Visible Prosody:
Spreading and Stacking of Non-manual Markers in Sign Languages
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1 Introduction: Sign language prosody

→ Sign language (SL) prosody is characterized by manual and non-manual prosodic cues. Manual cues include spreading of the non-dominant hand, coalescence, reduplication, and holds (Nespor & Sandler 1999; Sandler 1999ab; Brentari & Crossley 2002), as well as raising of signs in space and enlargement of movement (van der Kooij et al. 2004).

→ As far as non-manuals are concerned, it has been shown that eye blinks may serve as prosodic boundary markers (Wilbur 1994; Sze 2004); punctual vs. domain markers.

→ Non-manuals are also important cues for marking prosodic domains; they systematically change at phonological phrase (PhonP) and intonational phrase (IntP) boundaries and they may be layered (superarticulation; Sandler 1999ab); consider the NGT example (1).

\[
\begin{array}{c}
\text{hold} \\
\text{torso} \\
\text{chin} \\
\text{head} \\
\text{eyes} \\
\text{brows}
\end{array}
\quad = \\
\begin{array}{c}
\text{up} \\
\text{shake} \\
\text{up} \\
\text{blink} \\
\text{up} \\
\text{tilt}
\end{array}
\quad \begin{array}{c}
\text{forward} \\
\text{up} \\
\text{down}
\end{array}
\]

\[
\text{(1) SUPPOSE PARTY CANCEL WHO GO-TO BEACH WHO}
\]

‘Who will go to the beach if the party isn’t cancelled?’

2 Left periphery features and non-manual markers

→ Assumptions: (a) functional heads within the left periphery contain abstract syntactic features, which determine sentence type (Rizzi 1997, 2001); (b) these features may trigger A’-movement (Wilbur & Patschke 1999); (c) in SLs, non-manual markers (NMMs) are the overt realization of left periphery features; they spread under Spec-head agreement onto material in the respective specifier.

\[(2) \begin{array}{c}
a. \quad \begin{array}{c}
\text{Spec} \\
\text{FP} \\
\text{XP} \\
\text{[+f]} \\
\text{Spec} \\
\text{Y'} \\
\text{Y} \\
\text{t_{XP}}
\end{array}
\quad \begin{array}{c}
\text{F} \\
\text{YP}
\end{array}
\quad b. \quad \begin{array}{c}
\text{Spec} \\
\text{FP} \\
\text{Spec} \\
\text{Y'} \\
\text{Y} \\
\text{t_{YP}}
\end{array}
\quad \begin{array}{c}
\text{F} \\
\text{YP}
\end{array}
\end{array}\]

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→ Two options: a phrase from within the maximal projection YP dominated by F is moved to SpecFP (2a); alternatively, the whole YP is pied-piped into SpecFP (2b).

→ In declaratives, there is a [+decl]-feature in Force. In the absence of other features, this may in principle give rise to an utterance which is not marked non-manually at all.

→ GOAL: Provide evidence for (some aspects of) the topography of the left periphery based on the distribution of non-manual markers in sign languages.

2.1 Topicalization

→ According to Rizzi (1997), there are (at least) two topic positions, one dominating FocP, one below FocP.

→ Base-generated topics (3a) have to be distinguished from moved topics (3b). In both cases, non-manual marking (raised eyebrows, head tilt) is established in a Spec-head relationship (ASL; Aarons 1996: 66). According to Aarons (1996) and Neidle et al. (2000), in ASL, there is a maximum of two topics (3c).\(^2\)

\[
(3) \quad \begin{array}{ll}
\text{a.} & \text{VEGETABLE, JOHN LIKE CORN} \\
& \text{‘As for vegetables, John likes corn.’}  \\
\text{b.} & \text{MARY\textsubscript{1}, JOHN LIKE t\textsubscript{1}} \\
& \text{‘Mary, John likes (her).’} \\
\text{c.} & \text{JOHN\textsubscript{3}, VEGETABLE, INDEX\textsubscript{3} PREFER ARTICHOKE} \\
& \text{‘As for John, as far as vegetables are concerned, he prefers artichokes.’}
\end{array}
\]

→ According to Aarons (1996), the two types of topics are accompanied by slightly different NMMs; they are separated by a prosodic break, i.e. they are clearly independent prosodic units.

