The Syntax and Prosody of Clausal Rerooting*

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1 Introduction

1.1 Point of Departure

➢ Many phenomena are generally restricted to the root clause – ex, subj/aux inversion in English.

(1)

a. What will John say?

b. I wonder what John will say.

➢ Sometimes, however, such phenomena are found in embedded clauses, too.

(2) John said that never again would he do that.

➢ Interestingly (1)b is a single intonational phrase, ι

(2) forms two ιs.

a. [, I wonder what John will say.]

b. [, John said that][, never again would he do that.]

➢ We attempt to capture these two observations under the same analysis – illustrate also with European Portuguese and Korean.

➢ Answer: root clause phenomena and ι are both triggered by the Speech Act Phrase (SaP)

➢ SaP typically found only in the matrix clause.

1.2 Main Questions:

➢ Under Match Theory (Selkirk 2009; 2011), what corresponds to the Intonational Phrase, ι?

CP (Selkirk 2009)?

locus of illocution (Selkirk 2011)?

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How do we understand main clause phenomena that appear in embedded clauses?

Subject-aux inversion in English

Procliticis in European Portuguese

Participant-oriented psychological predicates in Korean

Under Match Theory $\iota = \text{CP}$ (must be re-evaluated)

1.3 Proposal

- Root clause contains Speech Act phrases, SaP (Speas & Tenny 2003)
- Proposal: $\iota = \text{SaP}$
- Embedded clause typically lacks SaP $\rightarrow$ do not form separate $\iota$
- If SaP is present in an embedded clause $\rightarrow$ separate $\iota$, related semantic effects
- We give examples from English, European Portuguese and Korean to illustrate our claim.

1.4 Roadmap

- section 2 – Background
- section 3 – Phenomena
- section 4 – Analysis
- section 5 – Conclusions and outlook

2 Background

- This section discusses (i) the Intonational Phrase, $\iota$, and (ii) the Speech Act Phrase (SaP)

2.1 Defining the Intonational Phrase

- In simple descriptions $\iota$ is defined as CP or as an illocutionary clause (Selkirk 2011)
- Many instances of *comma intonation* $\rightarrow$ XP forms a separate $\iota$

(3) 

a. This book, John read yesterday.

b. [, this book][, John read yesterday]
List of items that form separate ι: non-restrictive relative clauses, topics, etc. (Nespor & Vogel 1986)

Hamlaoui and Szendrői (2015; 2017) propose that the highest projection of the verb or aux determines the ι → topics are higher than this projection → separate ι

Assume for English that past tense is in T and undergoes lowering (Lasnik 1981; Skinner 2009)

(4) a. \[
\text{[CP [TP John T[-ed] read this book yesterday.]]}
\]
a’. \[
\text{[ι, John read this book yesterday]}
\]

b. \[
\text{[CP this book, [TP John T[-ed] read τ, yesterday.]]}
\]
b’. \[
\text{[ι, this book][ι, John read yesterday]}
\]

Problem:

(5) O João não me viu \[
\text{[European Portuguese] DET John NEG 1SG.ACC.CL see.3SG.PST}
\]
‘John didn’t see me.’

European Portuguese has V-to-T movement, like French (Raposo 1987; Pollock 1989; Barrie 2000).

The material to the left of the verb cannot all plausibly appear in TP

(5) constitutes a single ι → clearly the position of the verb cannot determine ι, at least in European Portuguese.

Embedded clauses → default case: one ι

(6) a. Mary knows that John ate her apple.
   b. Mary knows when John ate her apple.

both are a single ι

cannot simply map CP to ι

Also cannot map projection containing V or Aux to ι – would always expect one ι per clause, contrary to what we observe in (2)a. and (6).
2.2 *Speech Act Phrases*

- Root clause contains high CP elements and Speech Act phrases (Speas & Tenny 2003; Haegeman & Hill 2013)
- Sometimes called the ‘far-left periphery’, the Speech Act domain is a formalization of the syntax-discourse interface
- The Speech Act Domain is comprised of the Speech Act Projection (Speech Act Phrase), and a Point of View Domain (Sentience Phrase) - (7) abbreviated as SaP layer
- Elements in the Speech Act Domain:
  - P-roles: SPEAKER, HEARER and UTTERANCE CONTENT
    - Each are structural positions within the Speech Act head’s maximal projection
- Elements in the Point of View Domain:
  - Evaluation head, SEAT OF KNOWLEDGE, Evidential head and EVIDENCE
    - Structurally configures the point of view of the grammaticized sentient entity

