SILENT COPY AND POLARITY FOCUS IN VP ELLIPSIS*

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This paper investigates the issue of symmetric and nonsymmetric focus and deaccentuation in VP Ellipsis (VPE). In contrast to most previous approaches to the information structure of VPE (Rooth 1992b, Tomioka 1995, Fox 1998), which claim under a symmetry assumption that the function of VPE is to contrastively focus the remaining subject in relation to the subject in the antecedent clause, I show that in the unmarked case, focus and deaccentuation in the antecedent and the elliptical clause need not be symmetric. I propose a unified account of the information structure of VPE by assuming a single PF economy principle, Silent Copy, interacting with a syntactic focus theory which allows for layered focus structures. In particular, Silent Copy favors to leave a syntactic copy unpronounced provided focus is assigned to the head of the sentence internal polarity phrase. The arguments in support of this proposal rest to a substantial degree on a theory of focus in question-answer contexts, as proposed by Drubig (1998). I show that VPE characterized by nonsymmetric focus and deaccentuation occurs as an answer to a multiple wh-question giving rise to a presentational focus reading. The symmetric focus and deaccentuation type then falls out as a special case in which the VPE answers a narrowly focusing question.

1 INTRODUCTION

Recently, strong arguments have emerged both in favor of the proform accounts (Hardt 1993, Lobeck 1995, López 1995), and in favor of the PF-deletion accounts of ellipsis (Chomsky & Lasnik 1993, Tancredi 1992, Klein 1993, Wilder 1996, Kennedy 1999 among others). A strong argument for the PF-deletion account comes from the proposal that Chomsky’s (1995) parallelism requirement of interpretation follows from requirements of symmetric contrastive foci, as argued in Rooth (1992a, 1992b) and Fox (1998, 1999). Following this line of reasoning, a trivial consequence of the parallelism requirement on the focus structure in symmetric coordination (and other symmetric syntactic structures) is that not only focus but also deaccentuation is symmetric. This allows for the formulation of a maximally simple rule for PF-Deletion in terms of deaccented copies, which accounts for a certain set of cases. However, there is a large set of systematic counterexamples to the symmetric focus/deaccentuation hypothesis.

I will show that in the unmarked case, focus and deaccentuation in the elliptical clause with respect to the antecedent clause is nonsymmetric (type 1). Focus in VPE is typically realized on the negative/affirmative expression and the remaining subject is free to fulfill different discourse functions. VP Ellipsis (VPE) may occur as an answer to wh-questions which either give rise to a presentational or contrastive focus reading of the verb phrase. That is, in type 1 the focus structures of the elliptical clause and the antecedent clause may differ and do not fall under the parallelism constraint. Rooth’s contrastive focus condition on coordinated VPE, which is based on the symmetric focus/deaccentuation hypothesis, then falls out as a special case in which the VPE answers a contrastively focusing question (type 2). But even in these cases, the phonological reflex of presentational focus on the polarity item is perceivable as secondary focus.

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On the basis of evidence from question-answer contexts, I propose that both types of VPE are affected by PF economy considerations. In particular, I argue that pronunciation of a syntactic copy is more costly than silence. The economy principle, Silent Copy, applies even in cases where parallelism does not. This proposal provides a unified account of the information structure of VPE within a syntactic theory of focus which distinguishes between presentational and contrastive foci (Kenesei 1999, Kiss 1998, Drubig 1994) and allows for layered focus structures in question/answer contexts (Drubig 1998).

The paper has the following structure: in section 2, I point out the questions that PF-deletion accounts raise for the Model of Grammar with respect to focus, accentuation and deaccentuation. I further show that Rooth's (1992b) theory predicts that not only focus is symmetric in coordinated VPE but also deaccentuation. A maximally simple rule (Delete Deaccented Copies) for PF-Deletion is tentatively formulated. In section 3, I provide counterevidence against this rule and claim following López & Winkler 1999 that VPE is characterized by focus assignment to the negative/affirmative term. I propose a unified account of the information structure of ellipsis by proposing a single PF economy condition, Silent Copy, which interacts with syntactic focus theory. Evidence for this claim comes from an investigation of question-answer contexts in which VPE typically occurs. I conclude the paper by suggesting how Silent Copy and Focus operate in an Intonational Single Output Model.

2 Symmetric Focus and Deaccentuation

2.1 PF-Deletion and the Model of Grammar

Chomsky & Lasnik (1993) reintroduce the old idea that elliptical sentences are formed by a rule of the PF-component that deletes the phonologically redundant information, which is characterized by a "distinguished low-flat intonation" (p. 564). They discuss the so-predicate phrase construction in example (1) and propose that deletion should be treated as an optional phonological rule which applies to deaccented material (i.e. the material which occurs in the square brackets and arguably lacks phonological accent).

(1) a. John said that he was looking for a cat and so did Bill.
   b. John said that he was looking for a cat and so did Bill [say that he was looking for a cat].

They observe that the first conjuncts in (1a, b) are ambiguous between a referential and a bound variable interpretation of the pronominal he. In addition, the NP a cat can be interpreted specifically or nonspecifically. Chomsky (1995) proposes a parallelism requirement, PR, which requires that "the second conjunct must be interpreted the same way" (p. 202-203). PR applies to the full version of (1b) at LF. According to this proposal, the elliptical sentence in (1a) is derived by an operation of the PF component which deletes copies. Ellipsis, then, is a mechanism that deletes "phonetically marked material by a general principle at PF" (Chomsky & Lasnik 1995: 126).

Tancredi (1992: 120) formulates this claim more radically by proposing that "VP-ellipsis is no more than an extreme case of deaccenting where a VP ceases to be audible altogether." He subsumes VPE in (2a) under other cases of deaccentuation (2b, c) by proposing that VP deaccentuation shows restrictions with respect to referential and
bound variable readings similar to those active in VP deletion (cf. Tancredi 1992: 25-35).

(2) a. Manny believes he is brilliant and Leo does too.
    b. Manny believes he is brilliant and Leo [believes he is brilliant].
    c. Manny believes he is brilliant and Leo [believes he is a smart guy].

At first sight, such an analysis of ellipsis seems compatible with the architecture of a grammatical model, such as proposed by Chomsky (1995), where the full version of (1b) forms the input to the interfaces LF and PF.

The model in (3) follows the hypothesis that the only PF-LF interactions which are relevant to convergence are those that are consequences of the derivation itself (Chomsky 1995: 220). That means both interfaces determine convergence independently. Such a conception, however, seems to be immediately challenged if we take focus assignment, accentuation and deaccentuation into consideration, which are known to influence interpretation. This is not a new problem for the grammatical model, but it is of immediate relevance if we consider the question of phonological reduction and PF-deletion in connection with different pronominal readings determined at LF. Under a PF-deletion account of VPE, the following questions arise: first, on the basis of which rules does the PF-component compute that the bracketed part in (1b) and (2b) is deletable? Second, to ask the more intricate question, how does it compute that in cases, such as (2c), VP is deaccentable but not deletable? The underlying question is whether it is possible to avoid the conclusion that the PF-rules must be constrained by an identity of interpretation requirement which can only operate over LF-representations.