→ In (4a), an example from SL of the Netherlands (NGT) is given. Note that temporal and locative adjuncts can precede other topics; in contrast to argument topics, however, they need not be accompanied by a NMM (4b).

\[
(4) \quad \begin{array}{ll}
\text{a.} & \text{POSS\textsubscript{1} BROTHER INDEX\textsubscript{3}, EVENING INDEX\textsubscript{3} 3VISIT\textsubscript{1}} \\
& \text{‘My brother, he will visit me tonight.’}  \\
\text{b.} & \text{YESTERDAY EVENING, PARTY INDEX\textsubscript{3}, MANY PEOPLE BE-PRESENT\textsubscript{3}} \\
& \text{‘Yesterday evening, at the party, there were lots of people.’}
\end{array}
\]

→ A similar NMM is found in relative clauses (RCs). See Pfau & Steinbach (2005) for an analysis of German SL (DGS) RCs involving movement of the clause-initial relative pronoun to SpecTopP.

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\(^2\) All sign language examples are given in English small caps. The line above the glosses indicates which manual signs are accompanied by a particular non-manual marker. The abbreviations used for these markers refer to their function, not to their form (e.g. eyebrow raise, headnod, etc.); note that different functions may have similar non-manual realization. Subscript numbers refer to points in the signing space that are used for the localization of non-present referents, for pronominalization, or agreement.
2.2 Imperatives and deontic modality

In imperatives, a functional head in the outer functional layer, presumably the head of FinP (Aboh 2004) or MoodP (Han 2000), contains an imperative feature (or illocutionary operator) which is responsible for the (non-manual) imperative intonation: slight forward lean, squinting the eyes, and head nod.

Presumably, the feature [+imp] attracts the whole proposition into its specifier where the non-manual associates with the XP under Spec-head agreement, as in (5) from NGT.

\[
\text{imp} \quad \text{[FinP [SpecFinP [INDEX/ATT\_2 BOOK \_2GIVE\_3b]]] [Fin\_t [\text{[+imp]} \_t]]]}
\]

\text{‘Hey, give him/her the book!’} [NGT]

For ASL, Wilcox & Wilcox (1995: 147) observe that the same NMM is found in the expression of deontic modality, as in (6a) with a sentence-initial topic (see section 3.1 for further discussion).

\[
\text{top} \quad \text{imp} \quad \text{TELEPHONE NUMBER, WOMAN _3aGIVE_1 SHOULD INDEX_3a}
\]

\text{‘The woman should give me the telephone number.’} [ASL]

In DGS (7a) and Catalan SL, deontic modals tend to be accompanied by a head nod (Pfau & Quer, in press). In the DGS imperative in (7b), the head nod and the non-manual imperative marker are layered.

(7b) indicates that the two markers might be associated with distinct functional heads (Cinque 1999; Aboh 2006): the headnod is affixed to the modal in Mood° and MoodP moves to SpecFinP where the whole utterance receives imperative non-manual marking.

\[
\text{top} \quad \text{deo} \quad \text{RESTAURANT INDEX_3a SMOKE MAY}
\]

\text{‘In this restaurant, one may smoke.’} [DGS]

\[
\text{deo} \quad \text{imp} \quad \text{INDEX_2 DRINKS PAY MUST}
\]

\text{‘You must pay the drinks!’} [DGS]

2.3 Conditionals

With respect to the feature [+cond], I follow Aboh (2004: 178ff) in assuming that it is not hosted by FinP/MoodP but by a higher functional head, presumably Force.

In NGT ((8a), Smith 2004) and ASL ((8c), Liddell (1986: 252), the conditional clause must precede the main clause; the reverse order is ungrammatical (8b). I assume that conditional clauses raise to SpecForceP where they are non-manually marked.

\[
\text{cond} \quad \text{aff} \quad \text{SUPPOSE RAIN, PARTY CANCEL}
\]

\text{‘If it rains, the party will (indeed) be cancelled.’} [NGT]

\[
\text{aff} \quad \text{cond} \quad \text{PARTY CANCEL, SUPPOSE RAIN}
\]

\text{‘The party will be cancelled if it rains.’} [NGT]
The conditional NMM also involves raised eyebrows. Since conditionals and topics are known to share properties (Haiman 1978; Janzen 1999), the landing site for the conditional might also be SpecTopP (see 3.1 for further discussion).

In Hua (Papua New Guinea), for instance, the same marker (-ve) is used in questions, conditionals (9a), and topic constructions (9b) (Haiman 1978: 570f).

