

example of a subject-prominent language in which such syntactic marking is uncommon. In subject-prominent languages, the subject is in fact the unmarked topic. Danish exemplifies a language which is harder to classify. Topicalization is frequently used, but it is still optional. Another difficulty is that topicalization does not select the same class of elements even in the two languages examined here. This might lead one to the unhappy conclusion that there are several kinds of topics, and that languages may mark some but not all of them.²⁴ A variety of phenomena connected to topichood could be described in this way, but it would not provide an explanation. Our aim should instead be to derive the various kinds of topics from a minimal set of primitives. In the next section, we define the other basic primitive, the focus. We continue to show that these two basic IS primitives, topic and focus, interact in such a way that all types of topic and focus can be derived from them without the need for further primitives.

2.2 Inventory: foci

Foci, like topics, have been defined in many ways and from several perspectives (semantic, phonological, syntactic, and pragmatic). In this section, illustrative examples of each of these perspectives are examined.

2.2.1 *Semantic definitions*

Chomsky 1971, Jackendoff 1972, and Lambrecht 1994, among others, define the focus as the non-presupposed information in the sentence.²⁵ The presupposition is defined as “the information in the sentence that is assumed by the speaker to be shared by him and the hearer” (Jackendoff 1972: 16). In view of the fact that topics are given (in the extended sense of given) they are generally presupposed. It follows from this definition of focus that the two notions, topic and focus, are mutually exclusive.

²⁴ According to Chafe 1976, a topic in a topic-prominent language such as Chinese “sets a spatial, temporal, or individual framework within which the main predication holds.” This is a property of topics in *some* languages; in others topics are what the sentence is about. The two properties, according to Chafe, do not go hand in hand, as Strawson would have it, and different languages mark different topic properties.

²⁵ This is not quite accurate. Chomsky 1971: 26 in fact defines the focus as follows: “The focus is the phrase containing the intonation center; the presupposition, an expression derived by replacing the focus by a variable. Each sentence, then is associated with a class of pairs (F,P) where F is a focus and P is a presupposition, each such pair corresponding to one possible interpretation.” In fact, Chomsky derives the focus from intonation. See section 2.2 for discussion of this tack.

This turns out not to be accurate as we show in section 3.3. It also follows that foci must be new in the discourse. The question–answer test also follows since the answer to the *wh*-question is necessarily new, and the rest of the sentence, which must be present in the question, is presupposed (the focus is in capitals, the presupposition in italics):

- (34) a Q: What did John do?
 A: *He* WASHED THE DISHES.
- b Q: What did John wash?
 A: *He washed* THE DISHES.
- c Q: Who washed the dishes?
 A: JOHN *washed them*.
- d Q: What happened to the dishes?
 A: JOHN WASHED *them*.
- e Q: What happened?
 A: JOHN WASHED THE DISHES.
- f Q: What did John do with the dishes?
 A: *He* WASHED *them*.

In (34a), only the subject is presupposed and is therefore the only candidate for topichood. The VP is the focus. In this example, the syntax–IS mapping is therefore perfect and, as we shall see in Chapter 4, this is in fact the unmarked case. In (34d) the topic is also identified with the presupposition, yet the focus does not form a syntactic constituent. This is a problem for those theories that consider foci to be a property of syntactic constituents, but is not a problem for the semantic definition which identifies foci as the complement of the presupposition. In (34b) and (34c) the presupposition and the topic do not overlap. These sentences are evaluated with respect to “John” and “the dishes,” respectively. It follows that the topic is contained within the presupposition in these examples, but cannot be identified with it. (34e) illustrates an all-focus sentence with no presupposition. These sentences have a stage topic as argued above. In (34f) the presupposition is “John did something with the dishes,” leaving the verb as the focus.

Jackendoff recognizes the role of focus in interpretation (association with focus, VP-anaphora), and offers a preliminary account employing this definition of focus as the complement to the presupposition. Rooth 1985; 1992, developing the ideas in Jackendoff, gears his definition of focus to a more formal account of these issues. Here we set aside these semantic issues, yet Rooth’s definition is still of relevance. Rooth 1985 employs

the notion of p-sets: the sets of alternatives under consideration in the discourse. The focus semantic value of a phrase, under this view, is “the set of propositions obtainable from the ordinary semantic value by making a substitution in the position corresponding to the focused phrase” (Rooth 1992: 76). Examine (35), as an illustration:

- (35) Q: Which laundry did John wash?
A: *He washed* THE WHITES.

The question sets up a set of alternatives such as: “John washed X laundry,” where X can be the colored laundry, the white laundry, the fine laundry, the woolens, etc. In the answer “the white laundry” is selected to be substituted for X, and is therefore the focus value by Rooth’s definition. Notice first that it also follows from Rooth’s definition that the presupposition and the focus complement each other. Another point is that the set of alternatives are defined contextually. The question in (35) makes this clear since a *which*-question must range over a discursively available set. What happens when such a set is not readily derivable from the context? The *what*-question in (34b), for example, does not in and of itself engender such a well-defined set. Certainly, the answer must range over a set of “washables,” but this set is only vaguely defined in the context of this question. According to Rooth, these two types of sets need not be distinguished. We shall see in section 3.3 that constituents which range over contextually restricting sets, as illustrated in (35), have different IS properties from those that don’t. We will also see how this distinction is derivable from different topic and focus assignments.

