuation: Focus is expressed by accent. This is how the theory works.

First, the well-known focus projection rules of Selkirk (1984, 1995) are assumed according to which focus is expressed by a feature *F* that is licensed by accent and projected:

- (1) a. F-Assignment: An accented word is *F*-marked.
- b. F-Projection:
  - i. F-marking of the head of a phrase licenses F-marking of the phrase
  - ii. F-marking of the internal argument of the head licenses F-marking of the head.

In the following example, F-marking on *Bill* is licensed by accent, which in turn licenses F-marking on the head *praised*, which finally licenses F-marking on *praised Bill*.

- (2) A: What did Mary do?  
      B: [She [praised<sub>F</sub> Bill<sub>F</sub>]<sub>F</sub>]

Why does focus projection take the detour via the head, that is, why doesn't the argument project the focus directly? This is to account for cases like (3), where the direct argument *him* is given, and the absence of F-marking appears to indicate that.

- (3) A: What did John's mother do?  
      B: [She [praised<sub>F</sub> him]<sub>F</sub>]

However, as (4) shows, givenness is compatible with F-marking:

- (4) A: What did John's mother do?  
      B: [She [praised hím<sub>F</sub>]]

Schwarzschild proposes that (1) is supplemented by the following two rules:

- (5) a. GIVENNESS: If a constituent is not F-marked, it must be GIVEN.
- b. AVOIDF: F-mark as little as possible, without violating Givenness.

Notice that GIVENNESS allows for given constituents to be F-marked, as in (4). GIVENNESS also forces F-marking, as it allows for non-F-marking only in case constituents are GIVEN. It is crucial that GIVEN is defined for referential as well as for predicational or propositional constituents:

- (6) a. An utterance *U* is GIVEN if it has a salient antecedent *A* such that
  - i. If *U* refers to an entity, then *U* and *A* corefer;
  - ii. otherwise, *A* entails the existential F-closure of *U*.

Case (6a-i), is evident. Case (6a-ii) presupposes that *U* has a meaning which is based on the type of truth values. It asks us to form the existential closure over all open arguments of the meaning of *U*, and to replace the focus expressions by variables and existentially close them as well. This could be done in the structured meaning account of focus (cf. von Stechow 1991) or in the account of Alternative semantics (cf. Rooth 1985, 1992); we disregard these distinctions here. For example, consider:

(7) Existential F-closure of [*praised Jóhn<sub>F</sub>*]:  $\exists y \exists x [\text{PRAISED}(y)(x)]$

The meaning of [*praised Jóhn<sub>F</sub>*] is  $\lambda x [\text{PRAISED}(\text{JOHN})(x)]$ . Existential closure over its free argument position gives us  $\exists x [\text{PRAISED}(\text{JOHN})(x)]$ . Replacing the item in focus by a free variable leads to  $\exists x [\text{PRAISED}(y)(x)]$ ; existential closure over this variable results in  $\exists y \exists x [\text{PRAISED}(y)(x)]$ .

The following examples illustrate how Schwarzschild’s rules work, starting with narrow focus.

- (8) a. A: Who did Mary praise?  
 b. B: [Mary [*praised Jóhn<sub>F</sub>*]]

(8a) introduces the existence presupposition  $\exists x [\text{PRAISED}(x)(\text{MARY})]$  (or, a point to which we will return in **section 4**,  $\exists x [\text{PRAISED}(x)(\text{MARY}) \wedge \text{PERSON}(x)]$ ). GIVENNESS is applied on all syntactic nodes. As the whole answer is not F-marked, it must be GIVEN, which is the case as the existential closure of [*Mary [*praised Jóhn<sub>F</sub>*]] is  $\exists x [\text{PRAISED}(x)(\text{MARY})]$ , which follows from the existence presupposition of the question. As the constituent [*praised Jóhn<sub>F</sub>*] is not focused marked, it must be given as well, which is the case as its existential closure  $\exists x \exists y [\text{PRAISE}(x)(y)]$  follows from the existence presupposition of the question. The constituent *Jóhn* is F-marked, hence GIVENNESS is not applicable, but we have to check whether, by AVOIDF, it has to be focus-marked. This is indeed the case, for the answer [*Mary [*praised John*]]], without any focus marking, would have to satisfy GIVENNESS, but it doesn’t: Its existential closure  $\text{PRAISED}(\text{JOHN})(\text{MARY})$  does not follow from the presupposition of the question. Could we place F somewhere else, on *Mary* or on *praised*? No. For example, [*Máry<sub>F</sub> [*praised John*]]] would have as its existential closure  $\exists y [\text{PRAISED}(\text{JOHN})(y)]$ , which does not follow from the presupposition of the question. We could try out wide focus on the VP, which is generated as [*Mary [*praised<sub>F</sub> Jóhn<sub>F</sub>]]<sub>F</sub>] according to Selkirk’s rules. The existential closure for this sentence is  $\exists P [P(\text{MARY})]$ , i.e., Mary has some (contextually restricted) property, and this certainly follows from the existential presupposition. However, AVOIDF filters out VP focus, as it involves more foci than the original answer in (8).*****