(9) a. E-si-ve baigu-e
   come-3.SG.FUT-INT will.stay-1.SG
   ‘Will he come? I will stay / If he will come, I will stay.’

b. Dgai-mo-ve baigu-e
   I(emph.)-C.P.-TOP will.stay-1.SG
   ‘As for me, I will stay.’

2.4 Yes/no-questions

The relevant functional projection for y/n-questions is InterP which sits above FocP (see Rizzi (2001) and Aboh (2004) for evidence from Italian and Gungbe, respectively).

Liddell (1980) stresses the fact that a string is not well-formed if the non-manual y/n-marker accompanies only part of the signed string that is questioned.

Presumably, in y/n-questions, the [+q]-feature in Inter° attracts the whole clause into its specifier (Wilbur & Patschke 1999) and consequently, the whole clause is non-manually marked, as shown in (10a) (Coerts (1992: 193); my brackets) and (10b) (Liddell 1980: 3).

(10) a. [\text{InterP} [\text{SpecInterP} [\text{CAN USE ALWAYS INDEX}_2] [\text{Inter}^[+q] [\text{FinP}_t] ] ] ]
   ‘Can you always use it?’

b. WOMAN FORGET PURSE
   ‘Did the woman forget her purse?’

In some SLs, manual question particles may occupy the [+q]-head. In this case, the NMM may accompany the manual sign only, as in the Hong Kong SL (HKSL) example (11a) (Zeshan 2004: 34). Note, however, that even in the presence of a question particle, the NMM may extend over the whole clause, as in the NGT example (11b) (Smith 2004).

(11) a. NOW TAKE-PHOTO Q-PART
   ‘Shall we take photos now?’

b. INDEX\textsubscript{3} PARTY CANCEL Q-PART
   ‘Is the party cancelled?’

Note that all these particles are sentence-final. I therefore assume that the particle occupies Inter° and that the proposition (FinP) moves to SpecInterP, with optional spreading of the NMM under Spec-head agreement.
Similar facts have been described for spoken languages. In Lele (Chadic), Inter\textsuperscript{o} hosts the particle $gà$ (12a) (Frajzyngier 2001: 217) while in Gungbe, Inter\textsuperscript{o} is occupied by a low tone affix which is suffixed to the object after FinP-movement (12b) (Aboh 2004: 318).

(12) a. Dì dì kàre $gà$  
    eat 3.SG sauce INTER
    ‘Did he eat the sauce?’

b. Kòfì dì nû
    Kofi eat.PERF thing.INTER
    ‘Did Kofi eat?’

2.5 Wh-questions

In many SLs investigated so far, wh-elements either occur in sentence-final position or are doubled, i.e. appear in sentence-initial and sentence-final position, as shown by the NGT subject questions in (13) (van Gijn 2004: 150).

(13) a. BOOK STEAL WHO [NGT]  
    ‘Who stole the book?’

b. WHO BOOK STEAL WHO
    ‘Who stole the book?’

For NGT wh-questions, also see Coerts (1992); for ASL, see Petronio & Lillo-Martin (1997), Neidle et al. (1997, 2000); for Italian SL, see Cecchetto & Zucchi (2004); for Brazilian SL, see de Quadros (1999), Nunes & de Quadros (2004).

Using data from spoken and signed languages, Aboh & Pfau (in press) argue against the common assumption that wh-phrases clause-type a sentence as interrogative and are inherently focused. Rather, they propose that all questions uniformly involve Inter.

Adopting Cheng’s (1991) Clausal Typing Hypothesis, Aboh & Pfau assume that languages only vary as to whether they express the interrogative head Inter overtly or not and whether this head attracts a constituent into its specifier or hosts a question operator.

Firstly, some languages do distinguish between focused and non-focused wh-questions; this has also been shown for some SLs (e.g. Neidle (2002) for ASL, Nunes & de Quadros (2004) for Brazilian SL, Aboh, Pfau & Zeshan (2005) for Indopakistani SL).

Moreover, wh-elements may co-occur with questions particles, indicating that wh-phrases do not move for clause-typing; see the examples from Lele (14a) and NGT (14b) below.

(14) a. Me ba gol dì $gà$?  
    what FOC see 3.SG INTER
    ‘What did he see?’

b. INDEX\textsubscript{2} BIKE STEAL WHO Q-PART
    ‘Who stole your bike?’