In the previous section, we noted that topics can be contrastive. This is also the case for foci. (36) is just like (35), except that the set of alternatives is specified overtly.

- (36) Q: Which laundry did John wash, the white or the colored?
A: *He washed* the WHITE laundry.

A contrastive focus focuses one element of the contrast set and eliminates the other alternatives. Contrastive foci are therefore included under Rooth’s definition. They are analyzed in section 3.3 as a subset of the foci which range over contextually restricted sets. Contrastive foci are often referred to as “narrow,” “exhaustive,” or “exclusive” foci. Non-contrastive foci are referred to as informational foci or presentational foci (when they occur in existentials).

An interesting take on the semantic approach stems from the idea in Heim 1982a that the division between presupposition and non-presupposition is semantically represented as a division into a restrictive clause and a nuclear scope. Heim's semantics is intended to regulate the interpretation of definites and indefinites. Partee 1991 recognizes that this division is in fact to be viewed as a distinction between topic and focus, with the topic identified as the restrictive clause and the focus as the nuclear scope. Diesing 1992 proposes an algorithm which derives this division from the syntactic representation: VP-external material is mapped onto the restrictive clause and VP-internal material is mapped onto the nuclear scope. One advantage of Diesing's approach is that subject topics are structurally distinct from subjects which are within the domain of the focus as in an all-focus sentence. The former are located outside the VP, the latter inside it. This affords an explanation of the different properties of individual-level predicates for which the subject must be VP-external and stage-level predicates for which the subject can either be VP-internal or VP-external (see section 1.6).

2.2.2 *Marking foci by stress*

Just as it is common in languages to mark topics by fronting, so it is common to mark foci by stress.²⁶ Jackendoff 1972: 237 defines this relationship as follows:

- (37) If a phrase P is chosen as the focus of a sentence S, the highest stress in S will be on the syllable of P that is assigned highest stress by the regular stress rules.

At the time, the "regular stress rules" included the Nuclear Stress Rule (NSR) which assigns main stress to the final constituent. Simplifying a great deal, this means that sentence-final stress leads to focus ambiguity (capitals indicate stress):

- (38) a Maxwell killed the judge with [a HAMMER]_{FOC}
 b Maxwell [killed the judge with a HAMMER]_{FOC}
 c [Maxwell killed the judge with a HAMMER]_{FOC}

In the three examples in (38), the stress is on the sentence-final constituent, "a hammer." This means, according to Jackendoff's rule, that the focus can be this DP as in (38a), or the whole VP as in (38b), or the whole

²⁶ Duration, amplitude, and pitch combine to give the effect of perceived pitch accenting. The term "stress" is used for convenience throughout.

sentence as in (38c). This also means that the full sentence answer to the three questions in (39) will sound the same, i.e., it will have stress on “hammer,” since the answers to these three questions are (38a), (b), and (c), respectively.

- (39) a What did Maxwell kill the judge with?
 b What did Maxwell do?
 c What happened?

Answering a *wh*-question with a full sentence, without pronominalizing the topic, is highly artificial. Even so, it is not difficult to elicit intuitions as to the relative appropriateness of the answer in (38) to each of the questions in (39). The answer with only final stress is most appropriate as an answer to (39a). It is much less successful as an answer to (39b) and (c). The answers to these questions require additional stresses as shown in (40a) and (b), respectively.

- (40) a Maxwell KILLED the JUDGE with a HAMMER
 b MAXwell KILLED the JUDGE with a HAMMER

Although the final stress on “hammer” is highest in all three cases under discussion, the additional stresses cannot be left out totally, although the “middle” stresses can be somewhat reduced depending on the speed in which the sentence is uttered.²⁷ (41) is probably the most natural answer to (39c):

- (41) MAXwell killed the judge with a HAMMER.

Without the initial stress on the subject, the sentence, in the desired context, would be awkward indeed. A stress rule that renders these results, from Erteschik-Shir 1997; Erteschik-Shir and Lappin 1983b, is:

- (42) Assign *stress* to the focus constituents.

This rule together with a rhythm rule which allows the reduction of intermediate stresses in rapid speech derives stress distributions such as the one illustrated in (41): The beginning of the focused constituent is minimally marked with a low accent, the end of this constituent with

²⁷ The fact that out-of-the-blue sentences such as (40b) are assigned a sequence of high pitch accents on each of the major constituents has been noted by Schmerling 1973 and Steedman 1991: 286 among others. More recently Hockey 1998 concludes from an experimental study of pitch, duration, and amplitude that information structure focus is marked on all the words within a focus constituent, calling into question the idea that there is ambiguity about how large a constituent is marked as focus by pitch accent placement on a particular word.

a high accent, and the intermediate accents are lowered to a minimum down to nothing.