(7)

```
        SaP
       /   \
      Sa    \
     /   \  \
    Sa  sa*
      /     \  
   UTTERANCE CONTENT (EvalP) sa*
      /       \  
     SEAT OF KNOWLEDGE Eval’ sa* HEARER
       /   \
      Eval EvidP
     /   \  
    EVIDENCE Evid’
      / \  
     Evid CP
      \ P
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- (7) represents the Speech Act Domain and the Point of View Domain combined, specifically for the declarative sentence
3 Three Phenomena

➢ Three empirical issues: English, Korean, European Portuguese

3.1 Embedded Subject/Aux Inversion

➢ Subject-auxiliary inversion is normally restricted to the matrix clause in English.

(8)  

a.    Mary asked what John was reading.

b.    *Mary asked what was John reading. [Standard English]

➢ For many speakers, however, subj-aux inversion is permitted in casual speech (Wood, McCoy & Martin 2015)

(9)  

%Mary asked what was John reading. [Casual English]

➢ Furthermore, subj-aux inversion is obligatory with certain embedded focus phrases in both causal and standard English.

(10)  

a.    Mary said that never again would she read Skinner.

b.    *Mary said that never again she would read Skinner.

➢ Problematic for the standard I-to-C analysis of subj-aux inversion (Williams 1974)

➢ C position is already filled with an overt complementizer.

➢ Thinking of subj-aux inversion as a root phenomenon, we propose the following:

that the embedded clause is built up and includes SaP,

which gives rise to root clause effects (subj/aux inversion),

including being prosodically marked as a separate Intonational Phrase.

➢ The remainder of the clause is then built up in the usual way.

➢ The lack of subj-aux inversion in Standard English in (8) is the result of a bare CP (in the sense of Rizzi 1997) structure found only in canonical embedded clauses.

➢ The bare CP does not attract the auxiliary.
3.2 **Korean Experiencer Verbs**

- Experiencer verbs in Korean are well known for person restrictions (C. Lee 1999; Park 2013).\(^1\)
  
  (11)  
  a. nay-ka/*Minswu-ka sakwa-ka coh-a-yo  
      1sg-nom/*minsoo-nom apple-nom good-infrm-pol  
      ‘I/*minsoo like(s) apples.’
  
  b. ?nay-ka/Minswu-ka sakwa-lul coh-a ha-ye-yo  
      1sg-nom/minsoo-nom apple-acc good-inf do-infrm-pol  
      (‘I/minsoo likes apples.’)

- subject must be 1st person, (11)a

- unless the light verb *hata* is used, (11)b.

- In embedded clauses the subject of *cohta* is the matrix subject rather than the 1st person (Barrie & Kim 2014; Kim 2014; 2015).

  (12)  
  a. Minswu-nun sakwa-ka coh-ta-ko ha-ye-ss-ta  
      minsoo-top apple-nom good-decl-comp say-infrm-pst-decl  
      ‘Minsoo said that he\(^1\) likes apples.’
  
      minsoo-top 1sg-nom apple-nom good-decl-comp say-infrm-pst-decl  
      (‘Minsoo said that I like apples.’)

- Matrix clause – subject is 1st person – agrees with speaker in SaP (see Kim 2014; 2015 for details)

- Embedded clause – subject is identical with matrix subject

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\(^1\) Similar effects are found with so-called Jussives (Pak 2006; H. Lee 2012; Zanuttini, Pak & Portner 2012), and with the volitive –*keyss* (Koo & Lehmann 2010; Park 2013).
Consider now the following data

(14) a. *emma-nun nay-ka sakwa-ka coh-ta-ko ha-ye-ss-ta
    mom-TOP 1sg-NOM apple-NOM good-DECL-COMP say-INFRM-PST-DECL
    (‘Mom said that I like apples.’)

    b. emma-nun mwusun iywu-eyse-inci nay-ka sakwa-ka
    mom-TOP what reason-LOC-for 1sg-NOM apple-NOM
    coh-ta-ko ha-ye-ss-ta
    good-DECL-COMP say-INFRM-PST-DECL
    ‘Mom, for whatever reason, said that I like apples.’

(14)a. violates generalization above  ungrammatical

(14)b. possible  embedded SaP reroots the embedded clause

subject of cohta is now the speaker (1st person) rather than the matrix subject

3.3 Embedded Portuguese Topics

European Portuguese typically has enclitic object pronouns in the main clause.  

(15) a. O pai  deu-me este livro
    the father gave-me this book
    ‘Father gave me this book.’

