When You Can and Can’t See Double: Revisiting Focus Doubling in ASL

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Abstract
In this paper, we examine the emphatic focus doubling construction in American Sign Language (ASL) and Brazilian Sign Language (Libras), in which one element of the sentence appears in its base-generated position within the sentence and one copy appears in sentence-final position. We review the existing focus doubling data in the literature, as well as a previous syntactic analysis of the construction that we think is the best available option on the market (Nunes and Quadros 2005). Diverging minimally from this analysis however, we propose that movement of the focused element proceed not to the head of an emphatic focus projection, but rather through the specifier of that projection; this modification nicely precludes the need for excorporation and c-command out of a dominating non-terminal node. We then examine an asymmetry between focus doubling in Libras vs. ASL, namely that doubling is permitted in indirect questions in the former but not the latter, an asymmetry not addressed by Nunes and Quadros. We suggest that there is a ban on multiple instances of focus-driven movement in ASL, and briefly discuss how a striking parallel with restrictions on multiple foci in Modern Greek may ultimately hold the answer to resolving the asymmetry, at the same time raising interesting questions about the way that information structure maps onto phonology and syntax in different languages.
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Koji Shimamura and Lyn Shan Tieu*

1 Introduction

Focus doubling is a phenomenon that exists across various sign languages. In this paper, we focus on doubling in American Sign Language (ASL), and to a lesser extent, Brazilian Sign Language (Libras). In the doubling construction (1), one element of the sentence appears in its base-generated position within the sentence and one copy appears in sentence-final position, itself claimed to be a focus position (Petronio 1993, Petronio and Lillo-Martin 1997, Wilbur 1997, Quadros 1999).

(1) ANN WILL WIN WILL
   ‘Ann WILL win’

There are multiple syntactic accounts of focus doubling in the literature, but no single agreed-upon analysis. In this paper, we review the existing focus doubling data, highlighting the relevant properties that need to be accounted for. We then examine a previous syntactic analysis of the construction that we think is the best option, and propose an improvement upon it. In the discussion, we examine a further asymmetry regarding where focus doubling is possible, and propose a way to capture the asymmetry. We conclude with questions for future research.

2 Focus Doubling in Sign Language

2.1 On the Interpretation of Doubling

Doubling in sign language involves what has been referred to as an emphatic focus (E-focus) interpretation of the reduplicated element (Nunes and Quadros 2005). In (1) for example, we are emphasizing that Ann will indeed win. According to Petronio (1993), doubling is used to emphasize, call attention to, or focus a constituent, and is similar to stressing a word in English. For example, wh-doubling “lets the receiver know that a question is being asked and that the signer really wants to know who or what” (Petronio 1993:132). According to Lillo-Martin and Quadros (2004, 2005), E-focus is used to negate or affirm information previously presented or assumed in the discourse situation, again similarly to invoking phonological stress in a spoken language such as English. For these authors, E-focus is thus distinct from information focus, which is used to introduce new discourse information. They also view E-focus as distinct from contrastive focus proper, which for them is used to negate given information. Finally, Stickles (2012) argues that doubling is best treated as a kind of information focus, rather than

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1Sign language glosses in this paper will consist of the sign glosses in all caps, accompanied by an English translation. For ease of exposition, the doubled element will be underlined. Non-manual markers are omitted from the sign language glosses. For much of the discussion, only two kinds of non-manual marking are relevant: wh-questions usually involve furrowed brows (whq) (i), and doubling in declaratives a head nod (hn) (ii) (Petronio 1993; Petronio and Lillo-Martin 1997); the line above the glosses below indicates the domain during which the non-manual is produced:

(i) WHO CAN’T READ WHO
   ‘Who can’t read?’

(ii) ANN WILL WIN WILL
    ‘Ann WILL win’
identificational focus; she argues that doubling can present either new or stressed information, and moreover provides evidence that it is non-exhaustive.

In sum, focus doubling contexts appear to form a superset containing (at least) the contexts that are consistent with information focus, emphasis, contrastive focus, and verum focus.

2.2 On the Distribution of Doubling

There is little adult corpus data available over which to conduct a detailed analysis of the doubling construction; work with native signer consultants however has yielded a relatively informative body of data regarding the syntactic properties of doubling. Reviewing the data presented in Petronio (1993) for example provides the following basic facts about where doubling can occur. Doubling can occur in both declarative and interrogative structures. In declaratives, doubling can target modals (1)-(2), including negated modals (3), and verbs and predicates (4)-(5), including raising verbs (6); nouns, tense elements, and quantifiers can also be doubled (Petronio 1993, Quadros 1999, Lillo-Martin and Quadros 2005).