The motivation behind the stress rule in (42) is that stress is a way to mark foci, just as fronting is a way to mark topics. Since the rule applies to the whole focus, and not only its final constituent, it in fact marks the focus unambiguously by minimally marking its beginning and its end in fast speech (due to the rhythm rule) and maximally marking each one of the major constituents in slow speech.

Both Jackendoff's and Erteschik-Shir's stress rules take as their input sentences in which the focus constituent(s) are marked. Jackendoff 1972: 240 considers how this marking may come about: He introduces F, a syntactic marker "which can be associated with any node in the surface structure." Stress assignment and interpretation are then derived in this way from the free assignment of a focus feature.

2.2.3 *Deriving foci from stress*

The opposite view, namely that focus assignment is derived from the distribution of pitch accents, is also common. As an illustration of this view, we examine Selkirk 1995.²⁸ In order to derive the focus from pitch accents, Selkirk 1995: 555–61 proposes a Basic Focus Rule which states that "An accented word is F(ocus)-marked." (This is the exact reverse of the rule in (42) which derives stress from focus assignment.) Selkirk then proposes the following three rules of "Focus Projection:"²⁹

- (43) a F-marking of the *head* of a phrase licenses the F-marking of the phrase.
 b F-marking of an *internal argument* of a head licenses the F-marking of the head.
 c F-marking of the antecedent of a trace left by NP- or wh-movement licenses the F-marking of the trace.

It follows from these rules that if either a verb or an object is accented, then Focus projection licenses the interpretation of the VP as the focus. According to the Basic Focus Rule, accent on the verb means that the verb is F-marked. According to (43a), once the verb is F-marked, the F-marking

²⁸ Other proponents of this type of approach which Selkirk draws on are Gussenhoven 1984; Rochemont 1986; Schmerling 1973; Selkirk 1984. More recent proponents of this view are Cinque 1993; Reinhart 1995; 1996; Selkirk 1984; Neeleman and Reinhart 1998; Szendrői 2001.

²⁹ Focus which does not project is often referred to as "narrow" focus.

of the VP is also licensed. (43b) ensures that F-marking of the object licenses F-marking of the verb, which, in turn, according to (43a), licenses F-marking of the VP. The F-marking of the VP, according to Selkirk, licenses the F-marking of the whole sentence via licensing of the various intervening heads. If, however, the subject is accented, focus projection to other elements of the sentence is blocked because the subject is an external argument and neither (43a) nor (43b) licenses projection from external arguments. Rule (c) is intended to explain why focus does project from certain accented subjects. An example is given in (44) which is a possible answer to “What’s been happening?”

(44) The SUN came out.

Selkirk adopts the hypothesis that the subjects of unaccusative predicates are derived by movement from object position leaving a trace. According to (43c), this trace can be F-marked since its antecedent is. Once the object trace is F-marked, so is the VP.³⁰ Rules such as (43c) are highly counterintuitive and should probably be avoided. Yet stress rule (42) which derives stress from focus assignment fares no better. If the sentence is all-focus, both major constituents will be stressed and not just the subject as required. An account of these cases is proposed in Chapter 5, section 4. There it is shown that this intonation pattern is determined contextually and is not limited to unaccusative verbs, nor does it depend on a syntactic movement analysis.

Although (43a) and (b) also do not seem to follow from any general principles, deriving focus assignment from rule-governed pitch accent has one major advantage: It does not require the introduction of focus features in the derivation, a problem for other theories as we shall see below in section 4. It does, however, depend on an independent mechanism of pitch accent assignment, yet pitch accent assignment depends at least in part on what the intended focus is. Therefore, theories such as Selkirk’s turn out to be somewhat circular.³¹

A different perspective on the derivation of focus–background interpretation from intonation comes from von Stechow 1999, who introduces a mechanism into Discourse Representation theory which allows the derivation of foreground–background interpretation

³⁰ For this case, Selkirk need not invoke (43c): Since the subject is in fact an internal argument, focus projection also follows from (43b).

³¹ For comments on this type of approach and further developments see, among others, Schwarzschild 1999 and Büring 2006.

from intonation.³² Pitch accent marks the focused constituent which is replaced by a designated variable in the background. The background representation marks the part of the sentence that is already “anchored” or given in the discourse.³³

The two views—deriving stress from focus and deriving focus from stress—can, in principle, be viewed as two sides of the same coin: the former reflects the perspective of the speaker, who uses stress to mark the focus of the utterance, and the latter the perspective of the hearer, who uses stress to discern the focus of the utterance heard (Van Valin, personal communication). However, most of the researchers who use one or the other perspective to analyze the relationship between focus and stress do not view their analyses as reflecting actual processing, but rather as a purely theoretical approach to deriving the correct correlation. The different views should therefore be evaluated purely on the basis of their success in this endeavor. This is not to say, of course, that an analysis in terms of processing from the two perspectives wouldn't be welcome.