2.2 Rooth's (1992b) Focus Analysis of VPE

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1Tancredi's central hypothesis is that the VPE in (2a) is a more extreme case of the deaccentuation which can be witnessed in the so-called proper second occurrence construction in (2b) and in the quasi second occurrence construction in (2c). With respect to examples like (2c), Tancredi claims that "identity is not required for deaccenting" (p. 33).
Rooth's (1992b) analysis of the parallelism between VPEs and their fully spelt but phonologically reduced counterparts is based on two central observations: first, both types of constructions have the pragmatic function of expressing redundant information; second, redundant information in both constructions licenses contrastive focus of the subject, as in example (4). Throughout the paper, I capitalize syllables which bear primary stress and mark syllables which bear secondary stress by the acute accent:

(4) a. First John came up with a good idea, then [MARY]F did [VP e].
   b. First John came up with a good idea, then [MARY]F [came up with a good idea].

Correlating prominence assignment with the presence of a focus feature, (4a) and (4b) both license a contrastive focus reading of their subject Mary.

Rooth's (1992a) focus analysis is couched in the framework of alternative semantics. The basic idea behind the proposal is that the focused expression within a constituent is used in constructing a set of alternatives, which are also referred to as the focus semantic value of a sentence ([[[α]]f]). These alternatives consist of the maximal set of ordinary semantic values ([[[β]]0) that can be generated from the relevant constituent by replacing each focus in that constituent with an expression of identical semantic type. For the VPE in (4), it is assumed that the focus feature on Mary is interpreted by a focus operator ~ at LF. The focus operator is a two-place operator which, in addition to the overt syntactic argument, takes the focused phrase, a non-overt argument (i.e. proposition variable corresponding to another overt phrase). The correspondence between the phrases is established by indexing a focus anaphor. Rooth assumes that the indexing in (5) is symmetric, formalizing the notion that the two sentences are placed in opposition.

(5) [s [s First, John [VP came up with a good idea]], and then [s[s MaryF did [VP came up with a good idea]] ~ 1]]

Focus and redundancy is computed over the second conjunct by the ~operator, deriving a proposition of the form "x came up with a good idea," which is then checked against the proposition of the first conjunct. At the same time, the nonredundant part of the second conjunct, here Mary, is identified as contrastive focus and finds its correspondent in the subject position of the first conjunct, namely John. Rooth's contrastive focus analysis is expressed in the Focus Condition on VPE stated in (6):

(6) Rooth's (1992b) Focus Condition on VPE:
At LF, for a constituent α which dominates deleted or deaccented material, there must be another constituent β which dominates the antecedent of the deleted or deaccented material, such that the ordinary semantic value of [β]0 is an element of the focus semantic value of [α]f.

Rooth's proposal raises an intricate issue, which I would like to refer to as the symmetric focus and deaccentuation problem. It refers to the observation that condition (6) implies that not only focus but also deaccentuation is symmetric. The process of focus and redundancy interpretation built in by the ~operator operating over the second conjunct is

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2 Rooth (1992b) assumes that the prosody of these sentences seems to have the "pragmatic function of putting the two clauses into opposition with prominence indicating where they differ" (p. 1).
based on the idea that the antecedent and the copy in coordinate sentences receive a parallel focus and redundancy interpretation. In effect, since Rooth's (1992b) theory proposes that VPE and the deaccented overt counterpart have the function of marking the remaining subject as contrastive focus with respect to the first conjunct, the prediction is that the antecedent VP in the first conjunct also automatically falls under the parallelism requirement and receives a deaccented interpretation if its subject is contrastively focused. That is, (4a,b) can only be answers to a question as in (7a), which marks the antecedent VP in the first conjunct of the answer as already contextually given, as in (7b):

(7) a. A: Who came up with a good idea, and in what order?
   b. B1: First John came up with a good idea, then [MARY]F did [VP e].
   B2: First John came up with a good idea, then [MARY]F came up with a good idea.

The type of VPE and VP deaccentuation which falls under (6) must then be seen as a response to a wh-question which requires as its answer a narrow contrastive focus on the subject. This is illustrated with a D(iscourse)-linked wh-phrase (cf. Pesetsky 1987), as in (8).

(8) a. A: Whose coach thinks he has a chance?
   b. B1: [JOHN's]F coach thinks he has a chance, and [BILL's]F coach does too.
   B2: [JOHN's]F coach thinks he has a chance, and [BILL's]F coach thinks he has a chance too.

Rooth, leaving the intonation of the first conjunct unspecified, proposes that both answers in (8b) allow a bound variable reading. The LFs for this reading involve scoping of the pronominal antecedent in order to derive the proposition of the form "x's coach thinks x has a chance" which is checked against the proposition of the first conjunct. From the assumption that the nonredundant part of the second conjunct is contrastively focused as is the subject of the antecedent clause, it follows that the redundant part is unfocused as is the VP in the antecedent clause.3

This analysis is compatible with Rooth's own (1992a) analysis of question-answer relations, where he proposes that "focus in an answer expresses contrast between the asserted answer and other potential answers" (p. 84). Following this line of argumentation for the time being, we arrive at the observational generalization that VPE and deaccentuation in coordinate constructions requires that the VP in the first conjunct already be deaccented. The symmetric focus and deaccentuation hypothesis allows for the formulation of a maximally simple rule for PF-deletion in terms of deaccented copies, given in (9):

(9) Delete Deaccented Copy: (DDC-Rule)

In parallel structures, one of two deaccented copies may be deleted at PF.

The DDC Rule, which could be conceived of as applying, for example, in a Single Output Model at PF (cf. Bobaljik 1995), accounts in addition to the VPE cases discussed above for a wide array of data. Consider, for example, the deletion of the deaccented copy in

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3 Evidence from intontional experimentation shows different results, which I discuss with respect to example (30) below.
the second conjunct in gapping structures, as in (10), in stripping examples, as in (11), and in pseudogapping constructions, as in (12) (I adopt the notational convention and represent deleted material by strikethrough):

(10) A: Who watched what?
   B: ANNA \textit{watched} CASABLANCA and BEN \textit{watched} STAR WARS.

(11) A: Which video did she give to BEN?
   B: She \textit{gave} CASABLANCA to Ben, but \textit{she did not give} STAR WARS to Ben.

(12) A: Which film did you watch and which film did Ben watch?
   B: I \textit{watched} CASABLANCA and HE \textit{did watch} STAR WARS.