(2) ANN WANT LEAVE WANT
   ‘Ann WANTS to go’
(3) ANN CAN’T READ CAN’T
   ‘Ann CAN’T read’
(4) ANN LIKE ICE-CREAM LIKE
   ‘Ann LIKES ice cream’
(5) INDEX FEEL ,INDEX WIN FEEL
   ‘I feel he will win’
(6) SEEM ALL SICK SEEM
   ‘It seems they are all sick’

In polar questions, we see examples of doubling of modals (7)-(8). In fronted wh-questions, doubling can target matrix subjects (9), matrix objects (10), embedded subjects (11), where/how-many adjuncts (12)-(13), and wh-determiners (14)-(15). Finally, Nunes and Quadros (2005) present Libras data involving doubling of modals and negation in wh-in-situ questions (16)-(17).

(7) WANT FRIDAY AFTERNOON US-2 GO-OUT SEE MOVIE WANT
   ‘Do you want to go see a movie on Friday afternoon?’
(8) ANN WILL LEAVE WILL
   ‘Will Ann go?’
(9) WHO WILL BUY HOUSE WHO
   ‘Who will buy a house?’
(10) WHAT JOHN BUY WHAT
    ‘What did John buy?’
(11) TEST TEACHER THINK WHO PASS WHO
    ‘Who does the teacher think passed the test?’
(12) WHERE GET ,INDEX WHERE
    ‘Where did you get that?’
(13) HOW-MANY BROTHER SISTER ,INDEX HAVE HOW-MANY
    ‘How many brothers and sisters do you have?’
(14) WHO MOTHER DIE WHO
    ‘Whose mother died?’
(15) WHO CAR BREAK-DOWN WHO
    ‘Whose car broke-down?’
(16) JOHN WILL BUY BOOK WHEN WILL
    ‘When WILL John really buy the book?’
(17) JOHN's NO ,BUY, WHAT NO
    ‘What did John in fact NOT buy?’
2.3 On the Syntactic Properties of Doubling

Much previous work on the doubling construction has focused on its syntactic properties. In this section, we present an overview of some previously observed restrictions on doubling, all of which must be captured by any adequate analysis of focus doubling. First, as observed in Petronio (1993), doubling appears to target heads rather than phrases, and can involve verbal, modal, and negative heads, as well as wh-words (18). Petronio also observes that only one head can be doubled in a sentence (19), and that doubling exhibits syntactic island effects (20)-(21); the same island effects are also observed in Libras (Nunes and Quadros 2005) (22). Nunes and Quadros (2005) further observe that in Libras, while moved and in-situ wh-words can in principle be doubled (23), the wh-element is the only thing that can be doubled in a fronted wh-question, while a non-wh-element can be doubled in a wh-in-situ question (24)-(25).

(18) a. ANN CAN’T READ CAN’T
    b. *ANN CAN’T READ CAN’T
(19) a. *INDEX FEEL INDEX WILL WIN WILL FEEL
    b. *INDEX FEEL INDEX WILL WIN FEEL WILL
(20) *WOMAN WILL COME TOMORROW NAMED S-U-E WILL
    ‘The woman that WILL come tomorrow is called Sue’
(21) *MOTHER CURIOUS WHO WILL SHOW-UP WILL
    ‘(My) mother is curious who will show-up’ (Petronio 1993)
(22) *GIRL BICYCLE FALL IS HOSPITAL FALL
    ‘The girl that FELL from the bicycle is in the hospital’
(23) a. WHO JOHN SEE YESTERDAY WHO
    b. JOHN SEE WHO YESTERDAY WHO
(24) a. *WHEN JOHN WILL BUY BOOK WILL
    b. JOHN WILL BUY BOOK WHEN WILL
    ‘When WILL John really buy the book?’
(25) a. *WHAT JOHN NO BUY NO
    b. JOHN NO BUY WHAT NO
    ‘What did John in fact NOT buy?’ (Nunes and Quadros 2005)

Previous syntactic analyses have focused almost exclusively on capturing these restrictions on doubling. We now turn to one such analysis.