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2 The hyphens in the Portuguese examples are purely orthographic.
b. Este livro deu-me o pai
   this book gave-me the father
   ‘This book, father gave me.’

- Enclitic (in bold) is found in a neutral sentence and with a topic.
- Embedded clauses nearly always have proclitic object pronouns, again in bold.
- When an embedded topic is found, however, enclisis surfaces again.

(16) a. A Maria disse que o pai me deu este livro.
   The Mary said that the father me gave this book.
   ‘Mary said that father gave me this book.’

   b. A Maria disse que este livro deu-me o pai
   the Mary said that this book gave-me the father
   ‘Mary said that, this book, father gave me.’

- Enclisis in EP sometimes analyzed as V to C movement (Barrie 2000)
- V to C movement blocked in embedded clauses (overt C)
- same effects with intonation:
  (16)a is one τ
  (16)b is two τ

4 Analysis

- This section provides the analysis for the facts presented above

4.1 Standard Wh-Movement

- Matrix questions are related to the relationship between the speaker and the hearer.
- It is a Call on the Addressee to answer a question (Searle 1969; Haegeman & Hill 2013; Heim et al. 2014).
- Call on Addressee – How the speaker wishes the addressee to deal with the utterance
  (respond to it, give clarification, expect agreement, etc.)
- Embedded questions do not have this property. – not a Call on Addressee (except maybe pragmatically)
- Thus, matrix wh-phrase interacts with SaP layer
Proposal: Subject/Aux Inversion takes place with an affective operator (question, emphatic phrase, etc.) AND a SaP.

➢ Tentative structures:

(17) a. What did you eat?
    b. I wonder what you ate.

(18) \[
\begin{array}{c}
\text{DP}_i \\
\text{what} \\
\text{Sa'} \\
\text{CP} \\
\text{t}_i \\
\text{C'} \\
\text{C} \\
\text{did}_j \\
\text{tp} \\
\text{you t}_j \text{ eat t}_i
\end{array}
\]

(19) \[
\begin{array}{c}
\text{VP} \\
\text{V} \\
\text{wonder} \\
\text{DP}_i \\
\text{what} \\
\text{C'} \\
\text{tp} \\
\text{you ate t}_i
\end{array}
\]

➢ Doubly-filled Comp Filter? (Chomsky & Lasnik 1977)

4.2 Embedded Emphatic Phrases

➢ Embedded emphatic phrase requires subject/aux inversion

(20) a. Mary said that never again would she eat anchovies.
    b. * Mary said that never again she would eat anchovies

➢ excursus on meaning of emphatic phrases

(21) a. Mary will never eat anchovies again.
    b. Never again will Mary eat anchovies.

➢ (21)a. is neutral
(21)b. is a Call on Addressee indicating that the proposition is important or urgent in some way.

Recall: embedded questions are not a Call on Addressee.

Embedded emphatic phrase is a Call on Addressee - (20)a. still conveys to the addressee a sense of importance or urgency.

embedded SaP needed

(22) …said that [SaP never again] [CP would] [TP she t_f … t_i ]

embedded SaP triggers subject/aux inversion

4.3 Embedded Wh-Questions

In casual speech in English subject/aux inversion is sometimes found in embedded content questions.

(23) I wonder what did he do.

Further research is necessary into the properties of embedded subject/aux inversion in embedded wh-questions.

preliminary observations:

Do not work well with self-reflection

(24) ?I wonder what should I eat for lunch [said to self]

suggests Speaker/Addressee interaction is necessary

suggests an embedded SaP is present

another tentative suggestion: Speaker builds sentence from bottom up

When CP is formed, speaker “inadvertently” merges SaP rather than matrix verb

Embedded subject/aux inversion is typically judged ungrammatical and is difficult to elicit.

May be due to prosody (see below) or to the fact that these are accidentally created.

Korean: embedded SaP – embedded subject of good coreferential with 1π
(25)  
a.  Minswu-nun sakwa-ka coh-ta-ko ha-ye-ss-ta  
Minsoo-TOP apple-NOM good-DECL-COMP say-INFRM-PST-DECL  
‘Minsoo said that he likes apples.’
  
b.  emma-nun mwusun iywu-eyse-inci nay-ka sakwa-ka  
mom-TOP what reason-LOC-for lSG-NOM apple-NOM  
coh-ta-ko ha-ye-ss-ta  