In each case in (10) to (12), the DDC deletes the second copy of two deaccented copies in the context of a narrowly focusing question. In addition, there are also at least two cases where the DDC applies to the deaccented copy in the first conjunct, namely backwards VPE, as in (13), and Right Node Raising, as in (14):

(13) a. A: Why does Mary want to leave?
   B: Because MANNY \textit{does want to leave}, Mary \textit{wants to leave}.

b. A: Who can see Casablanca?
   B: ANYONE \textit{can see} Casablanca who \textit{wants to see} Casablanca.

(14) A: Who do you think watched Casablanca yesterday?
   B: I think that ANNA \textit{watched} Casablanca yesterday and Mary \textit{thinks that} BEN \textit{watched} Casablanca yesterday.

The occurrence of deletion sights in the first conjunct in Right Node Raising constructions has given rise to the assumption that there must be "sentence internal licensing of deaccentuation" (cf. Hartmann 1998: 137-155), an idea which is also alluded to in Rooth (1992a) as an answer to seemingly symmetric deaccentuation in such famous cases as in (15a, b).

\footnote{Sluicing constructions discussed in Romero (1998) provide counterevidence to the symmetric focus and deaccentuation hypothesis. An example is given in (i).
\begin{enumerate}
   \item a. I know she always reads a book at dinnertime, but I don't know WHICH one she always reads at dinnertime.
   \item b. She has quoted several philosophical works, but I don't remember how MANY philosophical works she has quoted.
\end{enumerate}

\footnote{It is usually assumed that a VPE that precedes its antecedent is accounted for by the Backwards Anaphora Constraint originally proposed by Langacker (1966) and reformulated in Hankamer & Sag (1976: 424). Williams (1997: 588), however, shows that c-command is not the relevant notion and proposes a general pattern of anaphoric dependence (GPAD) quoted in (ii):
\begin{enumerate}(continued)
   \item a. \textit{[...pro...subord [...antec...]subord}}
   \item a. \textit{[...pro...matrix [...antec...]matrix}}
   \item c. \textit{[...antec...]matrix [...pro...]subord}
   \item d. \textit{[...antec...]subord [...pro...]matrix}
\end{enumerate}
Note that in an appropriate question-answer context, Williams' (ib) becomes acceptable, as seen by the so-called Right Node Raising construction given in (ii).
\begin{enumerate}(continued)
   \item A: Who did and who didn't watch Casablanca? (Talking of Anne and Manny)
   \item B: Anne \textit{DID watch} Casablanca but Manny \textit{DIDN'T watch} Casablanca.
\end{enumerate}}
(15) a. An AMERICAN farmer was talking to a CANADIAN farmer.
b. People who GROW rice generally only EAT rice.

An alternative explanation of these cases is provided if we assume that the first occurrences of the NPs farmer in (15a) and rice in (15b) already constitute copies of deaccented antecedents. But then the DDC-Rule in (9) should be applicable. The answer to the question of why the DDC-Rule cannot apply in (15) is that its application also underlies syntactic constraints. In English, NP ellipsis after adjectives is ungrammatical due the lack of strong features on the adjective (see Tomioka 1999) and deletion of phrases which constitute associates of the focus sensitive operators is equally prohibited.

Although the DDC-Rule seems to account for a considerable number of cases, (15) shows that its range of application is restricted by syntactic constraints. In the following section, I want to concentrate again on VPE and show that there are further systematic counterexamples to the DDC-Rule. In fact, I want to propose that focus and deaccentuation in VPE need not be symmetric, as suggested by Rooth's 1992b theory. I will show that the function of VPE is not to signal contrastivity, but to mark an event of a similar type as discourse given, and thereby allowing both for a contrastive or a presentational focus reading. Basing my arguments on Drubig’s (1998) theory of focus in question-answer contexts, I will propose a unified account.

3 A UNIFIED ACCOUNT

3.1 Introduction

The goal of the present discussion of the information structure of VPE (and VP deaccentuation) is a unified account of both the symmetric and the nonsymmetric focus and deaccentuation types. I claim that VPE and VP deaccentuation are regulated by a single PF economy principle, Silent Copy, which interacts with a syntactic focus theory which systematically distinguishes between presentational and contrastive focus, as proposed by Kiss (1995, 1998), Kenesei (1999) and Drubig (1994, 1998). Drubig argues that each type of focus corresponds to a distinct syntactic analysis: presentational focus is licensed by a lower polarity phrase (PolP₁) while contrastive focus is licensed by a higher polarity phrase (PolP₂). I will apply this analysis to VPE and show that VPE is licensed by focus accent assignment to the functional category Pol₀, which corresponds to the lower polarity phrase, thus allowing for a presentational focus reading. In contrast to Rooth (1992b), who claims that the function of VPE is to contrastively focus the remaining subject, I propose that in the unmarked case VPE is characterized by pitch accent assignment to the negative/affirmative term, henceforth called polarity focus, which licenses VPE at PF.

The crucial question then is: how can these different proposals be integrated? The proposal which combines these approaches rests to a substantial degree on a theory of focus in question-answer environments which allows for layered focus structures, as recently proposed by Drubig (1998). I will show that type 1 of VPE occurs as an answer to wh-questions which gives rise to either a presentational or contrastive VP focus reading. Rooth's contrastive focus constraint on the subject then falls out as a special case in which type 2 of VPE answers narrowly focusing questions. This proposal results in a unified account of VPE with symmetric and nonsymmetric focus and deaccentuation patterns.
I will proceed as follows: first, I will introduce the distinction between presentational and contrastive focus and explain their function in question-answer pairs. Second, I will argue on the basis of nonsymmetric focus and deaccentuation examples that VPE is licensed by polarity focus at PF. Third, I will show that the puzzling phenomenon observed by Tomioka (1998), namely that under VPE, a scopally ambiguous sentence loses one of its readings, is a natural consequence of the theory presented here.

3.2 Basic Assumptions about Focus

Results of typological research on focus have convincingly shown that languages as different as Hungarian (Kiss 1998, Kenesei 1999), African languages like Aghem, a Grasfield Bantu language (Watters 1979, Hyman & Watters 1984), Vute (Thwing & Watters 1987), Kimatuumbi (Odden 1984), Akan, a Kwa language spoken in Ghana (Drubig 1998), and Chadic languages like e.g. Kanakuru (Tuller 1992) distinguish between presentational and contrastive focus either by overt movement to a contrastive focus position as in the case of Hungarian, or by morphological marking as in the case of some of the African languages. Presentational focus is pragmatically defined in terms of material that is not c(ontext)-construable (Rochemont 1986), or D-linked in Pesetsky's (1987) terminology, and allows a maximal projection of the focus feature.