The following example illustrates that a given expression can be F-marked. The argument is exactly parallel to the one given in (8). Notice that nothing prevents F-marking on a given constituent.

- (9) A: Who did John’s mother praise?  
 B: [She [*praised him<sub>F</sub>*]]

Consider now an example involving VP focus:

- (10) A: What did Mary do?  
 B: [She [*praised<sub>F</sub> Jóhn<sub>F</sub>]]<sub>F</sub>]*

(10) presupposes that Mary did something:  $\exists P [P(\text{MARY}) \wedge \text{ACTIVITY}(P)]$ . The sentence is not F-marked, which is fine as it is given: It’s existential F-closure is  $\exists P [P(\text{MARY})]$ , or perhaps more specifically  $\exists P [P(\text{MARY}) \wedge \text{ACTIVITY}(P)]$ , and this clearly is entailed by the presupposition of the question. The VP is F-marked, which is required by GIVENNESS. To see this, first consider the case without any F-marking, [*She [*praised Jóhn<sub>F</sub>*]]]. The existential F-closure is the proposition  $\text{PRAISED}(\text{JOHN})(\text{MARY})$ , which does not follow from the presupposition of (9). Second, consider the case that there is F-marking only on *John*, as in [*She [*praised Jóhn<sub>F</sub>*]]]. Existential F-closure leads to  $\exists x [\text{PRAISED}(x)(\text{MARY})]$ ,**

which again does not follow from the presupposition. Now consider F-marking only on *praised*, as in [*She* [*praised*<sub>F</sub> *John*]]. Existential F-closure leads to  $\exists R[R(\text{JOHN})(\text{MARY})]$ , that is, Mary and John stand in some relation to each other, which again does not follow from the presupposition of the question. Next consider F-marking on *praised*, projected to the VP: [*She* [*praised*<sub>F</sub> *John*]<sub>F</sub>]. Now *John* is not F-marked, hence it must be given, but in fact it isn't, as it is not mentioned in the previous discourse. Let us finally try [*Mary* [*praised*<sub>F</sub> *Jóhn*]<sub>F</sub>]]. This leads to an existential F-closure  $\exists x \exists R[R(x)(\text{MARY})]$ , that Mary stands in some relation to some individual *x*, which again does not follow from the presupposition of the question. Hence we are forced to assume the three foci in the answer of (10), as only then all conditions can be satisfied.

What will happen in case the argument is given, as in the following example:

- (11) A: What did John's mother do?  
 B: [*She* [*praised*<sub>F</sub> *him*]<sub>F</sub>]

The argumentation is the same as in the previous example, with the only difference that *him* is given. Now we can drop F-marking on *him*, following AVOIDF. In contrast to Selkirk's proposal, we do not need a separate treatment of F-marked constituents within other F-marked constituents.

### 3 A Givenness theory of accentuation

Schwarzschild's explanation of sentence accent is remarkable because of the important role it assigns to Givenness, whereas previous theories mostly considered Focus as the decisive factor. For Schwarzschild, Givenness is nearly complementary to Focus: What is not F-marked must be Given, according to rule (5a). Furthermore, he states that the marking of Focus should be avoided (5b), which can be taken as saying that Givenness should be expressed. This suggests a reformulation of Schwarzschild's rules that essentially build on Givenness instead of Focus to describe the distribution of accents. Instead of (5a,5b), we can try out the following rules, which have the advantage of being formulated as positive statements:

- (12) a. GIVENNESS<sub>D</sub>: If a constituent is D-marked, then it is GIVEN<sub>D</sub>.  
 b. DEACCENT!: D-mark as much as possible.

Something like (12a) has been tentatively suggested by Büring (2006), in a contraposed form: "If a constituent is not GIVEN, it must be prominent" (i.e., not D-marked). The formulation here goes one step farther, as it works with *non*-prominence, or D-marking, as a basic notion.

