1 Introduction

Suppose Father comes home from work and finds Mother in obvious distress. Then the following discourse may take place:

(1) Father: What happened?
     Mother: You know how I think our children should read decent books. Well, when I came home, rather than doing his homework, [IP Johnny was [VP reading [DP SUPERMAN] to some kid]].

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The discourse status of Mother’s reply is complex, as it contains a contrastive focus inside a contrastive focus inside an all-focus sentence. First, her answer tells Father what happened and therefore the bracketed IP must be in focus as a whole. Second, the VP reading Superman to some kid is contrasted with doing his homework. Finally, the DP Superman is contrasted with decent books. These three foci share a single phonological marking, namely, the stress on Superman (indicated by small capitals).1

One may have doubts about the reliability of wh-questions like What happened? as a test for identifying focus. That does not invalidate the claim that (1) is an example of a focus embedded in a larger focus: the contrasts at the level of the VP and the object are enough to motivate this conclusion. The same point can be made on the basis of the scope of the focus-sensitive operators only and even, as shown by Father’s continuation in (2) (adapted from Krifka 1991:131).

(2) Father: Despite all our efforts! We even, [only2 read [KAFKA]2 to our children].

“Superman sentences” like Mother’s reply have hardly been discussed in the literature on focus. Apart from Krifka’s paper, one of few relevant works is by Jacobs (1991), whose approach we briefly turn to below.

Superman sentences pose a challenge to any syntactic theory of focus. We will argue, however, that they are more problematic for theories of focus based on a feature that requires syntactic licensing (Horvath 1986, Brody 1995, Rizzi 1997) than for theories based on a mapping between prosody and meaning (Chomsky 1971, Cinque 1993, Reinhart 1995, Neeleman and Reinhart 1998, Zubizarreta 1998, Horvath 2000, Zubizarreta and Vergnaud 2000, Samek-Lodovici 2002). We first spell out the two approaches to focus in more detail (section 2). We then discuss to what extent they can accommodate Superman sentences (sections 3–5).

2 Stress-Based and Feature-Based Approaches to Focus

Feature-based theories assume (a) that [+ focus] is interpreted at the LF interface and (b) that it affects stress assignment at the PF interface (Jackendoff 1972). Recent approaches in addition assume (c) that [+ focus] is checked in syntax in the specifier of a designated functional projection (Horvath 1986, Brody 1990, 1995, Laka 1990, É. Kiss 1995, Rizzi 1997). Checking is responsible for focus-related movement in languages like Hungarian, while languages like English have covert focus movement. Thus, in Nick’s reply in (3), a member of

1 Any stress on some kid is secondary. (a) It is perceived as less strong than the stress on Superman by native speakers. (b) It is optional and sensitive to rhythmic effects, as is typical of secondary stress: whereas some kid in (1) can remain without stress, if a longer DP appears as the complement of to, the secondary stress is obligatory.
the Sex Pistols carries [+ focus]. Accordingly, it moves to the relevant functional specifier at LF and is interpreted there. At the PF interface, [+ focus] is responsible for the stress shift from the normal stress position to the subject. Note that internally to the subject, stress is as predicted by the Nuclear Stress Rule, as shown by the fact that A MEMBER of the Sex Pistols comes here a lot would be an infelicitous reply in (3).

(3) John: So, which celebrities did you say frequent the Jeremy Bentham?

Nick: Well, [a member [of the Sex Pistols]] comes here a lot.

Stress-based theories assume that every utterance is associated with a set of potential foci, where members of this set are constituents that contain the main stress.

(4) Any constituent that contains the main stress of an utterance can be interpreted as the focus of the utterance.

According to this definition, Nick’s reply has at least three potential foci, listed in (5). (5b) is the actual focus in the discourse in (3).

(5) a. [DP the Sex Pistols]
b. [DP a member of [DP the Sex Pistols]]
c. [IP[DP a member of [DP the Sex Pistols]] comes here a lot]

In addition, the stress-based theory requires an economy condition minimizing stress shift (or maximizing the effects of the Nuclear Stress Rule), which accounts for the infelicity of A MEMBER of the Sex Pistols comes here a lot as a reply to John’s question. This answer has the focus set in (6).