(16) We [forgot to celebrate Jan's first BIRTHDAY]$_F$.

(17) a. Why are you so upset? / What's wrong?
   b. What did you forget to do?
   c. What did you forget to celebrate?

In intonational languages it is generally assumed that the syntactic focus feature [F] is assigned to the most prominent element in the intonational domain. If (16) is uttered as an answer to a presentational focus inducing question such as that given in (17a) (a claim which will be motivated further below), the focus feature on birthday can project up to the maximal projection of the focused word, in this case up to the embedding VP. At the same time, (16) can also answer (17b) and (17c), providing a focus reading on the embedded CP or the DP respectively. If, however, the same answer can be a response to only a single question, such as that given in (18A), the focus feature does not project, and is therefore referred to as narrow focus.

(18) A: Whose first birthday did you forget to celebrate?
    B: We forgot to celebrate JAN's first birthday.

There are recent proposals which try to explain the above cases with revised versions of the Nuclear Stress Rule (cf. Zubizarreta 1998, Cinque 1993). However, since presentational focus in Germanic languages is sensitive to selectional restrictions, I consider an argument structural account, such as that proposed by Gussenhoven (1983) or Selkirk (1995), theoretically and empirically superior to Nuclear Stress based accounts. Selkirk's (1995) focus projection principles are given in (19):

(19) Selkirk's (1995: 555) Focus Projection Rules:
(a) F-marking of the head of a phrase licenses the focus assignment of its phrase.

(b) F-marking of an internal argument of a head licenses the F-marking of the head.

Narrow focus, as seen in (18B), does not allow a maximal projection of focus and often, but not always (see discussion of wh-questions below), receives a contrastive interpretation.

The semantic notion of contrastive focus is informally defined by Kiss (1998) as evoking a suitable "subset of the set of contextually or situationally given elements for which the predicate phrase can potentially hold; it is identified as the exhaustive subset of this set for which the predicate phrase actually holds." (p. 245). According to this definition a contrastive focus is always associated with a focus-binding element (viz. a focus-sensitive particle), such as only, even, too, or contrastive negation:

(20) a. Only RAY knows how to cook shrimps.
    b. Ray only knows how to cook SHRIMPS.

Virtually all theories of focus agree that focus sensitive particles are always associated with a focus (but cf. Vallduví 1990); in (20a), only is associated with the pitch accented subject Ray and in (20b) with the object of the embedded sentence shrimps. What they disagree on is how to implement this association formally. Within the semantic association-with-focus theories, Rooth (1985) and Kratzer (1991) have argued explicitly that the association between the focus-sensitive particle and the focused element does not involve any movement. In Rooth (1992a), the association falls out from the focus interpretation principle (Rooth 1992a: 86), which specifies that "if C is the domain of quantification of a focusing adverb with argument \( \alpha \), then the contrasting set C is a subset of the focus semantic value of \( \alpha \) (C \( \subseteq \) \[\[ \alpha \]\])" (p. 85). Kratzer (1991) uses example (21) to show that only and the NP zoning board cannot be associated via movement because island violations would be expected.

(21) They only investigated the question whether you know the woman who chaired the ZONING board.

Within the syntactic theories that implement association-with-focus there are basically two proposals: either the focus-sensitive operator, which forms a syntactic constituent with the focus constituent in its base-generated position, moves to a non-adjacent position from which it can c-command the contrastive focus (e.g. Brody 1990, Kiss 1998), or the focus itself moves to a sentence initial position, where it is associated with a focus-binding element (e.g. Chomsky 1976, Drubig 1994). Drubig (1994) shows with respect to Kratzer's example (21) that focus movement moves not only the pitch accent element but the complete focus phrase. He employs as a test tool the negative contrastive construction, which reveals that only is associated with the highest DP (DP3), as shown in (22):

(22) They only investigated [\( \text{DP1} \) the question of whether you know [\( \text{DP2} \) the woman who chaired [\( \text{DP3} \) the ZONING board.]]]
    a. *not the SCHOOL board.
    b. *not the woman who chaired the SCHOOL board.
c. \( \not \) not the question of whether you know the woman who chaired the SCHOOL board.

Based on these observations, Drubig (1994) argues convincingly that in languages like English and German the contrastive focus phrase moves at LF, namely in the Spec position of a sentence initial PolP (PolP₂) as in (23a), whereas the presentational focus is licensed in situ by the head of a lower polarity phrase (PolP₁), as represented in (23b):

(23a) **contrastive focus**: formation of an operator-variable chain at LF

(23b) **presentational focus**: licensed in situ (Drubig1994)

\[
\begin{align*}
\text{PolP₂} & \quad \text{[Foc/Top]₁} & \quad \text{Pol₂'} & \quad \text{PolP₁} \\
\text{Pol₂} & \quad \text{IP} & \quad \text{Pol₁i} & \quad \text{VP} \\
\text{...t₁...} & \quad & \quad & \quad \text{...FP₁...}
\end{align*}
\]

In the next paragraph I will introduce a third type of focus, *completive focus*, which cuts across the presentational vs. contrastive focus distinction as shown by Drubig's (1998) theory of focus in question-answer pairs. I will show that completive focus provides the diagnostic tool for focus in VPE.

Wh-questions have a long tradition as a focus identifying test. They have been used in the functionalist framework at least since Halliday (1967: 208), Daneš (1967: 507) and systematically in the generative tradition since Jackendoff (1972: 237). However, an issue which is still the focus of much discussion is the fact that the wh-element in the question which is frequently identified as focus is not assigned a pitch accent (cf. Ladd 1996, Lambrecht & Michaelis 1998 and Zubizarreta 1998). Evidence from languages which mark focus morphologically or by focus-movement (see Dik 1981) corroborate the assumption made for English since Rochemont (1978, 1986) and Culicover & Rochemont (1983) that the wh-element is not only the focus of the question but that it also identifies the focus of the answer.

Drubig (1998) in a recent proposal argues that wh-questions (as well as clefts) constitute a particular type of focusing construction, which exhibits connectedness effects, the so-called completive focus construction: "it specifies an open proposition which functions as the background and the wh-operator induces a focus effect on the constituent filling the gap" (p. 28). The proposal is based on two major claims: first, the focus of the question is the term answer; second, questions have a focus structure of their own. The former hypothesis explains why question-answer-pairs can be used as a diagnostic tool for focus-background structures. The latter explains why the intonation of the question can vary depending on the context in which the question is embedded. That is, the focusing effect of the question-answer pair is superimposed on the independently determined information structure of the question. Consider the example given in (24) (slightly adapted from Drubig 1998: 31):
(24)  a.  A1:  Who put the car into the GARAGE?
    A2:  Who put the CAR into the garage?
    A3:  WHO put the car into the garage?
    b.  B:  JANE (did/put the car into the garage).