F-marking doesn't play a role in the rules (12), and it does not figure in the revised notion of givenness either, which is simpler than the one in (6):

- (13) a. An utterance *U* is GIVEN<sub>D</sub> if it has a salient antecedent *A* such that  
 i. If *U* refers to an entity, then *U* and *A* corefer;  
 ii. otherwise, *A* entails the existential closure of *U*.

D-marking results in deaccentuation. These rules assume a new view of how accent is determined. As mentioned, most researchers, including Selkirk (1984, 1995), Gussenhoven (1983) and Jacobs (1991) consider accent a result of focus marking: Constituents that are focused are accented. In the current rule system, the position of accents follows from rules that identify constituents that are to be deaccented; constituents that cannot be deaccented emerge as the ones that are accented.

Just as with F-marking, D-marking projects. In contrast to the rules of Selkirk in (1), the rules governing the projection of givenness is simple and intuitive:

- (14) If all the constituents of a complex constituent are D-marked, then this constituent is D-marked. That is,  $[\alpha_D \beta_D] \Rightarrow [\alpha_D \beta_D]_D$ .

But we will need one additional rule to deal with the argument/head asymmetry. Before we introduce that, let us discuss how the Givenness theory of accentuation works. We begin with example (8), repeated here under its new analysis.

- (15) A: Who did Mary praise?  
 B: [ $She_D$  [ $praised_D$   $Jóhn$ ]]

*Mary* and *praised* carry a deaccentuation feature D that leads to a suppression of accent; *John* does not carry this feature, and therefore it will carry accent. The D-marking in (15) is the only one that is compatible with the rules (12): First, notice that the D-marking is indeed compatible with the rules. *She* and *praised* are D-marked, and both constituents are GIVEN<sub>D</sub>. In the case of *she*, an expression of type *e*, there is a salient expression that refers to the same entity, namely *Mary*. In the case of *praised*, the existential closure,  $\exists x \exists y [\text{PRAISED}(x)(y)]$ , follows from the presupposition of the question. Second, notice that D-marking of *John* is not possible; this would violate GIVENNESS<sub>D</sub>, as *John* is not given. Third, while lack of D-marking on *praised* or *Mary* would be compatible with GIVENNESS<sub>D</sub>, it would violate DEACCENT!, as deaccenting would not be maximized. Of course, D-marking on the VP or on the whole sentence is not possible either, as the constituents [ $praised_D$   $Jóhn$ ] and [ $she_D$  [ $praised_D$   $Jóhn$ ]] are not GIVEN<sub>D</sub>.

Next consider an example with an accented constituent that is given:

- (16) A: Who did John's mother praise?  
 B: [ $She_D$  [ $praised_D$   $hím$ ]<sub>F</sub>]

Lack of D-marking on *him* is compatible with GIVENNESS<sub>D</sub>, as this only states something about D-marked constituents. Is lack of D-marking also required? Yes indeed: Assume that *him* were D-marked, as in [ $praised_D$   $hím_D$ ]; then the whole VP would be D-marked, following (14), resulting in a structure [ $praised_D$   $hím_D$ ]<sub>D</sub>. Following GIVENNESS<sub>D</sub>, this VP must be GIVEN<sub>D</sub>, but its existential closure  $\exists x [\text{PRAISED}(\text{JOHN})(x)]$  does not follow from the presupposition of the question. The necessity to D-mark *she* and *praised* follows from the same reasons as the ones discussed for (15).

Now let us reconsider example (11) that we have described as one with broad focus:

- (17) A: What did Mary do?  
 B: [ $She_D$   $praised$   $Jóhn$ ]]

It is evident that this is the only D-marking compatible with the rules. *She* can be D-marked, following GIVENNESS<sub>D</sub>, and it has to be D-marked, following DEACCENT!. Furthermore, other constituents could not be deaccented. For example, [ $praised_D$   $Jóhn$ ] is not a possible D-marking, as it violates GIVENNESS<sub>D</sub>. It would require *praised* to be GIVEN<sub>D</sub>, that is,  $\exists x \exists y [\text{PRAISED}(x)(y)]$  to be inferrable, from the context, which is not the case.

However, it now becomes evident that the rule system proposed so far is incomplete, as it does not predict that *praised* is realized as if it were deaccented, with *John* bearing the main accent. We obviously have to appeal to some equivalent to focus projection rules here, like the following:

- (18) If in a constituent  $[\alpha \beta]$  with a head and an internal argument neither  $\alpha$  nor  $\beta$  are D-marked, then D-mark the head!