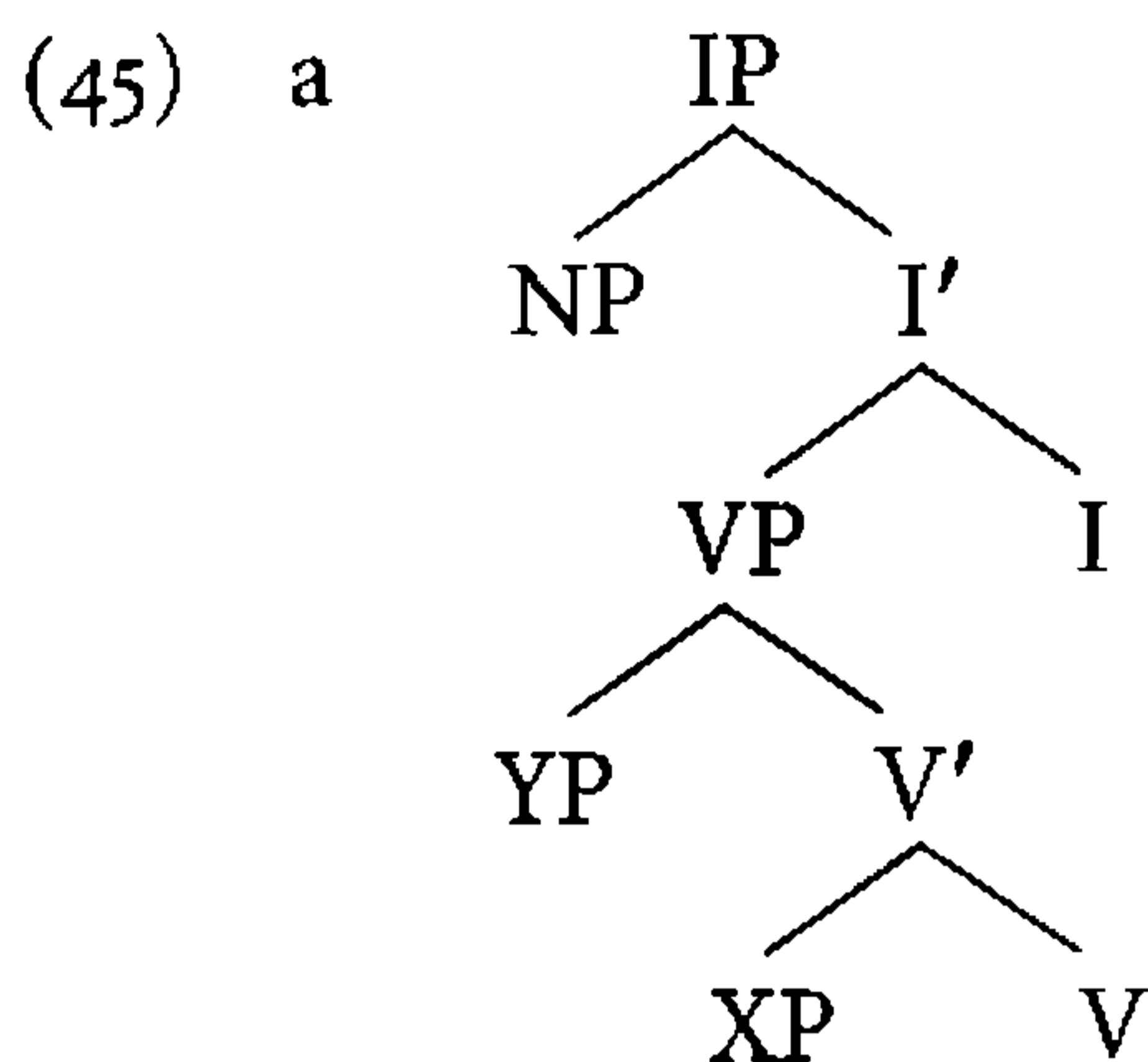
2.2.4 *Deriving stress from syntax*

Cinque 1993 derives stress prominence syntactically by viewing it as a reflection of depth of embedding: The most deeply embedded phrase is the one that is most prominent.³⁴ In this way, Cinque is able to derive the dependence on position of prominence from the headedness of languages. His prediction is that in phrases that are right branching, stress prominence is on the rightmost constituent (as in English), whereas left-branching phrases have stress prominence on the left. German has mixed headedness: NPs are head initial (right branching) and therefore stress final; VPs are head final (left branching) and the most deeply embedded constituent will be the one immediately to the left of the verb as shown in (45a) with the example in (45b), both from Cinque 1993: 251.

³² Discourse Representation theory, or File-Change Semantics, originated with Heim 1982b and Kamp 1981. The key idea in the way of thinking about the semantics of discourse is that each new sentence or phrase is interpreted as an “update” of the context in which it is used.