(6) a. [N MEMBER]
b. [DP a MEMBER of [DP the Sex Pistols]]
c. [IP[DP a MEMBER of [DP the Sex Pistols]] comes here a lot]

The context requires (5b)/(6b) as the actual focus. However, (5b) maximizes the effect of the Nuclear Stress Rule, while (6b) requires an additional stress shift within the subject. Thus, economy considerations favor the reply in (3). As a rule of thumb, “focus projection” from a marked stress position tends to be blocked. (As we will show later, such economy considerations cannot be avoided in theories that take focus to be a syntactic feature and therefore cannot be used to force a choice between the stress-based and feature-based approaches.)

The definition of focus set in (4) refers to the main stress of an utterance, rather than to stress in general. The reason for this is that secondary stress does not support focus. If stress is shifted to the subject of a transitive sentence, the object usually carries secondary stress. However, if the object is also contrastively focused, this is not enough. Then, it has to bear main stress, like the subject.
(7) We have a problem because people don’t agree. John wants to rent a video, but Peter wants to go to the movies.

One of the attractions of the stress-based theory is that it does away with the focus feature and relates focus and stress in a direct fashion. This comes at the cost of having to assume communication between LF and PF.

Overt focus movement in languages like Hungarian may at first sight lend support to the feature-based account, but on closer inspection this turns out not to be so. In Hungarian, as in English, foci contain the main stress. Moreover, the motivation for the movement could be the checking of a feature other than [+focus]: Horvath (2000:202) argues that this feature is [+exhaustive identification]. Alternatively, an analysis may be based on the fact that nuclear stress falls on the leftmost constituent in Hungarian. Leftward focus movement can therefore be seen as movement into the main stress position (Szendrői 2003).²

3 Superman Sentences in the Stress-Based Approach

Let us now turn to the stress-based account of Mother’s reply in (1). Since stress is on Superman in this example, the focus set associated with it is as follows:

(8) a. \([_{DP} Superman]\)
   b. \([_{VP} reading \,[_{DP} Superman]\, to \,some \,kid]\)
   c. \([_{IP} \,Johnny \,was \,[_{VP} \,reading \,[_{DP} Superman]\, to \,some \,kid]\)]

It is usually assumed that in any given context, only one candidate is selected from the focus set as the actual focus, although there is nothing in the stress-based theory that forces this. In fact, if we do allow an arbitrary number of foci to be selected, the interpretation of Superman sentences follows directly. The targeted pragmatic interpretation of the example at hand actually requires selection of all three candidates. Superman is contrasted with decent books, reading Superman to some kid is contrasted with doing his homework, and the entire IP carries new information.

Recall that, in the stress-based account, economy considerations tend to block “focus projection” from a marked stress position. For example, an all-focus sentence normally has main stress on the object (if there is one). This is because no matter where stress falls, the entire sentence is a member of the focus set. But only the candidate with stress on the object maximizes the effects of the Nuclear Stress Rule. In the example in (1), however, there is “focus projection” even though stress is shifted from the indirect object to Superman. Yet

² In their appendix B, Koopman and Szabolcsi (2000) suggest a possible approach to Hungarian examples comparable to (1) in terms of checking theory. It would take us too far afield to discuss how these can be analyzed in a theory without focus features.
economy is not violated, because *Superman* is itself contrasted (with *decent books*). This reading is not available if the effects of the Nuclear Stress Rule are maximized, as (9) is associated with the focus set in (10), which does not contain \[\text{DP Superman}\]

(9) \[\text{IP Johnny was [VP reading Superman to [DP some KID]]}\]

(10) a. \[\text{[DP some KID]}\]
    b. \[\text{[VP reading Superman to [DP some KID]]}\]
    c. \[\text{[IP Johnny was [VP reading Superman to [DP some KID]]]}\]

One may think that in Mother's answer in (1) the effects of the Nuclear Stress Rule could be maximized by putting main stress on both *Superman* and some *kid*. The shifted stress on *Superman* is unavoidable, as just explained, but the focus interpretation of the VP and the IP could be licensed by the stress assigned by the Nuclear Stress Rule. This is not what happens, however: the only constituent bearing main stress in Mother's answer is *Superman*. In fact, assigning the same level of stress to some *kid* as to *Superman* is impossible on the intended reading of the example.