There is an obvious problem with this rule when we combine it with GIVENNESS<sub>D</sub>, as it is then required that the head  $\alpha$  is GIVEN<sub>D</sub>. We have two options here. Either we can understand (18) as a rule that is operative only after GIVENNESS<sub>D</sub> has been checked. Or, if we don't like extrinsic rule orderings, we can introduce the concept of d-marking and say that if  $[\alpha \beta]$  is not D-marked, then the head is d-marked, where d-marking is interpreted prosodically just as D-marking, without being linked to givenness. As this latter way is notationally clearer, I will make use of it here, and replace (18) by the following rule:

- (19) If in a constituent  $[\alpha \beta]$  with a head and an internal argument neither  $\alpha$  nor  $\beta$  are D-marked, then d-mark the head!

Example (17) then has to be analyzed as follows:

- (20) A: What did Mary do?  
B: [She<sub>D</sub> [praised<sub>d</sub> Jóhn]]

Rule (19) can be reformulated so that it can govern the accent distribution within a complex constituent whose subconstituents are D-marked, cf. (21), which leads to analyses as in (22).

- (21) If in a constituent  $[\alpha \beta]$  with a head and an internal argument both  $\alpha$  and  $\beta$  have the same status as to D-marking, then d-mark the head!

- (22) A: What did Mary do after she praised John?  
B: After [she<sub>D</sub> [praised<sub>D,d</sub> Jóhn<sub>D</sub>]]<sub>D</sub>, she gave him a kiss.

The additional d-marking of *praised* leads to a relative accentuation of *John*. A recursive definition of d-marking appears possible that mimicks the recursive definition of focus marking in Jacobs (1991), but I will not attempt to implement this here.

Let us now consider example (11), under the Givenness analysis.

- (23) A: What did John's mother do?  
B: [She<sub>D</sub> [práised him<sub>D</sub>]]

It is evident that D-marking on *she* and *him* is possible, following GIVENNESS<sub>D</sub>, as both expressions are given. It is also evident that D-marking on *praised* is not possible, as it is not GIVEN<sub>D</sub>; the presupposition of the question does not entail  $\exists x \exists y [\text{PRAISED}(x)(y)]$ .

The Givenness theory of accentuation yields the right result in cases that have been analyzed as double focus (which Schwarzschild's theory can deal with as well):

- (24) First John called Bill a Republican, and then [Bíll [insulted<sub>D</sub> Jóhn]]

D-marking on *insulted* is justified if the first sentence is accommodated in such a way that, if  $x$  calls  $y$  a Republican, then  $x$  insults  $y$ . The existential closure of *insulted* is  $\exists x \exists y [\text{INSULT}(x)(y)]$ , and this follows from the first clause. Could we also D-mark *Bill*, or *John*, or both, as they are given too? No: The VP [*insulted*<sub>D</sub> *John*<sub>D</sub>] is not acceptable, as its existential closure,  $\exists x [\text{INSULT}(\text{JOHN})(x)]$ , is not entailed by the context. Neither is the existential closure of [*Bill*<sub>D</sub> [*insulted*<sub>D</sub> *Jóhn*]], nor the one of [*Bill*<sub>D</sub> [*insulted*<sub>D</sub> *John*<sub>D</sub>]], as can be easily checked.

#### 4 A comparison of theories

Which of the two theories, Schwarzschild (1999) or the Givenness theory, is to be preferred? They make rather similar empirical predictions in many cases. Also, it appears that the interface rules that lead to spell-out of F-marked or D-marked constituents in prosody are of similar complexity. The possibility for a positive formulation of GIVENNESS<sub>D</sub> by [D-marked( $\alpha$ )  $\rightarrow$  GIVEN<sub>D</sub>( $\alpha$ )], instead of the negative formulation in Schwarzschild's original definition of GIVENNESS by [ $\neg$ F-marked( $\alpha$ )  $\rightarrow$  GIVEN( $\alpha$ )], should be considered a conceptual advantage of the Givenness theory. A more substantial advantage is the fact that the Givenness theory relies on a simpler theory of Givenness, namely GIVEN<sub>D</sub>, which does not refer to the F-feature at all (in fact, there is no F-feature in this theory). GIVEN<sub>D</sub> can be expressed by simple existential closure, whereas GIVEN involves both replacing the focus expression by a variable and existential closure.