Just as argued above for yes/no-questions, we assume that the particle is hosted by Inter\textsuperscript{o} while the proposition including the wh-element – FocP in (14a), FocP/FinP in (14b) – is attracted into SpecInterP.
This analysis is supported by languages that form wh-questions without overt wh-phrases. IPSL, for instance, has only one general wh-sign (G-WH), the interpretation of which is context-dependent and which can only appear in sentence-final position (15).

(15) a. YESTERDAY INDEX\textsubscript{2} PAY\textsuperscript{\textasciitilde} TAKE wh\textsubscript{G-WH} [IPSLS]
   ‘What did you buy yesterday?’

b. INDEX\textsubscript{2} FRIEND SLEEP G-WH
   ‘Where does your friend sleep?’

c. CHILD ANGRY G-WH
   ‘Why is the child angry?’

→ Aboh, Pfau & Zeshan (2005) assume that G-WH is a question particle that spells out the [+q]-feature in Inter\textsuperscript{o} and that questions like those in (15) involve a null wh-element which moves to SpecInterP pied-piping the whole FinP.

→ See Aboh et al. (2005) for discussion of focused IPSL questions in which G-WH combines with a non-interrogative associate phrase; see Pfau & Aboh (in press) for discussion of similar examples from Oro Nao (Wari), a Chapakuran language spoken in Brazil.

→ Note that constructions with null wh-elements are also attested in ASL (16a) (Petronio & Lillo-Martin 1997: 36) and NGT (16b) (also see Zeshan 2004: 30f).

(16) a. FATHER LEAVE e wh [ASL]
   ‘Why/how/when did father leave?’

b. INDEX\textsubscript{2} FRIEND NAME Q-PART wh [NGT]
   ‘What is your friend’s name?’

→ Again, we may assume that the whole clause (FinP) moves to SpecInterP to enter into a Spec-head relationship with Inter\textsuperscript{o} which may or may not be filled by a question particle.

2.6 Summary

→ The NMMs discussed in this section are the overt realization of left periphery features. They need manual material to be articulated with and therefore attract material into their specifier where non-manual marking is established under Spec-head agreement.

→ In all these cases, the NMM defines a prosodic constituent, presumably an intonational phrase (Sandler 1999ab). Moreover, the prosodic phrase boundary is often characterized by a hold and it is followed by a pause (and sometimes an eye blink).

→ Note that other NMMs which have been claimed to be prosodic show different behaviour, e.g. headshake (as in (1)) and headnod (as in (7)). Crucially, these markers are affixal in nature and attach to elements after head movement (Pfau 2002; Pfau & Quer 2002).

3 Sequences of non-manual markers

→ In this section, I consider the possibilities of sequential combination of the NMMs discussed above. I argue that NMMs in SLs – just like morphological markers in languages like Gungbe – can provide clues about the topography of the left periphery, cf. (17) (Rizzi 1997, 2001; Aboh 2004).
(17) Force > (Top | Inter | Top | Foc | Top | Fin | Mood) | IP

3.1 Sequences involving topics

→ **TOPIC & IMPERATIVE**: the NGT example (18a) shows that topics are outside the scope of the imperative (also see (6)). As expected, the reverse order is ungrammatical (18b).

18. a. \(\text{TOPIC, IMPERATIVE} \quad \text{GIVE} \quad \text{TOPIC, IMPERATIVE} \quad \text{NGT} \)
   \(\text{‘The ticket, give (it) to me this evening!’} \)

   \(\text{imp} \quad \text{top} \quad \text{imp} \quad \text{top} \quad \text{NGT} \)

b. \(\text{EVENING, TOPIC} \quad \text{GIVE} \quad \text{TOPIC, IMPERATIVE} \quad \text{NGT} \)
   \(\text{‘Give (it) to me this evening, the ticket!’} \)

→ Similarly, in Gungbe, topicalized (and focused) constituents precede the injunctive marker which is taken to be located in Fin° (19) (Aboh 2004: 183).

19. \(\text{TOPIC, IMPERATIVE} \quad \text{NGT} \)
   \(\text{‘As for the specific meat, I said that Asiba should cook it.’} \)

→ **TOPIC & YES/NO-QUESTION**: in the NGT example (20a) and the Chinese SL (CSL) example (20b) (Yang & Fischer 2002: 192), a topicalized constituent precedes a yes/no-question; again, the reverse order is ungrammatical.