(24b) can answer the three different questions in (24a). A1 is posed in a context in which the car is D-linked, whereas it is not D-linked in A2. A3 is a contrastive focus wh-question in which the set of alternatives with the proposition "x put the car into the garage" is presupposed. The focus in the answer to A3 then signals the contrast between the asserted and the potential answers.

Drubig further assumes that the focus-background structure which is set up by wh-questions is only local with respect to a particular stage in the interaction (i.e. temporary). The speaker of the questions in (24a) intends to make the assertions given in (25a-c), but first has to close the knowledge gap with respect to the agent. The term answer is focused only because it completes an open position in the intended assertion.

(25)  a.  Jane put the car into the GARAGE.
    b.  Jane put the CAR into the garage.
    c.  JANE put the car into the garage (not BEN).

The claim, then, is that the focus structures of the questions in (24a) correspond to the focus structures of the intended assertions in (25). What is important to realize for the discussion of VPE below is that the narrow focus accent on Jane in (24b) as an answer to (24a A1-A2) is a purely local effect of the question. Only for (24a A3) does the answer (24b) mark a contrastive focus where the wh-question specifies its background.

Thus we see that completive focus in question-answer pairs cuts across the presentational and contrastive distinction. The claim then is that symmetric and nonsymmetric focus and deaccentuation in VPE can be explained in a theory of focus which does not only distinguish between presentational and contrastive focus but also allows for layered focus structures in questions-answer pairs (but see Vallduví's (1990) criticism of the concept of layered focus structures).

3.3  Nonsymmetric Focus and Deaccentuation in VP Ellipsis

I propose that in VPE type 1, focus and deaccentuation or its fully spelt but deaccented counterpart are nonsymmetric. Particularly, I propose that the function of VPE is not to signal contrastivity on the subject, but to mark an event of a similar type as D-linked. This claim has various implications: first, I assume that focus in VPE can be - but does not have to be - contrastive. Second, I do not assume that focus must necessarily be realized on the remaining subject. Third, the VP of the first conjunct does not have to be deaccented; it can occur with various focus assignments. Fourth, intonational experimentation provides evidence for the fact that VPE and its deaccented counterpart differ. Fifth, VPE does not need to occur as an answer to a narrowly focused question, but most naturally occurs as an answer to a wh-question which gives rise to a presentational focus structure in the answer. I will present the data first, and will then propose that polarity focus is obligatory for VPE to occur. From here on, I use the convention of marking an intonational rise by a slash, and an intonational fall by a backslash. Further, I capitalize syllables which bear primary stress and mark syllables which bear secondary stress by the acute accent:
First, parallel foci in VPE need not be contrastive, as seen in (26):

(26) A: What happened when?
   a. First a LION\ appeared and then a baby ANTELOPE\ did.
   b. First a STRANGER\ entered the room and then a POLICEMAN\ did.
   c. First the MUFFINS\ burned black and then the BAGELS\ did.

(27) A: What happened to our garden?
   B: The LILIES\ were watered flat, but the TULIPS\ weren't.

Examples (26a, b) occur with verbs of appearance which cause a presentational focus reading realized on the accented subject (see Gussenhoven 1983 and Selkirk 1995, among many others). Similar restrictions hold for the stressed subject presentatives occurring with ergative verbs, as in (26c). (27) is a case of a passivized secondary resultative predication. The subject in passivized resultative sentences is also typically presentationally focused as shown in Winkler 1996 (cf. van Oosten 1985).

Second, focus in VPE does not have to be realized on the remaining subject:

(28) a. Anna promised to do the dishes, but she DIDN'T\.
    b. I doubted that Ben can swim, but he CAN\.
    c. Yesterday Jan responded to every questions, only TODAY\ he didn't\.

In (28a), focus is on the auxiliary, in (28b) on the modal and in (28c) on the time adjunct and the auxiliary. The subject is a prosodically unmarked pronoun, here analyzed as discourse topic in the sense of Reinhart (1983).

Third, the VP of the first conjunct need not be deaccented; it can occur with various focus assignments. The paradigm in (29) shows that *only* can be associated with different foci in the antecedent VP and still VPE is allowed in the second conjunct.

(29) a. /JAN has only offered wine to his GUESTS\, but /BEN HASN'T\.
    b. /JAN has only offered WINE to his guests, but /BEN HASN'T\.
    c. /JAN has only OFFERED wine to his guests, but /BEN HASN'T\.
    d. /JAN has only offered wine to HIS guests, but /BEN HASN'T\.

The remaining subjects in (29a-d) are assigned the typical topic accent L*+H and the auxiliaries are assigned a focus feature typically realized as an H*L% tone sequence.

Fourth, evidence from intonational experimentation shows that speakers employ similar strategies to disambiguate referential and bound variable readings (see Winkler 1997 for further discussion). In ambiguous examples like (2a)(repeated here as (30a)), speakers tend to stress the pronoun in the first conjunct to indicate a bound variable reading, whereas the intonation of the pronoun is unmarked in the referential reading. Basically similar observations hold for the second occurrence expression examples in (30b,c), with the addition that if speakers assigned a pitch accent to the pronoun in the first conjunct (for the sloppy reading), they also assigned an audible pitch accent to the pronoun in the second occurrence expression. This is a fact which is difficult to account for under a PF-deletion account for VPE that is based on a nonlayered interpretation of focus structures, because it implies that the redundant material in brackets in (30b) can be optionally deleted despite the fact that it is not coherently marked as [-F].
a. /Manny, believes HE, is brilliant and /Leo, does \textit{believes HE, is brilliant}] TOO.

b. /Manny, believes HE, is brilliant and /Leo, \textit{believes HE, is brilliant].

c. /Manny, believes HE, is brilliant and Leo, \textit{believes HE, is a smart guy].

The corresponding perception experiment showed that complete disambiguation of strict and sloppy readings is only possible in the fully spelt and intonated versions. That is, in VPE the accentuation of the pronoun in the first conjunct does not completely disambiguate the structure, as the parallel interpretation hypothesis might suggest (see Winkler & Köllreuther in preparation).\textsuperscript{6}

Summarizing, evidence from intonational experimentation has shown that first, intonation and deaccentuation in VPE and fully spelt second occurrence expressions is free to vary and need not be symmetric. Second, for the bound variable reading, the pronoun in the second occurrence expressions shows a reduced but clearly audible pitch accent despite the fact that it occurs in a redundant string which we would expect to be completely deaccented.

The final argument against the symmetric focus and deaccentuation hypothesis stems from the observation that VPE can occur as an answer to a multiple wh-question allowing a presentational focus structure in the answers, as seen in (31) below.