The Givenness theory might be considered more complex because it has to resort to either rule-ordering or a second feature *d* to deal with focus projection cases such as (20). But then this relatively simple rule replaces the two rules of focus projection (1b). Furthermore, on closer inspection, Schwarzschild's theory needs an addition rule as well. In Selkirk's rule projection, nothing prevents the accent structure of the following answer:

- (25) A: What did Mary do?  
B: [She [praised<sub>F</sub> Jóhn<sub>F</sub>]<sub>F</sub>]

Here, *praised* is accented, which motivates the F feature that it would have gotten anyway by the fact that the argument *John* is in focus. Accent on *praised* is not excluded by AVOIDF, as this constrains only the assignment of F-features, not accentuation. Hence we would need an additional constraint, AVOID ACCENT. This constraint could not simply replace AVOIDF, as we need that, for example, to block the VP accent in cases of double focus, such as [*She* [[praised<sub>F</sub> Jóhn<sub>F</sub>] and [condémed<sub>F</sub> Báll<sub>F</sub>]]. It should be remarked that Schwarzschild himself, at the end of his paper, feels compelled to sketch an alternative version of his theory in which F-marking is free but checked by a violable constraint saying that heads are less prominent than arguments (his (59)); this is exactly what (19) wants to enforce, and Schwarzschild's constraint actually could replace (19). Büring (2006) has an equivalent rule of "horizontal" focus projection.

If we compare the two preference rules AVOIDF and DEACCENT!, it is difficult to argue that one is intrinsically better than the other. AVOIDF can be seen as a rule that avoids the linguistic complexity that is a result of F-marking, which results in F-marking only when necessary. DEACCENT! can be seen as a rule that prefers the greater linguistic simplicity that comes with deaccentuation, which is blocked only in case the addressee is to be directed to information that is not yet derivable from the context. I consider these two views equally plausible.

While the arguments discussed so far lead to the conclusion that both theories have similar complexity, there are some that show that Givenness theory may actually be simpler. First, consider non-accentable expressions such as *someone*.

- (26) A: What did Mary do?  
B: [She [praised<sub>F</sub> someone<sub>F</sub>]<sub>F</sub>]

The direct argument *someone* cannot be accented, and hence it is not F-marked. Following GIVENNESS, it should be GIVEN. Applying Schwarzschild's definition of GIVEN requires us to form the existential closure over the meaning of *someone*, which is  $\exists P[\text{PERSON} \cap P \neq \emptyset]$ ,

which is true iff there is at least one person. This certainly follows from the presupposition of the question in (26), as Mary is a person. However, it does follow from the question of the following cases:

- (27) A: What did the dog do?  
 B: [It [bít<sub>F</sub> someone<sub>F</sub>]<sub>F</sub>]
- (28) A: What happened?  
 B: [Péter<sub>F</sub> [came in<sub>F</sub>]]<sub>F</sub> vs. [Someone [came ín<sub>F</sub>]]<sub>F</sub>

Perhaps the presupposition that someone exists is a fairly innocent one that can always be assumed. Notice that indefinite NPs based on general nouns, such as *a person*, may behave in a similar way:

- (29) A: What did the dog do?  
 B: [It [bít<sub>F</sub> [a person]]<sub>F</sub>]/ [It [bit<sub>F</sub> [a péron]]<sub>F</sub>]<sub>F</sub>]

But this cannot be the whole story. The words *person* and *human being* presumably are extensionally equivalent for our purposes, but certainly *human being* can never be deaccented in *It bit a human being*, as an answer to (29). We better assume that it is a grammatical property of expressions like *someone*, and of certain uses of *a person*, that they cannot be accented. We can express this in Schwarzschild's theory by stipulating that they never can be focused, which prevents them from being accented, as focus on a word has to be licensed by accent. But then they do not satisfy the GIVENNESS condition ascribed to non-focused expressions. In the current theory we can stipulate that *someone* has the feature *d* as part of its lexical specification, which is irrelevant for GIVENNESS<sub>D</sub>. We get the following analysis:

- (30) A: What did Mary do?  
 B: [She<sub>D</sub> [práised someone<sub>d</sub>]]

Notice that *praised* is not D-marked, and the VP [*praised someone<sub>d</sub>*] is not D-marked either. We know that *praised* and [*praised someone<sub>d</sub>*] could not be D-marked, as these constituents are not GIVEN<sub>D</sub>. It appears that the Givenness theory can deal with non-accentable expressions like *someone* better, by the assignment of a *d*-feature which is needed for independent reasons.