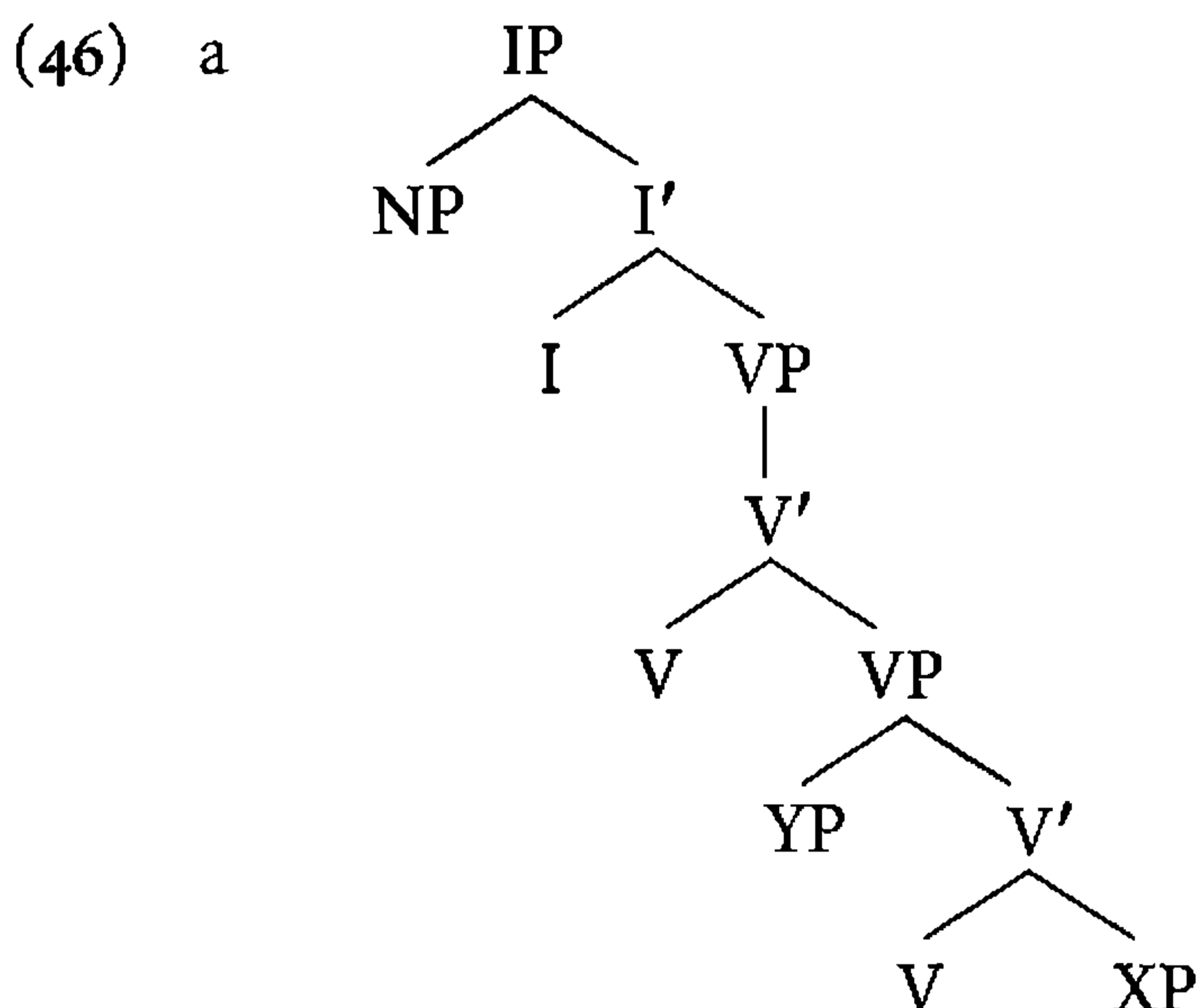
³³ In addition, von Stechow argues that boundary tones indicate breaks in the construction of the DRS. The resulting representations can be used to express discourse relations or can be used as arguments for semantic operators. See also Kadmon 2001 for a different theory of the interpretation of accent placement.

³⁴ For other proponents of the syntax-based approach to prosody and the prosody–focus relation see, among others, Culicover and Rochemont 1983; Ladd 1980; Liberman 1975.



- b ...daß Fritz einem Kind GELD gegeben hat
 that Fritz a child money given has

The parallel sentence in English, however, will be stressed on the final constituent which is most deeply embedded, as shown in (46) adapted from Cinque 1993: 264.



- b Fritz gave a child MONEY

In order to derive the correct results for examples of this sort in right-branching languages, Cinque adopts a VP-shell analysis of these constructions in English (but not in German). Cinque's syntactic account of stress prominence is hard to evaluate in cases in which the syntactic account of a particular construction is controversial, but would in principle have great potential as an explanation of the cross-linguistic differences between right- and left-branching languages and structures with respect to stress prominence were it not the case that it only accounts for default stress in all-focus sentences, and does not, in and of itself, offer an account of the connection between stress prominence and focus assignment. In order to do that Cinque stipulates a separate

discourse grammar procedure for stress assignment on focus constituents. Cinque has the discourse procedure interact with the syntactic derivation of prominence as follows: The discourse procedure determines that stress on focused constituents wins out (relatively) over stress on presupposed constituents. In other words, syntax is responsible for stress assignment, but discourse principles can overrule this assignment. One might wonder whether syntactic-determined stress assignment and discourse-determined stress assignment are both necessary in the grammar. Cinque argues that they are since the syntactic rule applies blindly to both focused constituents *and* presupposed constituents. The discourse rule, however, is responsible only for stressing focused constituents. If stress prominence is a way of signaling focus, the appearance of stress on presupposed elements is indeed problematic. It would be an achievement if such stress were merely a result of a syntactic rule. Cinque's example is given in (47) (his (46); 1993: 258); the accent indicates stress prominence on the focus, the hatchet indicates the additional detectable prominence within the presupposition):

- (47) a (Any news of John?)
 [_{NP} Our poor chıld] [_{VP} is in bed with a 'flú].
 b (Who's in bed with a 'flu?)
 [_{NP} Our poor chıld] [_{VP} is in bed with a 'flû].