good-DECL-COMP say-INFRM-PST-DECL  
‘Mom, for whatever reason, said that I like apples.’

(26)  
a.  [SaP [CP [TP Subj1 … [VP [CP [TP Subj1 [VP apple good ]]]]]]]  
b.  [SaP [CP [TP Subj … [VP [SaP 1π [CP [TP Subj1 [VP apple good ]]]]]]]]  

European Portuguese:

Again – topichood relates to an understanding between the speaker and the addressee

Embedded topic ↔ embedded SaP

(27)  
a.  A Maria disse que o pai me deu este livro.  
The Mary said that the father me gave this book  
‘Mary said that father gave me this book.’
  
b.  A Maria disse que este livro deu-me o pai  
the Mary said that this book gave-me the father  
‘Mary said that, this book, father gave me.’

reanalyze que (complementizer) as very high Force (akin to Korean ko)

as above, embedded SaP, verb can raise to C ↔ enclisis in (27)b.

4.4 Interim Summary

Embedded subject(aux) inversion occurs with embedded emphatic phrases and sometimes in causal speech with embedded wh-phrases.

In both cases, there is reasonably strong evidence to Speaker/Addressee interaction.

This suggests an embedded SaP is found

We have correlated the presence of SaP with subject(aux) inversion, leaving the precise implementation to future research.

Topic (embedded or otherwise) draws attention to previous entity between speaker and addressee
Embedded topic requires an SaP to negotiate how the proposition is related to the speaker’s Call on Addressee

Significant pause and pitch reset before embedded topic → new ι

Both the Korean and the Portuguese data strongly suggest that an embedded SaP reroots the clause based on semantic and prosodic facts.

4.5 Interaction with Prosody

Intonational phrase (ι) – top of prosodic hierarchy (Nespor & Vogel 1986; Selkirk 1986; 2011)

(28) Intonational phrase > phonological phrase > phonological word; ι > φ > ω

Match Theory: ι corresponds to clause; φ corresponds to XP (Selkirk 2009; 2011)

Why only the root clause corresponds to a clause is somewhat of a mystery

proposal: ι corresponds to SaP – usually not found in embedded clauses

embedded emphatic phrase: definite break and start of new ι

\[L\% \text{H-----} \text{H} \text{L\%}\]

(29) John said that never again would he go on an airplane.

Prosody of embedded \textit{wh} harder to test – must use recorded real-life examples

Nevertheless, a slight low boundary tone can be perceived with embedded subject/aux inversion, but not with standard non-inversion

\[H*----- \text{L\%}\]

(30) a. I wonder what John ate.

\[\text{L\%} \text{L\%}\]

b. I wonder what did John eat.
(31) a. A Maria disse que o pai me deu este livro.  
  The Mary said that the father me gave this book.
  ‘Mary said that father gave me this book.’

  b. A Maria disse que este livro deu-me o pai.  
  the Mary said that this book gave-me the father
  ‘Mary said that, this book, father gave me.’

➢ Boundary tones indicate right edge of t (pitch tracks required)

➢ More detailed prosodic analysis is required for embedded wh-phrases
embedded emphatic phrases – more commonly accepted as starting a new ι

5 Conclusions

Subject-aux inversion in English is generally restricted to the matrix clause

We discussed two instances where embedded subject-aux inversion is found

Embedded emphatic phrases (obligatory)

Embedded wh-questions (optional, only in causal speech)

We discussed various lines of evidence tying these two environments together:

Embedded element (emphatic phrase/wh-phrase) is related to the relationship between the speaker and addressee.

Embedded clause constitutes a new ι

We proposed that these facts can be explained by rerooting the clause by allowing an embedded SaP

Gives rise to speaker-addressee relations

We proposed that ι in Match Theory corresponds to a SaP rather than to a ‘clause’

Test prosody in multclausal constructions in other languages.

References:


Hamlaoui, Fatima & Kriszta Szendrői. 2015. A flexible approach to the mapping of intonational phrases. *Phonology* 32(1). 79–110. DOI: https://doi.org/10.1017/S0952675715000056