Another type of instance that favors the Givenness theory are cases in which focus appears to project from an embedded constituent. Schwarzschild (1999) has discussed such cases, and Büring (2006) has added more that all show that, while focus on a complex expression must be “grounded” in a focused (and accented) word, the selection of this word is mainly determined by givenness. Schwarzschild's example receives the following analysis in the Givenness theory:

- (31) A: John drove Mary's red convertible. What did he drive before that?  
 B: [He [drove [her blúe<sub>F</sub> convertible]]]

Schwarzschild would have focus on *blue*, and he argues that all other constituents are GIVEN. However, it is a pure coincidence that the chosen context entails the existential F-closure of the sentence, that John drove a convertible of Mary. In a context like *Mary drove her red convertible. What did John drive?*, the F-closure of the answer is not given, as it does not entail that John drove a convertible. Yet the same focus structure is required in this context. Here is what Givenness theory says:



(32) B: [He<sub>D</sub> [drove<sub>D</sub> [her<sub>D</sub> blúe convertible<sub>D</sub>]]]

No other constituent is D-marked. That is, the sentence is not predicted to require a salient antecedent from which it follows that John drove one of Mary's convertibles. The D-markings in (32) are justified: There are salient antecedents for *he* and *her*; *drove* is GIVEN<sub>D</sub> because the context entails  $\exists x\exists y[\text{DROVE}(x)(y)]$ ; and *convertible* is given as the context entails  $\exists x[\text{CONVERTIBLE}(x)]$ . We cannot D-mark *blue* because it does not have an antecedent. It also would lead to D-marking of all constituents, following (14), which in turn would require that the context already entails that John drove a blue convertible.

## 5 Why we need Focus, in addition to Givenness

In the last section I have tried to argue that a Schwarzschild-style theory can be more succinctly expressed in a theory that uses D-marking instead of F-marking. In this section I would like to show that we actually need both rules of deaccentuation and rules of accentuation, as a theory based only on Givenness leads to a number of problems.

1. The first problem is that we find deaccentuation in the absence of GIVEN<sub>(D)</sub>ness, beyond the case of *someone* discussed above. Let us take up the convertible example, in the following form:

(33) As there weren't any red convertibles anymore, John drove a blúe convertible.

From the first clause it does not follow that there are convertibles, but both Schwarzschild's theory and the Givenness theory require that there is one, to account for the lack of accent on *convertible*. This suggests that *convertible* is not GIVEN<sub>(D)</sub> because its existential closure follows from the context, but simply because the concept 'convertible' has been mentioned before. This suggests that we should extend the notion of givenness. Following Webber (1978) we could assume that nouns introduce discourse referents for kinds, which can be taken up anaphorically by other nouns, where the life time of such discourse referents is not restricted by the scope of negation (cf. the use of *one*-anaphora, as in *John drove a blúe one*). But there are other cases where GIVEN<sub>(D)</sub> fails to determine deaccentuation. In the following example, *stood up* is clearly deaccented, although it is not GIVEN<sub>(D)</sub> (the context does not entail that anyone stood up).

(34) As none of her friends stood up, Máry stood up.

We have a similar problem in other cases of non-presupposing constructions:

(35) A: It is possible that Mary praised someone.

B: Yes, Mary praised Jóhn.

(36) A: I doubt that Mary praised anyone.

B: You're wrong, Mary praised Jóhn.

On closer inspection, even the constituent questions that motivated the accentuation theories turn out to be unconvincing, as it is not clear whether such questions generally come with an existence presupposition. Consider (37). Here, *praise* is not GIVEN<sub>(D)</sub>, and *praised him* is not GIVEN<sub>(D)</sub>, yet these constituents must be D-marked (or cannot be F-marked, in Schwarzschild's theory).

(37) A: Who, if anybody, praised John?

B: Máry praised him.

Perhaps we should extend the definition of  $\text{GIVEN}_{\text{D}}$  such that everything that is mentioned in the immediately preceding context should count as given. For example, *stood up* is given in the second clause of (34) as this concept was mentioned in the first clause. With this we are heading towards the notion of c-construability of Rochemont (1986). However, this leads us into well-known problems, as in the Republican example (24), or in case the alternatives are explicitly given, as in (38):

- (38) A: Who did Mary praise, Bill or John?  
 B: Mary praised Jóhn.