Cinque argues that both the presuppositions in these two examples (the NP in (47a) and the VP in (47b)) as well as the focus constituents have "a detectable prominence" which, in the null theory, follows from the sentence grammar procedure that applies to all phrases blindly (i.e., independently of the discourse grammar rule).

One of the foremost strengths of Cinque's proposal is its ability to predict the different stress assignments on right- and left-branching languages without any stipulation. Details aside, Cinque's rules will always assign main stress to the most deeply embedded constituent in a phrase. In a right-branching language, this constituent will be to the right, and in a left-branching language, to the left, predicting the observed distinctions on purely structural grounds. I propose in section 3.4 below that the additional stresses on the presupposed part of the sentence (47a) can in fact be derived by a theory which derives stress from focus assignment, once the theory allows for multiple topic and focus assignments. In (47b), the presuppositional part of the sentence is repeated from the question. Such repetitions inherit their stress from

the stress pattern in the question, explaining the (weak) stress on the final element of the VP.³⁵ This would leave unexplained the difference in prominence between left- and right-branching languages. Here the rhythm rule introduced in section 2.1 comes into play. It is not difficult to envision how such a rule can be parameterized such that the rhythm of the language is dependent on its structure. Right- and left-branching structures and languages would then differ only in the application of the rhythm rule and we could still maintain that focus constituents are universally marked, either by stress, morphology, or word order or some combination of these features.

Cinque holds the common view that foci are constituents. It is not obvious that this is so as shown in the next section.

2.2.5 *Deriving syntax from IS*

Steedman 2000a argues that intonational phrase boundaries and surface syntactic boundaries coincide, rendering the “unconventional” syntactic structure in (48):³⁶

(48) a



MarCEL proved completeness

b



MARcel proved completeness

According to Steedman the rhythm rule (not the rhythm rule discussed here) which applies in certain dialects to move the stress onto the first syllable of “Marcel” applies to the intonational phrase “Marcel proved” (on a par with “Marcel Proust”), requiring, within his framework, that the latter be analyzed as a syntactic constituent as in (48b). It is a well-known fact that prosodic rules cannot apply across syntactic boundaries and so Steedman’s syntax follows. This is only one of Steedman’s arguments that syntactic structure does not map onto prosodic structure and therefore must be amended.

³⁵ For more details on the pronunciation of such repetitions, see Erteschik-Shir 1997: 129–30.

³⁶ Steedman’s (2000a: 653) proposal is couched in Combinatory Categorical Grammar which directly pairs phonological and logical forms without intermediary representational levels. He argues that such a theory “in which phrasal intonation and information structure are reunited with formal syntax and semantics is not only possible, but much simpler than one in which they are separated.”

According to Steedman 2000a: 654 both (48a) and (b) are possible, each as an answer to a different question:

- (49) Q: I know who proved soundness. But who proved COMPLETENESS?
 A: (MARCEL) (proved COMPLETENESS)
- (50) Q: I know which result Marcel PREDICTED. But which result did Marcel PROVE?
 A: (Marcel PROVED) (COMPLETENESS)

In (49) the subject “Marcel” is focused in view of the fact that it answers the *wh*-question. In addition the object “completeness” is contrasted (with “soundness”), hence the stress on these two constituents. In (50), however the object “completeness” answers the *wh*-question and is therefore focused. In addition, the verb is contrasted and therefore stressed. It is this fact which causes the prosody in which the subject and verb form a constituent, allowing the rhythm rule to apply within it.

Any account in which syntax mediates between prosodic structure and IS will have to take such issues into account. A possible solution which does not require structures such as (48b) is outlined in section 3.5 below.

2.2.6 *Deriving focus pragmatically*

According to Dik 1997: 326, “the focal information in a linguistic expression is that information which is relatively the most important or salient in the given communicative setting, and considered by [the] S[peaker] to be most essential for [the] A[ddressee] to integrate into his pragmatic information.” Such information is often new, and if not new it re-emphasizes information already available to A rendering explicit or implicit contrast.

Dik’s definition of focus is along the same lines as that of Erteschik-Shir 1997, based on Erteschik-Shir 1973 and Erteschik-Shir and Lappin 1979:

- (51) The FOCUS of a sentence S = the (intension of a) constituent c of S which the speaker intends to direct the attention of his/her hearer(s) to, by uttering S.