We propose an account in terms of the economy condition in (11). Suppose that it is better to have a single stress assigned by the Nuclear Stress Rule than to have a single shifted stress. Suppose, furthermore, that it is better to have a single shifted main stress than to have a shifted main stress as well as main stress in the position favored by the Nuclear Stress Rule. Then, since a single shifted stress suffices in (1), additional main stresses are ruled out.

(11) a. Minimize the number of prosodic peaks (given the targeted interpretation).
    b. Minimize stress shift (given the number of prosodic peaks).

It is of course possible to put focus on both the indirect object and *Superman*. This cannot be done by using a single stress, since neither constituent is contained in the other. Hence, on this reading, and on this reading only, the sentence will have to be pronounced with main stress on both constituents.

(12) You know how I want our children to read decent books and how I think it is important that Johnny plays with kids his own age. Well, when I came home, rather than doing his homework, \[\text{[IP Johnny was [VP reading [DP Superman] to [DP some SIXTEEN-YEAR-OLD]]]}\].

More precisely, the focus set associated with the bracketed IP in (12) is as follows:

(13) a. \[\text{[DP some SIXTEEN-YEAR-OLD]}\]
    b. \[\text{[DP Superman]}\]
    c. \[\text{[VP reading Superman to [DP some SIXTEEN-YEAR-OLD]]}\]
    d. \[\text{[IP Johnny was [VP reading Superman to [DP some SIXTEEN-YEAR-OLD]]]}\]
The only interpretations allowed by (13) that are not given by the focus sets in (8) and (10) are those in which both the direct object and the indirect object are focused (there may be additional wide foci). But since (12) is less economical than either (1) or (9), it is only admissible under one of these interpretations, as in the context in (12).

Notice that if some sixteen-year-old in (12) does not carry main stress, but secondary stress (as given by the Nuclear Stress Rule), it is impossible to interpret this constituent as contrasted with kids his own age. This is in line with our earlier conclusion that secondary stress is not sufficient to support focus. For the same reason, it is not possible to maintain that in the example in (1) it is the (optional) secondary stress on some kid that licenses VP and IP focus. Rather, the shifted main stress on Superman must allow focus projection.\(^3\)

We conclude that foci embedded in foci receive a natural explanation in the stress-based approach. Superman sentences are a subcase of sentences containing multiple foci, with the crucial difference that each focus is embedded in the next. It follows from basic assumptions of the stress-based theory (the notions of focus set and economy) that all foci are indicated by a single stress.\(^4\)

4 Feature-Based Theories without Checking

As mentioned above, the feature-based theory of focus that we argue against makes three assumptions: (a) that [+ focus] is interpreted at the LF interface, (b) that it affects stress assignment at the PF interface, and (c) that it is checked in syntax in the specifier of a designated functional projection. This is not to say that we take issue with all theories that presuppose the existence of a focus feature. In fact, there are at least two such theories that seem empirically correct. Crucially, these theories do not adopt assumption (c). As we show, they are essentially syntactic encodings of the stress-based approach. The two theories are presented in (14) and (15).

(14) a. A syntactic feature [+ focus] can be added to a lexical item when it is selected from the lexicon. This feature is not copied to dominating nodes.
   b. At the LF interface, any constituent containing a lexical item marked [+ focus] can be interpreted as the focus of the utterance.

\(^3\) The claim that a shifted stress allows focus projection is hardly new, but the cases in the literature involve stress shift as a result of anaphoric destressing (Reinhart 1995, Williams 1997, Zubizarreta 1998, Schwarzschild 1999). Superman sentences are different from these cases: some kid in (1) is not anaphoric.

\(^4\) An anonymous reviewer points out a problem with Hungarian, where an example parallel to (1) would require both movement of Superman to the focus position and stress on some kid. It can be argued, however, that the stress on some kid is forced if the constituent is not given. See Szendrői 2003:sec. 11.2, for discussion.
c. At the PF interface, a terminal marked [+focus] must carry main stress.