Here the concepts of ‘John’, of ‘praised John’, and of ‘Mary praised John’ are all c-construable, which predicts that we should not find any accent, contrary to fact. Rochemont (1986) dealt with such cases as a special type of focus, contrastive focus, which follows different rules. While I believe that there is contrastive focus as a separate case, I think that (38) is not an instance of that, as we do not find the usual hallmarks of contrastive focus, like more pronounced accent or the possibility of cleft constructions.

2. There are similar problems that have been pointed out by Féry & Samek-Lodovici (2006). For example, in (39) deaccenting on *farmer* and accent on *Canadian* is justified in Schwarzschild’s theory (as well as in the Givenness theory), but the option of accenting *American* is not. Similarly, the option of focusing *red* in (33) is not predicted. Schwarzschild has to resort to a special contrastive focus relation, just as Rochemont.

- (39) An Américan farmer was talking to a Canáidian farmer.

3. A slight variation of the examples like (9) that Schwarzschild has used to motivate focus rules, and I have used to motivate deaccentuation rules, results in wrong predictions:

- (40) A: What did Mary praise?  
 B: \*She praised Jóhn.

The answer does not satisfy the presupposition of the question, that Mary praised a thing. Nevertheless, neither Schwarzschild’s theory nor the Givenness theory would consider this problematic. Here is why: (40) creates the presupposition  $\exists x[\text{PRAISED}(x)(\text{MARY}) \wedge \text{THING}(x)]$ . Under Schwarzschild’s theory, (40) has the focus assignment [*She* [*praised Jóhn*]<sub>F</sub>]. As the VP and the sentence are not F-marked, their existential F-closure  $\exists x\exists y[\text{PRAISED}(x)(y)]$  and  $\exists x[\text{PRAISED}(x)(\text{MARY})]$  should be GIVEN. And indeed they are, as they are not restricted to persons or things. In the Givenness theory, the answer has the deaccentuation pattern [*She*<sub>D</sub> [*praised*<sub>D</sub> *Jóhn*]], which requires that *praised* is  $\text{GIVEN}_{\text{D}}$ ; this is indeed the case, as  $\exists x\exists y[\text{PRAISED}(x)(y)]$  follows from the presupposition of the question, as before.

4. The most severe problem of a Givenness only theory is that it leaves the question-answer relation vastly underdetermined. While (41a) motivates the accent structure of (41b), what we have said so far in either theory cannot rule out answers like (41c).

- (41) a. A: Who did Mary praise?  
 b. B: She praised Jóhn.  
 c. B: # She slépt.

The question introduces the presupposition  $\exists x[\text{PRAISED}(x)(\text{MARY})]$ , from which it does not follow that someone slept, hence the accentuation in (41c) is satisfied.

Can we use Givenness as a factor to determine what a congruent answer to a question is? The best I could come up with is the following, where (ii) is essentially what we have assumed so far.

- (42) a. A question-answer pair  $Q$ — $A$  is congruent iff:
- i.  $Q$  introduces an existential presupposition  $Q_E$ , and  $A$  entails  $Q_E$ .
  - ii. the existential (F-)closure of all D-marked (non F-marked) constituents of  $A$  follow from  $Q_E$ .

For example, (41b) entails the existential presupposition of (41a), that Mary praised someone, but (41c) does not. This way of explaining question/answer congruence is problematic, however, in the case of non-presupposing questions, as in (37).

I have listed a number of problems that make it very questionable that a theory based on Givenness alone will be sufficient to describe all the effects that have been ascribed to focus and focus accent. As it is obvious that focus alone is not sufficient either, we need both concepts. How they interact is sketched in the final section.

## 6 How Focus accenting and Givenness deaccenting interact

Let us assume then a theory that has both F-marking and D-marking, where F-marking indicates the presence of alternatives, and D-marking indicates Givenness. (Such theories have been proposed before, most recently by Féry & Samek-Lodovici (2006), who also factor in constraints of phonological phrase formation). As a default assumption, F-marking and D-marking are maximal in the sense that whenever alternatives to a constituent play a role in interpretation, then it is F-marked, and whenever a constituent is given, it is D-marked.