The definition of focus in terms of speakers’ intentions entails that it is a discourse property which is assigned to a constituent in a context of conversation. For any sentence several focus assignments will generally be possible, one of which is realized in discourse. A sentence, in discourse, has only *one* main focus which is assigned to a syntactic constituent. This

constituent may be an NP, a VP, or even the whole S (as in an out-of-the-blue sentence). The topic of a sentence is excluded as a focus because it is by definition already in the hearer's attention. Hence, the focus constituent is selected freely among the non-topic constituents of the sentence. The fact that the focus is defined as the constituent to which the hearer's attention is drawn enables the constituents contained in it to provide the topics of the following sentences since these constituents have become part of the domain of what the hearer is now attending to, allowing for focus chaining to occur.

The focus, under this definition, is also identified by the question-answer test since the constituent that answers the *wh*-phrase is indeed the constituent to which the hearer's attention is drawn.

Another test which follows from the definition in terms of the hearer's attention is the lie-test:

(52) LIE-test:

Speaker A: John said that he knows Peter.

Speaker B: a. That's a lie, he didn't.
b. That's a lie, he doesn't.

Each response indicates a different IS: (a) takes the subject as a TOPIC and the whole VP as the FOCUS. The fact that (b) is a possible response indicates that the lower sentence can be the one that the speaker directs the hearer's attention to and hence the focus can fall on or within it. This test is therefore not a test for focus per se, but rather a test for the domain(s) within which the focus potentially may occur. The actual focus in a particular utterance is restricted to these domains.

The pragmatic definition differs from the semantic one in that the complement of the focus is not necessarily presupposed. This can be seen in (52b) in which the upper clause does not belong to the focus or to the presupposition. Another example is given in (53):

(53) Q: Where is the book?

A: I gave it to Mary.

The focus of the answer is "to Mary," yet it is not presupposed that "I gave it to someone."

Since the pragmatic definition of focus does not depend on interpretation or on stress assignment, these properties must be derived from (topic and) focus assignment. In (42) (section 2.2), a stress rule was proposed which derives stress from focus assignment. Interpretation in this framework follows mainly from topic assignment as seen above.

Focus plays a role only in its interaction with the topic. The definition is syntactically anchored in that foci must be syntactic constituents. Something further therefore must be said about a sentence such as (34d) in which the focus consists of the subject and the verb and is therefore seemingly not a constituent. This issue will be addressed in section 3.5 below.

2.2.7 *Summing up focus properties*

Any definition of focus must measure up to the requirement that it be universal. This excludes any definition of focus which is based solely on intonation, since not all languages use stress to mark the focus. Just as topics can be marked by word order (fronting), so foci, in certain languages, take up a particular syntactic position. An example is Hungarian in which foci and *wh*-question words are positioned preverbally (see the discussion of Hungarian in Chapter 3, section 1). In still other languages, topics and/or foci are marked by morphological means. Dik 1997: 335–6 offers two illustrations. The first is Wambon, a Papuan language of Irian Jaya.³⁷ It has one focus marker *-nde* which marks foci and question words:³⁸

- (54) A: Jakhove kenonop-nde takhim-gende?
 they what-Foc buy-3pl:pres:final
 “What do they buy?”
- B: Ndu-nde takhim-gende.
 Sago-Foc buy-3pl:pres:final
 “They buy SAGO.”

Dik also shows that *-nde* marks contrastive foci and also contrastive topics. These are illustrated in (55) and (56), respectively.

- (55) A: Mbitemop ndune ande-tbo
 Bitemop sago eat-3sg:past:final
 “Bitemop ate sago.”
- B: Woyo, nekheve ndu-nde e-nogma-tbo
 No he sago-Foc neg-eat-3sg:past:final
 “No, he didn’t eat SAGO,

³⁷ Dik’s Wambon data are from Vries 1985.

³⁸ Observe that *wh*-question words which identify the focus in the answer are treated as though they themselves are foci both in Hungarian and in Wambon. In languages which mark focus by intonation, however, the *wh*-constituent is not treated like a focus and is not stressed. Instead, it is marked by fronting. For an analysis of focus and stress in *wh*-questions see Erteschik-Shir 1986 and the references cited therein. See also Erteschik-Shir 1997: chapter 3 on the different interpretations of *wh*-constituents in questions.

- | | | | |
|---------|-------------------------------------|-------------|--------------------|
| | nekheve | ande-nde | ande-tbo |
| | he | banana-Foc | eat-3sg:past:final |
| | he ate BANANAS.” | | |
| (56) A: | Nombone | ndu-ngup | ande-ngup? |
| | This | sago-and | banana-and |
| | “What about this sago and bananas?” | | |
| B: | Wembane | ndu-nde | takhima-tbo |
| | Wemba | sago-Foc | buy-3sg:past:final |
| | “Wemba bought the SAGO, | | |
| | Karolule | ande-nde | takhima-tbo |
| | Karolus | bananas-Foc | buy-3sg:past:final |
| | Karolus bought the BANANAS.” | | |

B's response in (55) refutes the focused object and replaces it, and both the refuted object and the one replacing it are marked with the focus marker. In (56), however, the sago and the bananas have been contextually defined as the topic. In B's response, which contrasts the two, these elements are also marked with the focus marker. A characterization of focus following from the distribution of the focus marker in Wambon has to include not only the regular foci which replace *wh*-constituents in the answer, but also contrastive foci, and contrastive topics.³⁹ Contrastive topics are also stressed in languages in which foci are marked by stress (see (28d) above). Contrastive topics must therefore be classified both as topics and as foci. In section 3.3, we show how this can be accomplished.