(15) a. A syntactic feature [+focus] can be added to a lexical item when it is selected from the lexicon. This feature is obligatorily copied to dominating nodes until it reaches the root.
b. At the LF interface, any constituent bearing [+focus] can be interpreted as the focus of the utterance.
c. At the PF interface, a terminal marked [+focus] must carry main stress.

Both theories employ a rule that constructs a focus set. In the first theory, this is (14b), the interpretive rule that defines possible foci at the LF interface. In the second, the syntactic mechanism of obligatory percolation and the interpretive rule jointly define the focus set (see (15a) and (15b)). Moreover, [+focus] on the terminal is nothing more than a syntactic encoding of main stress.

In order to avoid overgeneration, both theories also need to assume the economy condition in (11) or something like it. The number of focus features introduced on terminals has to be minimized, as explained above. In addition, where possible, [+focus] has to be placed on the terminal singled out by the Nuclear Stress Rule. Thus, in an all-focus sentence, stress is rightmost, while in a sentence in which the subject is focused, stress is rightmost within the subject.

Although both (14) and (15) are descriptively adequate, these theories face two problems. First, the assumption of a rule that adds [+focus] to a lexical item when selected for merger is incompatible with Inclusiveness (Chomsky 1995). This principle states that syntactic operations can only refer to lexical features; but [+focus] cannot be a lexical feature. As lexical items are not inherently focused, the feature must be inserted after an element has been taken from the lexicon.

Second, the behavior of [+focus] is decidedly nonsyntactic. We know of no other syntactic features that obligatorily percolate to the root node or do not percolate at all. According to both (14) and (15), any category that contains the terminal that introduces [+focus] is a potential focus, and neither distinguishes the actual focus from any potential foci in syntax. In other words, [+focus] does not encode actual focus, but potential focus.

If we want to include [+focus] in the set of regular syntactic features that require checking (as stated in assumption (c)), we must allow for percolation, but not make it obligatory.

5 Checking [+Focus]

What we take to be the standard feature-based theory (insofar as there is one) makes the following assumptions:

(16) a. A syntactic feature [+focus] can be added to a lexical item when it is selected from the lexicon. This feature may be copied to dominating nodes.
b. There is a designated functional head that attracts the largest constituent bearing [+focus] (either overtly or covertly).\(^5\)

c. At the LF interface, the largest constituent bearing [+focus] is interpreted as the focus of the utterance.

d. At the PF interface, a terminal marked [+focus] must carry main stress.

The underlying motivation for this theory is that semantic interpretation and position at LF are linked in a one-to-one fashion (compare Rizzi’s (1996) Wh-Criterion). It is hence not a coincidence that (16b) and (16c) both mention “the largest constituent bearing [+focus].”

As a reminder of how this theory works, consider the answer in (17). Here, hat introduces [+focus], which percolates up to the subject DP, but no further. As a consequence, this DP is moved to the specifier of a designated functional projection. In English, this presumably happens after Spell-Out (although some analyses assume overt movement; see Kayne 1998). At the LF interface, the man in the hat, being the largest [+focus] constituent, is interpreted as focus. At the PF interface, hat, being the [+focus] terminal, receives main stress.

(17) Susan: Do you think anyone in this bathhouse can play chess?

Jo: [The man in the hat] is a serious chess player.

Superman sentences pose a serious problem for theories in which [+focus] is checked. The reason is simple. In the example in (1), Superman must carry [+focus], as it carries shifted main stress. As explained, the largest constituent to which this feature percolates will be interpreted as the actual focus. But in (1) there are three actual foci: Superman, reading Superman to some kid, and the whole sentence. In order to obtain a focus interpretation on the larger constituents, [+focus] has to percolate up to the VP and IP levels. At the same time, in order to obtain a focal reading of the smaller constituents, [+focus] must not percolate beyond the DP and VP levels. This is a contradiction.

In the theories discussed in section 4, the syntax and/or phonology of an utterance provides a set of possible foci from which one or more can be selected as the actual focus at the LF interface. But in a theory that employs checking to link interpretation and position, the syntax provides the actual focus, not a set of potential foci. This makes it impossible for a single [+ focus] (a single stressed terminal) to encode multiple foci.