(31) a. A1: What did JAN do?
   B1: He WON.
   A2: What did BEN do?
   B2: He DIDN'T.

b. A: Who did what? (Having Jan and Ben in mind)
   B: /JAN WON and /BEN DIDN'T.

The argument that the VPE in answers of (31a, b) allow a presentational focus reading is crucially based on the theory of focus in question-answer sequences as developed in Drubig (1998). The wh-questions in (31a) require that the VPs in the corresponding answers are focused. (31b) is an answer to a multiple wh-question. The pitch accents on the verb in the first conjunct and on PolP\textsubscript{1} in the second signal VP focus. The subjects in (31b), which are typically spoken with a rise, are analyzed as contrastive topics, as first proposed for multiple wh-questions by Bolinger (1978: 154) and recently discussed by Büring (1997), Krifka (1998) and many others (see Molnár 1997 for an overview).

3.4 Silent Copy and Polarity Focus in VPE

In contrast to Rooth (1992b), whose Focus Condition in (6) is based on the assumption of symmetry of focus and thereby implicitly on symmetry of deaccentuation, I propose on the basis of examples (26)-(31) that this condition only applies to a subset of cases and that VPE is typically characterized by pitch accent assignment to the negative/affirmative term, which I term polarity focus. The function of polarity focus is to either

\textsuperscript{6}The results of the perception experiment also throw new light on the Hirschberg & Ward (1991) study, who report similar results but interpret them differently.
affirm or negate that there is an event like the one introduced in the first coordinate sentence, as shown in (32).\footnote{I assume with Krifka (1989) and Schein (1993) that the appropriate logical representation of a negative sentence like Ben didn't win is not $\neg (\text{win} (b))$, but rather no: $e [\text{win} (e) \land \text{Agent} (e, b)]$, namely that there are no events of winning where Ben is the agent.}

(32) a. A: What did Ben and Anna do?
   b. B1: /BEN has read Chomsky's Minimalist PROGRAM\, but /ANNA HASN'T\.
      B2: /ANNA hasn't read Chomsky's Minimalist PROGRAM\, but /BEN HAS\.

The answers in (32b) are both possible answers to the wh-question in (32a), allowing for a presentational reading on the VP. The pitch accent $H^*$ is assigned to the object NP in the first conjunct and to PolP₁ in the elliptical conjunct. Anna and Ben in both conjuncts are contrastive topics typically realized by a rise contour. The analysis of the VPE in (32) as presentationally focused confirms the assumption that VPE requires as its antecedent an event of the same type, and not one of the same token (see Csúri 1996 for similar observations with respect to $\text{one}$-anaphora). In the above example, there are two different reading events, one carried out by Ben, the other one not carried out by Anna. The pronunciation of the copy of the same event type in the elliptical clause is assumed to be constrained by a single economy principle which operates on PF representations and is sensitive to focus.\footnote{As argued in López & Winkler (1999), polarity focus can also license a contrastive focus reading on the auxiliary, as in the exchange in (i):}

(i) A: I heared that Anne can swim well.
   B: No, she [CAN'T]f.

The interpretation of the polarity focus in (iB) is contrastive, in the sense that it negates the proposition expressed in the embedded sentence of (iA).

(33) \textit{Silent Copy: } Do not pronounce copies.

As an instruction to the articulatory-perceptual system, (33) generalizes the observation that a (VP) copy preferably remains silent. However, the copy must be pronounced under three conditions: first, if syntactic constraints prohibit deletion (see discussion of (15a)); second if syntactic or morphological changes occurred in the otherwise redundant string, and third, if strict and sloppy reading ambiguities want to be avoided by accent assignment to the second occurrence of the pronoun in the otherwise deaccented string \footnote{I assume that \textit{Silent Copy} and \textit{Silent Trace} are subprinciples of Williams’ (1997: 603) more general \textit{Don’t overlook anaphoric possibilities} condition.}.

\footnote{I assume with Krifka (1989) and Schein (1993) that the appropriate logical representation of a negative sentence like Ben didn't win is not $\neg (\text{win} (b))$, but rather no: $e [\text{win} (e) \land \text{Agent} (e, b)]$, namely that there are no events of winning where Ben is the agent.}

\footnote{As argued in López & Winkler (1999), polarity focus can also license a contrastive focus reading on the auxiliary, as in the exchange in (i):}

\footnote{I assume that \textit{Silent Copy} and \textit{Silent Trace} are subprinciples of Williams’ (1997: 603) more general \textit{Don’t overlook anaphoric possibilities} condition.}
(see results of the second occurrence experiment in Winkler 1997). Thus, I propose that pronunciation of a completely redundant VP string incurs a cost that Silent Copy seeks to minimize. Focus assignment to the polarity item supports the interpretation that the unpronounced copy is of the same type as the one introduced in the antecedent clause. However, there is a tension between Silent Copy and Grice's submaxim of manner, Avoid Ambiguity. What is commonly referred to as VP deaccentuation (but not deletion), then occurs under the pressure of the latter principle. Intonational experimentation shows that if Silent Copy is overridden by the experimental design, speakers always marked parts of the redundant VP string with pitch movement.

Thus, both Silent Copy and VP deaccentuation are subject to three requirements: first, that the copy is coherently [-F]; second, that the antecedent VP is of the same type and third that Pol\textsuperscript{1}\textsuperscript{0} carries focus. Silent Copy is overridden in all other instances. Silent Copy is formulated as a PF-instruction for English as in (34):

\begin{align*}
\text{(34) Execution of Silent VP Copy:} \\
\text{Silent Copy applies iffi. } & \text{The copy is coherently [-F];} \\
& \text{ii. There is an antecedent VP of the same type;} \\
& \text{iii. Pol}\textsuperscript{1}\textsuperscript{0} \text{is [+F];} \\
\text{In all other cases, the copy must be pronounced but may be partially deaccented.}
\end{align*}

I propose that Silent Copy in (33) replaces the DDC Rule in (9) above. Silent Copy applies in a Single Output Model as proposed by Bobaljik (1995) to example (1a, b) as in (35):\footnote{I will return to the discussion of focus in a Single Output Model briefly in section 3.5 below.}

\begin{align*}
\text{(35) Single Output Model} \\
\text{Lexicon} & \text{assign [+F]} \\
\text{Numeration of (1b)} & \text{syntax} \\
\text{Derivation of (1a):} & \text{PF} \quad \text{output} \\
\text{Silent Copy (33)} & \text{LF} \\
\text{PR applies to the fully spelt version (1b)}
\end{align*}

It follows from (34iii) that if Pol\textsuperscript{0} is not focused and realized with a pitch accent on the auxiliary as in (36a) and (37a), but rather with an L-L% boundary sequence on the contracted or reduced auxiliary as in (36b) and (37b,c), the sentence becomes sharply ungrammatical (cf. King 1970, Martin 1992, López 1995, among others):

\begin{align*}
\text{(36) a. Ben said that he has read The MP, but he HASN'T. } & \text{[hæznt]} \\
& \text{*Ben said that he has read The MP, but he hasn't. } & \text{[h̴znt]} \\
\text{(37) a. Ben said that he hasn't read The MP, but he HAS. } & \text{[hæz]} \\
& \text{*Ben said that he hasn't read The MP, but he has. } & \text{[h̴z]} \\
& \text{c. *Ben said that he hasn't read The Minimalist Program, but he's. } & \text{[z]}
\end{align*}

The Polarity Focus Condition in (34iii) requires that Pol\textsuperscript{1}\textsuperscript{0} must be assigned a [+F] feature, which is typically realized by a pitch accent in English, in order to license VPE, thus accounting for the ungrammaticality of (36b) and (37b,c). (34iii) also holds for (38):
In (38), the auxiliary is contracted, but the licensing element for VPE is the negation, which is assigned [+F], here realized by a pitch accent on not.