20. a. \(\text{TOPIC, YES/NO} \quad \text{DARE} \quad \text{INDEX, INDEX} \quad \text{STROKE} \quad \text{NGT} \)
   \(\text{‘As for the horse, do you dare to stroke it?’} \)

   \(\text{wh} \quad \text{top} \quad \text{imp} \quad \text{top} \quad \text{NGT} \)

b. \(\text{TOPIC, YES/NO} \quad \text{WATCH} \quad \text{NEG} \quad \text{handwave} \quad \text{CSL} \)
   \(\text{‘You don’t watch TV, do you?’} \)

→ Sticking to the assumption that the questioned proposition occupies SpecInterP, this implies that either there is a topic position above Inter (as claimed by Rizzi (2001)) or that we are dealing with snowballing movement of TopP to SpecInterP.

→ The latter has been argued for by Aboh (2004: 320f) for similar Gungbe examples; see (21) (Aboh, p.c.) in which \(\text{làn lç@ ì́} \) (‘the specific meat’) is moved to SpecTopP and the whole TopP raises to SpecInterP where the sentence-final low tone attaches.

21. \(\text{TOPIC & WH-QUESTION}: \text{topics may also precede wh-questions, as shown for NGT in} \) (22a) and for ASL in (22b) (Fischer 2005), the reverse order being ungrammatical.

22. a. \(\text{TOPIC, WH-QUESTION} \quad \text{NGT} \)
   \(\text{‘As for the book, who stole it?’} \)

   \(\text{wh} \quad \text{top} \quad \text{wh} \quad \text{top} \quad \text{NGT} \)
b. CHOCOLATE, WHICH POSS BROTHER LIKE [ASL]

‘As for chocolate, which kind does your brother like?’

→ **TOPIC & FOCUS**: for Italian, Rizzi (1997) shows that while there can be multiple topics in a clause, there is only one structural focus position located between the two TopPs.

→ So far, only little is know about focus in SLs. Lillo-Martin & de Quadros (2004) give two examples from ASL and Brazilian SL (LSB) that illustrate the interaction of information focus with topic: a moved topic follows the focus constituent (23a) while a base-generated topic (topic-comment: t-c) precedes it (23b).

(23) a. Q: WHAT INDEX READ INDEX SCHOOL? [ASL/LSB]
   top                      wh
   I-foc  1-l-foc  top
   A: BOOK STOKOE INDEX SCHOOL, INDEX READ

b. Q: FRUIT, WHAT JOHN LIKE?
   t-c  I-foc
   A: FRUIT, BANANA, JOHN LIKE MORE

→ Note, however, that Lillo-Martin & de Quadros assume that the base-generated topic (23b) sits in the specifier of a Topic-Comment-Phrase that is located above ForceP.

→ **TOPIC & CONDITIONAL**: based on the above assumption that SL conditional clauses always move to SpecForceP, we predict that topics cannot precede conditionals. As shown in (24), however, at least for NGT and ASL, this prediction is not borne out.

→ Crucially, a topic can precede the conditional clause (24a) while the reverse order is degraded (24b); also see discussion in Neidle (2002: 80f) where it is shown that base-generated topics can precede conditionals in ASL (24c).

(24) a. BOOK, SUPPOSE SUNDAY INDEX VISIT, INDEX GIVE
   top  cond
   ‘As for the book, if you visit me on Sunday, I will give it to you.’

b. * SUPPOSE SUNDAY INDEX VISIT, BOOK, INDEX GIVE
   top  cond
   ‘If you visit me on Sunday, as for the book, I will give it to you.’

c. JOHN, RAIN, INDEX LEAVE [ASL]
   ‘As for John, if it rains, he’s leaving.’

→ At present, I can only speculate about the reason for this contrast. Following Lillo-Martin & de Quadros (2004), one might assume that there is a topic position above ForceP.

→ Alternatively, the conditional clause does not occupy SpecForceP but a lower topic position; but see the discussion of (26) and (27) below where it is shown that conditionals precede interrogatives.

### 3.2 Sequences involving conditionals

→ **CONDITIONAL & TOPIC**: see the discussion of (24) above.

→ **CONDITIONAL & IMPERATIVE**: the NGT example (25a) and the ASL example (25b) (Fischer 2005) illustrate the interaction of conditional marking with imperative marking: conditionals must precede imperatives.
(25) a. FIRE SEE, HOUSE INDEX₃ RUN-TO₃
   ‘If you see fire, run to the house!’
   \[NGT\]

   b. WANT BECOME DOCTOR, MUST STUDY HARD
   ‘If you want to become a doctor, you must study hard.’
   \[ASL\]

→ This order can be accounted for, no matter whether we assume that the conditional is hosted by SpecForceP or SpecTopP.