The second illustration of focus marking offered by Dik (1997: 336–8) is Aghem, a Grassfields Bantu language of Cameroon.⁴⁰ According to Dik, Aghem is a tone language which does not use stress to mark focus. Instead, it marks focus by means of constituent order and a focus-marking particle (*nò*). (In addition, it uses clefts and a special Focus-bound Past tense marker.) The focus position is postverbal and it hosts *wh*-constituents as well as regular foci. Elements in the postverbal focus position are contrastive. Contrastive subjects, however, remain in situ. In a multiple focus reading such as the answer to “Who met who?”, the subject does appear in the focus position and the other focus (which answers the other *wh*-phrase) appears either preverbally or in final position, X and Y, respectively, in the schema in (57) modified from Dik.

³⁹ In order to understand focus marking in Wambon fully, one would also have to know how VP foci and sentence foci are marked.

⁴⁰ Dik cites Watters 1979 for these facts about Aghem but does not give any examples.

(57) S Aux X V Foc O Y

It follows that it must be possible to distinguish contrastive foci and multiple foci since they appear in different positions in Aghem.

When the focus marker follows a constituent, it leads to contrast. If the constituent marked by this particle is already contrastive, it is interpreted as “only,” excluding alternative options. In order to get the contrastive meaning of the focus morpheme, it could be viewed as an operator which selects the focused element and eliminates the other member of the contrast set from discussion. That, after all, is what contrast means. If the same operator applies to a contrasted element, it again eliminates the other element of the contrast set, emphasizing the uniqueness of the focused element. The function of the Aghem “focus” morpheme is therefore not just a way to mark foci, it is much narrower than that.

Although an account of stress–focus correlations is needed in some languages, this cannot be the basis of a definition which applies to all languages. We are therefore left with a choice between a semantic and a pragmatic characterization of the focus, since neither of these definitions depends on the language-particular means of focus marking. The difference between these two approaches comes into play mainly in sentences with parts that are neither focused nor presupposed. More importantly, as we have already shown, the division of a sentence into focus and presupposition, without acknowledging the function of a topic as well, will leave us without sufficient tools to account for important IS-properties of sentences.

The next section shows how the two IS primitives, topic and focus, suffice to characterize the different topic and focus types found in natural language.

2.3 Putting it all together: f(ocus)-structure

Several approaches to IS assume a binary division of the sentence. An example is the semantic view of focus which sees the focus and the presupposition (or the background) as complementary. The other type of binary approach takes the topic as its point of departure and refers to the rest of the sentence as “the comment.” A different terminology for the same division is theme and rheme.⁴¹ The previous sections have shown that the IS notions topic and focus are both linguistically significant in

⁴¹ For theme–rheme or topic–comment divisions, see Firbas 1964; Gundel 1974; Halliday 1967; and Jacobs 2001 among others. Halliday’s definition of theme is the first element in

that they can be marked intonationally, syntactically (by word order), and morphologically. The binary approaches, even if they allow for both divisions, tend to ignore the interactions between topic and focus and view them as separate, independent entities.⁴² In the next section I introduce Erteschik-Shir's 1997 model of IS, *f(ocus)*-structure, which examines the interaction between topic and focus, and show that this theory enables an account of a variety of topic and focus types without recourse to more than these two primitives. This model allows for non-binary divisions of the sentence: The topic and focus do not necessarily complement each other and the remainder of the sentence forms the background as illustrated in examples (52) and (53) in section 2.6, repeated here for convenience.⁴³

(58) John said that he knows Peter.

(59) Q: Where is the book?

A: I gave it to Mary.

As shown above, the matrix of (58) need not be attended to and hence neither topic nor focus will be assigned to it. In (59), the topic is "I" and the focus is "Mary." Both examples include a backgrounded part, namely the part of the sentence to which neither topic nor focus is assigned.

2.3.1 *Topic–focus interactions*

F-structure is a structural description, annotated for topic and focus, which interfaces with syntax and both semantics and intonation. Due to topic marking this structural description is scopally unambiguous (see section 2.9 above), making LF redundant. Following Reinhart 1981, the common ground or context set (see section 2.3) is (metaphorically)

the sentence. Therefore, his notion of theme differs significantly from that of the others. For focus–background divisions, see, in addition to Chomsky 1971 and Jackendoff 1972 cited above, Chafe 1976; Prince 1981a; Rochemont 1986; Ward 1988; Zubizarreta 1998, among others. See also Casielles-Suárez 2004; Erteschik-Shir 1997; Vallduví 1994; and Winkler and Göbbel 2002 for overviews of the various approaches.

⁴² An exception is Steedman 2000b who makes a distinction between background/focus as well as theme/rheme. For him both theme and rheme can be partitioned into background and focus.

⁴³ See Büring 1999 for the same division.