The crucial question now is how does the polarity focus requirement of (34iii) fare with respect to Rooth's symmetric focus and deaccentuation cases? Consider again example (8), here repeated as (39):

(39) a. A: Whose coach thinks he has a chance?
    b. B: [JOHN's] coach thinks he has a chance, and [BILL's] coach does too.

Although, at first glance, it seems as if (39) (and with it all the symmetric focus and deaccentuation examples discussed by Rooth 1992b) would form a class of systematic exceptions to the claim that polarity focus is a necessary prerequisite for Silent Copy to apply, I will show that (34iii) is active even in these cases.

It was first noted by Williams (1977: 107) that John and not the auxiliary do is stressed or emphatic in (40), and still VPE is possible:

(40) A: Who left?
    B: JOHN did.

Utterances like (40B), in which the auxiliary is deaccented, are typically confined to wh-question-answer sequences, which require a completive focus on the subject. The alternative full answer to (40A) in English is JOHN left, where the focused subject fills in the gap left by the variable of the wh-question and a secondary stress on the verb, which has been termed old focus by Tancredi (1998), and echo-stress by Zubizarreta (1998). As discussed above, I follow a recent proposal by Drubig (1998), who shows that wh-questions are a "special focusing device that sets up the local (temporary) focus-background structure by specifying the constituent that must be focused in the answer" (p. 29). A consequence of his proposal is that answers to wh-questions like (40B) show a focus-background structure that overrides the intonational realization of focus on the polarity item. The [+F] feature on polarity, however, is still responsible for the noncontractability of the auxiliary in sequences, such as in (41B1) (cf. Inkelas and Zec (1993: 233)):

(41) A: Who's left?
    B1: *JOHN'S.
    B2: JOHN probably HAS.

By interspersing additional material between the adjacent elements in (41B2), it can be easily recognized that both the subject and the auxiliary are prosodically marked by a pitch accent. The subject in the answer is a completive focus while the accent on the auxiliary licenses VPE. Maintaining the claim that polarity focus is a necessary condition for VPE to apply in answers to wh-questions, I would like to further suggest that

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11 The idea central to a layered theory of focus, namely that contrastive focus can override "normal intonation" can already be found in Chomsky (1972), who notes that "Quite possibly, these processes are to be described in general as superimposing a new contour on the normal one" (p. 89).
polarity focus is also active in cases like (39) and is visible as an H* pitch accent on the affirmative focus sensitive particle too, which seems to be associated with PolP1.

The account of VPE presented here should provide an explanation of the puzzling data observed by Tomioka (1998). He notes, following Linebarger (1981: 35f), that while (42a) can either have a negation wide-scope reading, paraphrased in (43a), or an object wide-scope reading, as in (43b), it loses the object wide-scope reading if the negative/affirmative term is stressed as in (42b).

(42) a. Manny didn't answer two thirds of the questions.
    b. Manny DIDN'T answer two thirds of the questions.

(43) a. It is not the case that Manny answered two thirds of the questions.
    b. There are two thirds of the questions that Manny didn't answer.

Applying this observation to VPE, he notes that VPE loses one of the two readings in the first conjunct if the aux-neg complex is stressed, a fact also compatible with Fox's (1995) observation that a potentially ambiguous sentence is sometimes disambiguated under VP-ellipsis. Tomioka provides a paradigm with the intonation given in (44):

(44) a. Anna didn't answer two thirds of the questions, and MANNY didn't either.
    b. Anna answered two thirds of the questions, but MANNY DIDN'T.
    c. Anna didn't answer two thirds of the questions, but MANNY DID.

According to Tomioka, the second conjunct in (44a) occurs with a deaccented auxiliary, which allows for both conjuncts to have both readings, the negation wide-scope and the object wide-scope reading. (44b), in which both the subject and the auxiliary are stressed, loses the reading in which the object has wide scope over negation in the second conjunct. (44c) shows that the particular value of polarity (negative/affirmative) is irrelevant for disambiguation. If the subject and the auxiliary (the affirmative value) are stressed, the first conjunct can only have the negation wide-scope reading.

Assuming that the distinction drawn between (44a) and (44b,c) generally holds for native speakers, the crucial question is how does a theory of focus, such as that presented above, account for the fact that VPE with a strong accent on the auxiliary loses the reading in which the quantifier has scope over the negation? In Tomioka (1998), the intonation of the first conjunct in (44a-c) is left unspecified. However, Linebarger in her original account of sentences like (42b) assumes that negation has wide scope when the utterances are construed as denials. Denial negation corresponds to contrastive negation and not to assertive negation in our terms (cf. Jackendoff 1972, Al-Ashhabi 1978). The observed strong accent on $\Sigma$ in (44b, c), can then be recast as contrastive focus on negation/affirmation which focuses the truth value of the sentence. (44a), on the other hand, is the case where VPE is licensed by presentational polarity focus of the type discussed above. In (45), I give Tomioka's paradigm with complete accent assignments, and in (46), I list the contexts, in which (45a, b, c) may occur.

(45) a. ANNA\ didn't answer two thirds of the questions, and MANNY\ didn't EITHER.
    b. /ANNA ANSWERED\ two thirds of the questions, but /MANNY DIDN'T\.
c. /ANNA DIDN'T\ answer two thirds of the questions, but /MANNY DID\. (45a) answers (46a). (45b, c) are to be constructed as denials to the statements, such as those given in (46b, c).

(46)  a. Which students didn't answer two thirds of the questions?
   b. I thought Anna didn't answer two thirds of the questions but Manny did.
       No, you got it all wrong!
   c. I thought Anna did answer two thirds of the questions but Manny didn't.
       No, you got it all wrong!