3 The Syntax of Focus Doubling

3.1 Nunes and Quadros (2005)

Nunes and Quadros (2005) propose an analysis of focus doubling for Libras that involves head-adjunction of the focused element to an E-Focus (E-Foc) head, followed by remnant movement of the TP to the Specifier of the topic phrase, TopP. Let us consider how the contrast in (23a,b) is derived under their proposal. Observe (26) and (27), corresponding to (23a) and (23b), respectively. Bolded elements are morphologically fused, while strikethrough represents deleted elements.

(26) a. [TP JOHN SEE WHO YESTERDAY]
    b. [E-Foc WHO+E-Foc [TP JOHN SEE WHO YESTERDAY]]
    c. [TopP [TP JOHN SEE WHO YESTERDAY] [Top’ Top [E-FocP WHO+E-Foc [TP JOHN SEE WHO YESTERDAY]]]]
    d. [forceP WHO+E-Foc [force Force [TopP [TP JOHN SEE WHO YESTERDAY] [Top’ Top [E-FocP WHO+E-Foc [TP JOHN SEE WHO YESTERDAY]]]]]]

(27) a. [TP JOHN SEE WHO YESTERDAY]
    b. [E-Foc WHO+E-Foc [TP JOHN SEE WHO YESTERDAY]]
The relevant derivation is the same until TP is constructed, as in (26a) and (27a). What differentiates the two is the timing of morphological fusion between the moved element and the E-Foc head. In (26b), WHO incorporates into E-Foc, still waiting to be morphologically fused with E-Foc. Note that at the point of (26b) (and (27b)), the lower copy of WHO is deleted via Chain Reduction (CR) defined in terms of c-command.\(^2\) In (26c), TopP is merged, and the (remnant) TP raises to Spec-TopP. Finally, WHO, which has adjoined to E-Foc via incorporation, excorporates to Spec-ForceP as shown in (26d), after which CR applies and the lower TP is deleted. Crucial here is that WHO is exempted from CR, since morphological fusion creates a distinct copy (i.e., \{WHO\}, WHO\(^2\)+E-Foc\). (23a) is thus derived. Turning to (27b), the relevant morphological fusion applies immediately once WHO\(^2\) incorporates into the E-Foc head, rendering the former immune to further movement operations. In (27c), the remnant TP is moved to Spec,TopP, and CR subsequently applies, yielding (23b). The morphologically amalgamated WHO\(^2\)+E-Foc does not undergo CR, as discussed above.

The desideratum for the success of any analysis that deals with focus doubling in ASL and Libras is an explanation of the observations listed in Section 2.3; that is, (i) why only heads and not phrases can be doubled (i.e., (18)); (ii) why multiple focus doubling is banned (i.e., (19)); (iii) why focus doubling is sensitive to syntactic islands (i.e., (20-22)); (iv) why a focus-doubled interrogative can be either in-situ or ex-situ (i.e., (23)); and (v) why only the in-situ wh-question can exhibit non-wh-doubling (i.e., (24-25)). Let us consider how Nunes and Quadros (2005) fare with these properties.

Property (i) is straightforwardly derived, since for Nunes and Quadros, the movement of focus doubling to the E-Foc head involves incorporation, thus excluding XP as a candidate for movement. Property (ii) can also be easily accommodated since there is only one E-Foc head.\(^3\) Property (iii) is explained if one assumes that a focus-doubled head adjoined to E-Foc forms an island. Property (iv) is derived as above. Lastly, property (v) is due to the fact that only those wh-elements that adjoin to E-Foc can move to Spec,ForceP via excorporation. It is WILL in (24) and NO in (25) that adjoin to E-Foc, upon which E-Foc becomes a syntactic island barring further movement.\(^4\)

3.2 Modification of Nunes & Quadros (2005)

We believe that of the accounts on the market, Nunes and Quadros’ analysis is most effective in deriving all the syntactic restrictions on focus doubling. We notice however that there are two rather uncommon (and we think, unnecessary) processes involved in their analysis, namely, excorporation and c-command out of non-terminals (see fn. 2). To eschew these unorthodox assumptions, we propose to modify their analysis; specifically, following Matushansky (2006), we propose that head movement be implemented as follows:

\(^2\)“C-command” as employed here can be defined roughly as follows:

(i) \(\alpha\) c-commands \(\beta\) iff the first branching full category (i.e. XP, X\(^*\), or X\(^2\)) dominating \(\alpha\) also dominates \(\beta\).

Note that this differs from the original definition of c-command in Reinhart (1976), and is precluded by Chomsky (2000) and Alexiadou and Anagnostopoulou (2001:217) on independent grounds. Under (i), the relevant full category for Nunes and Quadros’ (2005) notion of c-command to be implementable should be E-Foc\(^2\).