An anonymous reviewer suggests a variant of the theory of (16) that avoids the problems mentioned so far. The proposal maintains (16a) and (16d) but replaces (16b) with (18) and (16c) with (15b).

\(^5\) We abstract away from the possibility of pied-piping in focus movement. It is a problem shared by the stress-based and feature-based accounts.
(18) There is a designated functional head that attracts some constituent bearing [+ focus] (either overtly or covertly).

On this view, the interpretation of Superman sentences relies on multiple copies of a single [+ focus]. As the reviewer points out, this makes the alternative theory equivalent to the one in (15), except that it assumes an additional operation of feature checking. But this means that the motivation behind the feature-checking account is lost. Since the constituent moved to the checking position and the constituent interpreted as focus need not coincide, there is no longer a one-to-one association between semantic interpretation and position at LF.

The traditional view of checking can be maintained if Superman in (1) carries three features: [+ focus$_1$, + focus$_2$, + focus$_3$]. These would then percolate to different levels: [+ focus$_1$] to the DP level, [+ focus$_2$] to the VP level, and [+ focus$_3$] to the sentence level. The crucial question that this approach faces is how a node can contain multiple identical features. Few cases of duplicate features, if any, are attested elsewhere. For example, there are no wh-words that introduce two wh-features (forcing a multiple question interpretation). In fact, Neeleman and Van de Koot (2002) argue that syntactic theory makes it impossible for features in nodes to occur more than once.6

One could argue that the three foci in (1) are different in nature and hence encoded by different features. It might be possible to distinguish the IP focus, which is not contrastive, from the DP and VP foci, which are. But there is no semantic (or pragmatic) reason to distinguish [+ focus$_1$] and [+ focus$_2$].

The only alternative that we can see is to distinguish the three focus features on Superman in (1) by claiming that the indices 1, 2, and 3 have syntactic reality. This is what Jacobs (1991) proposes. Indexing of features, however, is an ad hoc device, needed only to deal with multiple embedded foci. Second, it is conceptually questionable, since it amounts to assigning features to features. Third, once admitted, it will overgenerate—for instance, it would allow wh-words to carry multiple wh-features. Fourth, indexing of focus features is essentially a means of introducing the notion of focus set into the feature-based theory, because a stressed terminal can potentially carry an arbitrary number of focus features that can potentially be copied to any dominating node.

Even if we allow indexed focus features, there is an additional issue. In Mother’s answer in (1), why should all three focus features be introduced in the same terminal? In other words, how can we exclude a representation in which [+ focus$_2$, + focus$_3$] are generated on the rightmost terminal, so that the bracketed sentence in (12) could be pragmatically equivalent to (1)? As far as we can see, this can only

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6 Neeleman and Van de Koot (2002: sec. 5) argue that duplicate functions can be licensed in certain circumstances by the construction of a grid. But the conditions for this are not met here.
be achieved if in addition to the assumptions in (16) and the syntactic indexing of features, an economy condition like (11) is adopted. Note that this condition will have to refer to phonological properties of utterances, as (11) does, since there is no reason why a clustering of identical syntactic features in a single terminal would be preferred over the occurrence of those features in different terminals.

We conclude, then, that in order to deal with Superman sentences, the checking theory of focus must make essentially the same assumptions as the stress-based account, and more.

References


Déchaine and Wiltschko (2002) argue that, in English, 1st and 2nd person pronouns belong to a different syntactic category than 3rd person pronouns. One of their main arguments is the claim that English 1st and 2nd person pronouns cannot be used as bound variables, unlike 3rd person pronouns.¹ In this squib, I discuss data showing that English 1st and 2nd person pronouns actually do allow bound variable interpre-

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¹ Déchaine and Wiltschko propose a new and very interesting typology of pronouns supported with observations from a wide variety of languages, arguing that pronouns fall into three different categories: pro-DP, pro-ΦP, and pro-NP. They claim that in English, 1st and 2nd person pronouns are pro-DPs, whereas 3rd person pronouns are pro-ΦPs (see Ritter 1995 for a similar proposal), and since—according to them—DPs are R-expressions, English 1st and 2nd person pronouns cannot function as bound variables.