The availability of the negation wide-scope and the object wide-scope readings in example (45a) is connected to the fact that it actually is the head of PolP₁ (assertive negation) that licenses VPE, as argued above. The negation wide-scope reading arises if both negation and the object quantifier are interpreted in situ. The object wide-scope reading arises if the object quantifier is raised to a position above TP. We assume with Beghelli and Stowell (1997) that counting quantifier phrases (CQPs) raise to SpecCQP which is situated below the external polarity phrase, SpecPolP₂. The LF representation of the object wide-scope reading available in (45a) is given in (47):

(47)  \[
\begin{array}{c}
\text{PolP}_2 \\
\text{Spec} \\
\text{CQP} \\
2/3 \text{ of the questions} \\
\text{Spec} \\
\text{TP} \\
\text{T}' \\
\text{Spec} \\
\text{MANNY} \\
\text{T} \\
\text{PolP}_1 \\
\text{did} \\
\text{Pol}_1 \\
\text{VP} \\
\text{nöt} \\
\text{answer (2/3 of the questions)}
\end{array}
\]

For the case (45b), where negation has scope over the quantified object, I assume that denial/contrastive negation raises to PolP₂ attracting Manny into its specifier position at LF. The LF representation of the negation wide-scope reading is given in (48):

(48)  \[
\begin{array}{c}
\text{PolP}_2 \\
\text{Spec} \\
\text{Pol}_2'
\end{array}
\]
MANNY

\[ \text{NOT} \quad \text{CQP} \]

\[ \frac{2}{3} \text{ of the questions} \]

\[ \text{TP} \]

\[ \text{Spec} \quad (\text{MANNY}) \]

\[ \text{T'} \]

\[ \text{T} \]

\[ \text{PolP}_1 \]

\[ \text{ VP} \]

\[ \text{did} \]

\[ \text{Pol}_1 \]

\[ (\text{NOT}) \]

\[ \text{answer (2/3 of the questions)} \]

The regularity which has been observed by Fox (1995) that "scopal ambiguity is once more possible in the first conjunct only when a similar ambiguity is possible in the second conjunct" (p. 146) is confirmed by the data above. While scopal ambiguity is possible in (45a) with PolP_1 presentationally focused, the scopal ambiguity of the second conjunct is ruled out if the negation is contrastively focused, as in (45b, c). In these cases, the VPE is still licensed by polarity focus which is pronounced in the lower polarity phrase, but at LF, contrastive negation is moved via head to head movement into the higher PolP_2, and attracts with it the contrastive topic Manny. From there it always takes scope over the CQP which is hosted above TP (or in the AgrS-position in Beghelli and Stowell's 1997) terms. Thus, the disambiguation due to contrastive focus on PolP_1 in (45b, c) is also a consequence of the claim in (34iii) that polarity focus is a requirement for Silent Copy to apply.

3.5 Silent Copy and Focus in an Intonational Single Output Model

The approach based on the economy principle Silent Copy and couched in a Single Output Model (SOM) as sketched in section 3.5 is an alternative to the PF-deletion account discussed in 2.1 which fares better with respect to the issues raised there. Instead of formulating rules under which VP constituents are deletable or deaccentable at PF, Silent Copy constitutes an economy principle which favors unpronounced copies over pronounced copies. The hypothesis is that Silent Copy together with a syntactic theory of focus as discussed above should be all that needs to be said about VPE and VP deaccentuation.

The major problem that I have raised with respect to PF-deletion approaches is that deletion cannot be subsumed under deaccentuation, because deletion obviously can take place over redundant strings that contain audible pitch accents when recorded in their full form under experimental conditions. This problem becomes a nonissue under the Silent Copy Approach. In a SOM, syntax produces a single output representation, which is then interpreted at PF and LF. I assume with Kenesei (1999) and Winkler (1996) that focus assignment and licensing is a process that occurs early in the
grammatical computation, presumably already in the Lexicon, where the syntactic feature [+F] signals the information structural status of the selected lexical elements. The focus projection principles are then part of the grammatical process Merge. The assumption which is basic to the SOM is that in a sentence where there is more than one copy, as e.g. with wh-movement or Focus Movement, only one copy is pronounced. A major challenge for this model is to determine which copy is to be pronounced. One way is to assume that the syntactic focus features receive language specific instantiations after Spellout at PF. The SOM suggests that no further syntactic movement occurs. Contrastive Foci must have moved in syntax. In general, an English type language would be a language in which the lower copy of a contrastively focused element is pronounced (a characteristic covert movement). Hungarian would be the opposite. Movement of focus is overt, that is the higher copy is pronounced (cf. Brody 1995).

A more complicated situation occurs with VPE. Silent Copy is an instruction to the articulatory-perceptual system not to spell out the VP copy in coordinated sentences if (34i-iii) is fulfilled. If (34i) is not fulfilled, the copy must be pronounced but may be deaccented ([-F]), except for those segments which are assigned [+F]. That is, Silent Copy applies at the expense of strict and sloppy ambiguities. An issue which still needs to be further investigated is whether it is true that the first VP copy in a sentence can only be silent if it is already redundant with respect to a corresponding question, as hypothesized above (see discussion of (13a, b)).

4. CONCLUSION

In this paper I have investigated the information structure of VPE and found that two different types can be distinguished: Type 1, or the nonsymmetric focus and deaccentuation VPE, covers those cases, in which the negative/affirmative term (polarity) is focused allowing a presentational or a contrastive reading. Type 2, or the symmetric focus and deaccentuation VPE, comprises those cases in which, according to Rooth (1992b), the remaining subject is contrastively focused. Aiming at a unified account of both types of VPE, I show that even in type 2, polarity focus is active although overridden by contrastive focus. Both types of VPE are shown to fall under an Economy Condition - Silent Copy, which operates at PF in a Single Output Model of the type proposed by Bobaljik (1995). I base my argument on Drubig's theory of focus in question-answer contexts, which can account for the fact that contrastive focus seems to be superimposed on presentational focus in the sense of Chomsky (1972). I have shown that an explanation of the puzzling set of data observed by Tomioka (1998), namely that under VPE a scopally ambiguous sentence loses one of its readings, is a natural consequence of the theory presented here.

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12 In a preminimalist framework, Winkler (1996) argued on the basis of complement-adjunct asymmetries that focus assignment and licensing occurs at the level of D-structure.

13 There are presently two competing proposals of where focus should be assigned in the grammatical model: the first, most notably Zubizarreta (1998) and Kidwai (1999a,b) assume that focus and prominence assignment rules (Nuclear Stress Rules), as well as phonologically motivated movement, is a post-Spellout process. The other proposal, for which I want to argue, is based on a concept of focus which is essentially discourse driven. The distinction of focused and nonfocused elements must be made in the lexicon, although the phonological or morphological realization of focus is a post-Spellout process, as shown by Halle and Marantz 1993.
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