\(^3\)Note that in order for this analysis to go through, we have to assume that there is no such operation as clustering for heads (cf. Grewendorf 2001).

\(^4\)The reason why an incorporated E-Foc head should constitute an island appears to be rather unclear, since Spec,E-FocP should be available for cyclic movement. Thus, (24) and (25) can be derived by utilizing the (unfilled) Specifier of E-FocP. The assumption necessary for property (iii) is thus required in any case. The reader will notice that our modification of Nunes and Quadros’ analysis in Section 3.2 does not suffer from this problem.
Thus, insofar as the narrow syntax is concerned, a moved head is equivalent to a Specifier. This slight modification simplifies Nunes and Quadros’ (2005) story immensely, since we do not have to assume excorporation in (23a) of WHO from E-Foc up to Spec,ForceP, nor c-command of head-adjoined elements out of the non-terminal node dominating them (viz. Spec,E-FocP can c-command its sister node).

### 3.3 Indirect Question Asymmetry

Nunes and Quadros’ (2005) analysis successfully captures the syntactic properties of doubling in both Libras and ASL. There is an asymmetry however that exists in ASL but not in Libras. Petronio and Lillo-Martin (1997) observe that while long distance wh-doubling is possible (29), wh-doubling in indirect questions is impossible in ASL (30); note however that both are acceptable in Libras:

(29) **WHO YOU KNOW JOHN SEE YESTERDAY WHO**
    ‘Who do you know John saw yesterday?’

(30) *YOU KNOW WHO JOHN SEE YESTERDAY WHO*
    ‘You know who John saw yesterday’

(Petronio and Lillo-Martin 1997)

Under a Nunes and Quadros-style analysis, long distance wh-doubling involves successive-cyclic wh-movement through Spec,FocP and then the embedded Spec,ForceP, up to the matrix Spec,ForceP:

(31) **WHO YOU KNOW JOHN SEE YESTERDAY WHO**

(32) \[\text{[FocP} \text{WHO} [\text{Foc} \text{Force} [\text{TP} \text{YOU KNOW [FocP}} \text{WHO} [\text{Foc} \text{Force} [\text{TopP} [\text{TP JOHN SEE WHO YESTERDAY}]] [\text{TopP} [\text{E-FocP WHO[E-Foc} \text{E-Foc} [\text{TP-} \text{JOHN SEE WHO YESTERDAY}]]]]]\]

Petronio and Lillo-Martin (1997) propose that wh-doubling is banned in (30) because indirect-question-taking predicates like know subcategorize for [+WH] but not [+F] complements. Note however that there is no general incompatibility between know and [+WH] or [+FOC] complements, since non-emphatic wh-movement in indirect questions is possible (33), and non-wh-doubling in embedded clauses is possible (34). Rather it appears that the complement cannot be simultaneously [+WH] and [+FOC].

(33) **YOU KNOW WHO JOHN SEE YESTERDAY**

(34) **YOU KNOW JOHN CAN’T READ CAN’T**

We suggest that ASL has a restriction on foci, such that there can only be one Focus in a single clause. Subsuming wh-features and emphatic focus under a singular [+Foc] feature, we see that ASL only allows one instance of focus-feature-driven movement per clause (cf. Rizzi 1997). This is consistent with the optionality of wh-movement in matrix questions, in which movement to Spec,ForceP is not necessary to ensure a wh-question interpretation. Unlike matrix wh-questions however, indirect questions involve (obligatory) true [+WH]-feature-driven movement, necessary to ensure an indirect question interpretation; in other words, standard wh-movement is obligatory in indirect questions for the purposes of clause-typing.\(^5\) When know selects an indirect question, selection must be local, and the wh-element must occupy the embedded Spec,ForceP; doubling however is impossible because of the ban on multiple foci.

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\(^5\)Although movement is generally found in indirect questions, there may be more empirical uncertainty here than is normally assumed, with some reports of wh-in-situ in indirect questions (D. Lillo-Martin, p.c.).
Long distance \( wh \)-movement with its biclausal structure and projection of two independent foci is a way around the ban; the higher \( wh \)-element constitutes matrix focus while the focused double constitutes embedded focus (31)-(32).

Given our proposed restriction on multiple foci, two immediate questions arise. First, given that Libras, in contrast to ASL, does allow doubling in indirect questions, our proposed restriction must be subject to cross-linguistic variation. Can we find evidence of other languages that are also subject to such a restriction, that is, that disallow multiple foci per clause? Second, what is the source of this restriction? An account would only be explanatory if it could tell us why multiple foci are illicit in ASL, but licit in Libras.