→ **CONDITIONAL & YES/NO-QUESTION**: as shown in (26), conditional clauses, just like topics (20), may precede yes/no-questions, indicating that the conditional sits in a position above InterP; (26b) from Wilcox & Wilcox (1995: 143).

(26) a. EVENING RAIN, PARTY CANCEL
   ‘If it rains in the evening, will the party be cancelled?’
   \[NGT\]

   b. INDEX₃ₐ STUDY++, PASS TEST WILL INDEX₃ₐ
   ‘If he studies really hard, will he pass the test?’
   \[ASL\]

→ Sticking to the assumption that the interrogative sits in SpecInterP, these examples indicate that the conditional clause is hosted by a position above SpecInterP.

→ **CONDITIONAL & WH-QUESTION**: similarly, the conditional clause can precede a wh-question, as shown in (27) (Smith 2004).

(27) SUPPOSE PARTY CANCEL, WHO GO-TO BEACH WHO
   ‘Who will go to the beach if the party isn’t cancelled?’
   \[NGT\]

→ Note that other conceivable combinations of NMMs are ruled out in principle, i.e. yes/no- and wh-marking, imperative and yes/no-marking, and imperative and wh-marking.

3.3 **Sequences of three NMMs**

→ Given the possible combinations of NMMs described above, one may also predict more complex combinations, i.e. the sequential co-occurrence of three NMMs.

→ **TOPIC, CONDITIONAL & WH-QUESTION**: combining the possibility of a topic and a conditional to precede a wh-question and of a topic to precede a conditional, we do indeed get the grammatical sequence in (28).

(28) PARTY INDEX₃, EVENING RAIN, INDEX₂ WEAR WHAT
   ‘As for the party, if it rains in the evening, what will you wear?’
   \[NGT\]

→ **TOPIC, TOPIC & YES/NO-QUESTION**: moreover, given the possibility of topic stacking and of a topic to precede a yes/no-question, the attested sequence in (29) is predicted to be possible.
Again, as in all of the examples discussed in this section, we are dealing with three clearly separate prosodic units. In (29), all three are marked by raised eyebrows; in addition, the last one is marked by a forward head tilt.

4 Spreading of mouthings: prosodic linking

In this section, I briefly turn to another type of prosodic non-manual spreading, the spreading of lexical NMMs (mouthings and mouth gestures): prosodic linking.

In contrast to the phenomena discussed in section 3, prosodic linking is strictly local in that it can only target adjacent functional elements; it is indicative of cliticization; the relevant prosodic domain is the phonological word.

In the NGT example (30a), we observe three instances of spreading of mouthings from lexical elements onto right-adjacent functional elements (Nonhebel et al. 2004).

In the DGS example (30b), the mouthing associated with the adjectival predicate spreads onto the sentence-final auxiliary PAM (person agreement marker); in this case, we also observe phonological fusion and regressive handshape assimilation.

Crucially, syntactic NMMs and mouthings/mouth gestures can be stacked on top of each other (layered; cf. Wilbur 2000), as shown in (31).

This is clearly a modality-specific property of SL prosody, since – in contrast to spoken language tones – prosodic domains of different size are simultaneously marked by NMMs which make use of different articulatory channels.

5 Conclusion

I have argued that the distribution of syntactic NMMs in SLs can give us some evidence for the topography of the left periphery, i.e. the hierarchical organization of functional heads – just like morphological markers in languages like e.g. Gungbe.
Generally, the syntactic NMMs discussed above are the overt realization of features in the head of a left-periphery XP; the NMM locally associates with the phrase in SpecXP (base-generated or moved) under Spec-head agreement.

Whenever two NMMs sequentially follow each other, the constituents they accompany are clearly separate prosodic units (presumably intonational phrases), as indicated by a prosodic break, by change in body posture, head position, and/or facial expression.

In NGT and other SLs, non-manually marked constituents may follow each other in the order given in (32). I have pointed out above that not all of these co-occurrences can be mapped onto the sequence of left periphery positions as argued for by Rizzi (1997, 2001) and others in a straightforward way.

(32) Topic > Conditional or Topic > Yes/no- or Wh-question > Imperative

Interestingly, NMMs may be stacked whereby head and body markers are associated with intonational phrases while mouth markers are associated with prosodic words; both may be accompanied by additional manual cues.

References