Alternatives, and hence F-marking, can be used for a variety of functions, for example to express contrast, or to identify the domain of quantification of *only* by way of alternatives. In question-answer sequences, the alternatives introduced by the question must be identifiable with the alternatives of the answer. Using structured meanings that relate a background, a set of alternatives, and a focus to each other (cf. Krifka 2006), this can be illustrated as follows:

- (43) a. A: Who did Mary praise?  $\langle \lambda x[\text{PRAISED}(x)(\text{MARY})], \text{PERSON}, * \rangle$   
 b. B: She praised Jóhn.  $\langle \lambda x[\text{PRAISED}(x)(\text{MARY})], A, \text{JOHN} \rangle$

The question has an empty focus,  $*$ , as the question word *who* just identifies the set of alternatives. The answer has a variable  $A$  for the alternative set, as this is determined by the context. (43a–43b) is a coherent question-answer pair, as the backgrounds are identical, the identification of the alternative sets  $\text{PERSON} = A$  is possible, and  $\text{JOHN} \in A$  holds.

As for Givenness, I suspect that the relation ‘given’ based on entailment of existential (F-)closure is too narrow, as examples like (33) and (34) show. We probably will have to use a wider notion, such as Rochemont’s *c*-construability.

Focus and Givenness are expressed in simple but contradictory ways (cf. also Féry & Samek-Lodovici 2006):

- (44) a. FOCUS–ACCENT (to be revised): If a constituent is in Focus, it bears Accent.

- b. GIVEN-DEACCENT: If a constituent is Given, it is Deaccented.

The FOCUS-ACCENT rule is compatible with accent being assigned to non-focused expressions. We may refine it in such a way that it says that that it bears stronger accent than sister constituents that are not in focus, cf. Jacobs (1991), or that it bears the strongest accent in its focus domain which includes the background, cf. Truckenbrodt (1999) and Féry & Samek-Lodovici (2006).

The FOCUS-ACCENT rule outranks the GIVEN-DEACCENT rule (cf. Féry & Samek-Lodovici 2006). Hence an expression in focus that is given must be accented:

- (45) A: Who did Mary praise?  
 B: She<sub>D</sub> praised<sub>D</sub> [hím<sub>D</sub>]<sub>F</sub>

The focus-accent rule as stated in (44) is fairly unspecific, as it does not indicate how Accent is realized in complex constructions. As it is well-known since Gussenhoven (1983) and Selkirk (1984), we have to distinguish between head-argument constructions, which are often realized by one accent, and others such as head-adjunct constructions or coordination constructions, which are realized by multiple accent. It has been suggested (see Gussenhoven 1983, 1992, Jacobs 1991, Truckenbrodt 1999 and others) that the latter constructions have to form separate phonological phrases that each get an accent, whereas head-argument constructions can be integrated into one phonological phrase. I cannot go into the intricacies of phonological phrase formation, which also depends on the presence and absence of focus. However, it is clear that (44) should be specified as follows:

- (46) FOCUS-ACCENT: If a constituent is in Focus, each of its phonological phrases bears Accent.

Finally, we turn to the question of accent realization in head-argument constructions that are integrated into a single phonological phrase. Here we have to state the well-known asymmetry:

- (46) FOCUS-ACCENT: If a constituent is in Focus, each of its phonological phrases bears Accent.  
 (47) ACCENT-ARGUMENT: If an integrated constituent consisting of a head and an argument bears accent, then accent is realized on the argument.

The ACCENT-ARGUMENT rule is ranked lower than FOCUS-ACCENT or GIVEN-DEACCENT. This predicts the following data:

- (48) A: What did Mary do?  
 B: She<sub>D</sub> [praised Jóhn]<sub>F</sub>  
 (49) A: What did John's mother do?  
 B: She<sub>D</sub> [práised him<sub>D</sub>]

In the latter case, accent has to be realized, due to FOCUS-ACCENT, but it cannot be realized on *him* due to DEACCENT-GIVEN, and hence has to be realized on *praised*. In case both constituents are given, then ACCENT-ARGUMENT re-emerges:

- (50) A: Did you prepare a meal, or offer a drink?  
 B: I [offered<sub>D</sub> [a drínk]<sub>D</sub>]<sub>F</sub>

The view that DEACCENT-GIVEN counteracts ACCENT-ARGUMENT offers a way to understand why we have a rule like ACCENT-ARGUMENT to begin with, that is, why

accent by default percolates to the argument, and not the head. I think it is a plausible assumption that referential expressions are more often Given than non-referential ones, like predicates. If Deaccentuation signals Givenness, then the usefulness of this marking strategy is maximized if referential expressions are accented by default. This is the case if accent in a head-argument construction is realized by default on the argument, which is typically referential and often given, and not on the head, which is non-referential and more rarely given. Obviously, the differences between heads and arguments with respect to givenness stipulated here have to be checked in natural linguistic corpora, but it appears quite likely that the indicated tendency will indeed hold.

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