In investigating both these questions, one cross-linguistic comparison worth further investigating is that between ASL and modern Greek, a language that has been observed to have a restriction on multiple foci. Namely, it has been suggested that multiple focus is unavailable in Greek. Alexopoulou and Baltazani (2012) provide elicitation data confirming native speaker judgments that multiple \( wh \)-questions in Greek are compatible only with the melody of indirect questions (that is, with nuclear stress aligned with the right edge of the sentence), not with the melody of direct questions (that is, with nuclear stress falling on the fronted \( wh \)-item). They argue that what is actually unavailable in Greek is not necessarily multiple foci, but specifically multiple maximal foci in cases where one focused item has moved to the left periphery. They adopt Tsimpli’s (1995) basic (syntactic) hypothesis that direct questions in Greek involve focus movement while indirect questions involve standard \( wh \)-movement, and go on to argue that the source of the restriction on multiple foci lies in an interface mismatch between interpretation and phonology. We believe the parallel here with Greek is suggestive, and might lead to a more general hypothesis about how information structure maps onto phonology on the one hand, and onto the syntax on the other. It is of particular interest that the relevant focus domain is prosodic in Alexopoulou and Baltazani’s Greek data, but may very well be syntactic in our sign language data. We suspect a detailed comparison of ASL and Greek with respect to the information structure of their respective focus constructions would prove fruitful, but leave this endeavor to future research.

Before ending, note that extending a story like Alexopoulou and Baltazani’s to the data discussed in this paper would involve proposing that Libras, unlike ASL, does not yield a mismatch between the focus interpretation of a doubling structure and the prosodic or phonological realization of that structure. An alternative to placing the root of the discrepancy between ASL and Libras at the syntax/information structure/phonology interface is to place it purely in the syntax, in which case we would make very (different) specific predictions. For example, if the domain of the restriction of multiple foci is the clausal domain (i.e., only one focused element is permitted within a single clause), then given that Libras does allow focus doubling in indirect questions, one might think that what we have considered as the embedded clause in the Libras data is in fact biclausal, perhaps with a sort of covert cleft structure. Schematically, we would have the following:

\[
\text{(37) } \text{YOU KNOW} \ [\text{CP WHO} \ [\text{TP (it is) [CP WHO [TP WHO ...}}
\]

We would then predict varying degrees of subjacency violations between (38a) and (38b), assuming subjacency effects are cumulative.

\[
\text{(38) a. WHAT DO YOU WONDER WHO BOUGHT WHAT } \\
\text{(ASL: \( wh \)-doubling + regular indirect question)}
\]

\footnote{Note that although the data we discuss are limited to \( wh \)-questions, Davidson (2012) reports that focus doubling is also disallowed in embedded polar questions in ASL. It remains to be seen whether this same restriction also holds in Libras. If it holds only in ASL, the polar question data would suggest that any restrictions on the embedded doubling are not specific to \( wh \)-questions, but likely pertain to focus more generally.}
b. WHAT DO YOU WONDER WHO BOUGHT WHO
(Libras: embedded wh-doubling + regular matrix question)

In (38a), only one wh-island is crossed, so one might expect a questionable judgment (?), whereas there should be two subjacency violations in (38b) (given (37)), resulting in a worse judgment (?? or *). Whether such judgments are borne out is an empirical question, and could more broadly determine whether the discrepancy between ASL and Libras lies at the information structure/phonology interface or at the information structure/syntax interface. We leave the task of testing this prediction for future research.

4 Conclusion

Nunes and Quadros (2005) provide a syntactic analysis that captures the core empirical facts of focus doubling. Their analysis fails to explain an asymmetry between ASL and Libras in terms of focus doubling in indirect questions. To improve upon their analysis, we have proposed movement of the focused element not to the head of the emphatic focus projection, but rather through the specifier of the projection; this modification precludes the need for excorporation and c-command out of a dominating non-terminal node. To account for the lack of doubling in indirect wh-questions in ASL, we have also suggested that there is a ban on multiple instances of focus-driven movement in ASL, and have speculated that this may be tied more generally to the way that information structure maps onto either the syntax or the phonology. A striking parallel with spoken Greek suggests the restrictions on such mappings are likely subject to cross-linguistic variation, and we are thus currently investigating the cross-linguistic similarities and differences in multiple focus constructions.

References


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