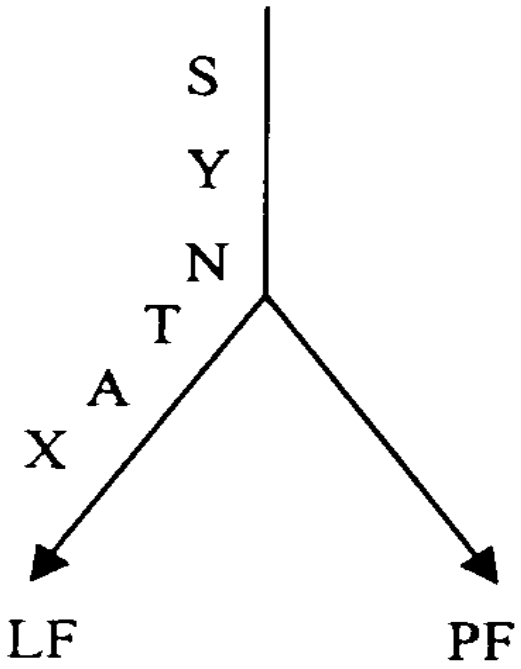
A flexible theory of the syntax-prosody interface

Typological considerations

Kriszta Eszter Szendrői
k.szendroi@ucl.ac.uk

T-model

(Chomsky 1995)



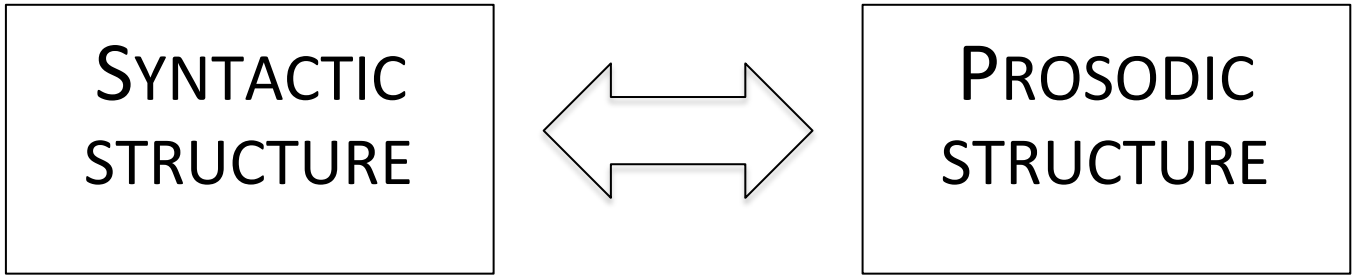
- explains phonology-free syntax (Zwicky 1969)

'we thus adopt the (nonobvious) hypothesis that there are no PF-LF interactions relevant to conver-gence' (Chomsky 1995: 220)

(1) *Stress-focus correspondence* (Reinhart 1995; 2006):
The focus of an utterance always contains the prosodically most prominent element of the utterance.

Parallel architecture

(Jackendoff 1997, 2002)



- Allows for direct PF-LF correspondence

Challenge: mapping between modules must be specific and deterministic to facilitate parsing and language acquisition

Against Cartography

Focus movement

(1)

[$_{TopP}$ Péter [$_{FocP}$ MARIT mutatta [$_{VP}$ be t_V t_{DP} Zsófinak]]]

Peter Mary-acc introduced Prt Sophie-dat

'Peter introduced MARY to Sophie.'

(2)

[$_{FocP}$ [$_{DP}$ Il TUO libro] Foc^0 [$_{TP}$ ho [$_{VP}$ comprato t_{DP}]]]

the your book have-1sg bought

'I bought YOUR book (, not his).'

Focus Criterion

(3) *Focus criterion*

$[_{FP}\ XP_{focus}\ Foc^{0} \ldots [_{VP} V \quad t_{XP}]$

[+F] [+F]

Tacit assumption underlying all cartographic work: there is a one-to-one mapping between designated functional projections and their interpretations at LF (Cinque & Rizzi 2008).

Optonality

Advantage of Cartography: semantics can be trivially read off from syntactic structure (i.e. focus is focus by virtue of being in [Spec, FocP]

BUT: focus movement is optional in many (if not all) languages (see e.g. Rizzi (1997) for Italian, Gryllia (2009) for Modern Greek; Green & Jaggar (2003) for Hausa; Erguvanli (1984), Issever (2003) for Turkish; Kügler, Skopeteas & Verhoeven (2007) for Yucatec Mayan etc.)

3 possible escape routes

- *don't believe your eyes*: focus movement always happens, just sometimes it is covert
- *work harder*: no real optionality, we must try to find a systematic interpretational difference between the moved and unmoved instances
- *adjust the theory*: allow for a many-to-one mapping between syntax and LF, i.e. both the moved and the in situ position may give rise to the same interpretation.

Optionality continued

- Option 1: no convincing case has ever been put forward for covert focus movement in any language.
- Option 2: Empirically untenable in the face of data from many languages where a particular focal interpretation can be expressed both by moved and in situ foci (e.g. English, German, Italian, Hausa etc.). Even if an interpretational difference between moved and in situ foci can be demonstrated for one language, it is unlikely to be demonstrable for all languages.

Optionality continued

- Option 3: serious weakening of the cartographic assumption.

What is the reason for the movement operation?

What is the function of the corresponding Focus^0-head? Purely syntactic, with no LF consequence?

→ the surface position of the focal element is accidental. Since it has no LF effects, we cannot hope to find an explanation of why it occurs in certain languages, and why it occurs in a <u>particular</u> position in the syntactic tree.

Proliferation of Focus-heads

"South Africa wants two, one for the black and one for the white." Tom Lehrer

- a structurally lower right-peripheral position was identified by Samek-Lodovici (2005)
- Cruschina (2011) proposed different types of focus positions for new information focus ($IFoc^0$) and contrastive focus respectively ($CFoc^0$)
- Languages with an active middle field, such as Dutch, were shown to necessitate a whole series of focus positions, if analysed in the cartographic approach (Neeleman, Titov, van de Koot & Vermeulen 2009).

What's wrong? The more the merrier.

Proliferation continued

BUT: remember the Cartographic assumption!

one-to-one correspondence between position and interpretation

What are the options?

Option 1: work harder: distinguish the positions

Option 2: adjust the theory: many-to-one mapping is ok

Proliferation continued

- Option 1: Cruschina: ContrFocP, InfoFocP
  - put aside that these are not so clear cut categorical distinctions

  Neeleman et al (2009): Dutch middle field has many positions and there is no interpretational difference
- Option 2: such a weaking might bleach the whole enterprise
  - Its hallmark is designated functional positions. But a focus can move to multiple positions as well as stay in situ AND receive the same interpretation.

An alternative: recall from yesterday

(2) *Syntax-prosody mapping of 'clauses'*

(Hamlaoui & Szendrői 2015:82, ex.4):

a. Syntax-to-prosody mapping

i. ALIGN-L (HVP-*ι*):

Align the left edge of the highest projection whose head is overtly filled by the root V, or verbal material, with the left edge of an *ι*.

ii. ALIGN-R (HVP-*ι*):

Align the right edge of the highest projection whose head is overtly filled by the root V, or verbal material, with the right edge of an *ι*.

(2)

iii. SPA–ι

Each Speech Act is contained in a single ι .

(Hamlaoui & Szendrői 2017:7, ex.7; following Downing 1970)

(2) *Syntax-prosody mapping of 'clauses'*

(Hamlaoui & Szendrői 2015:82, ex.4):

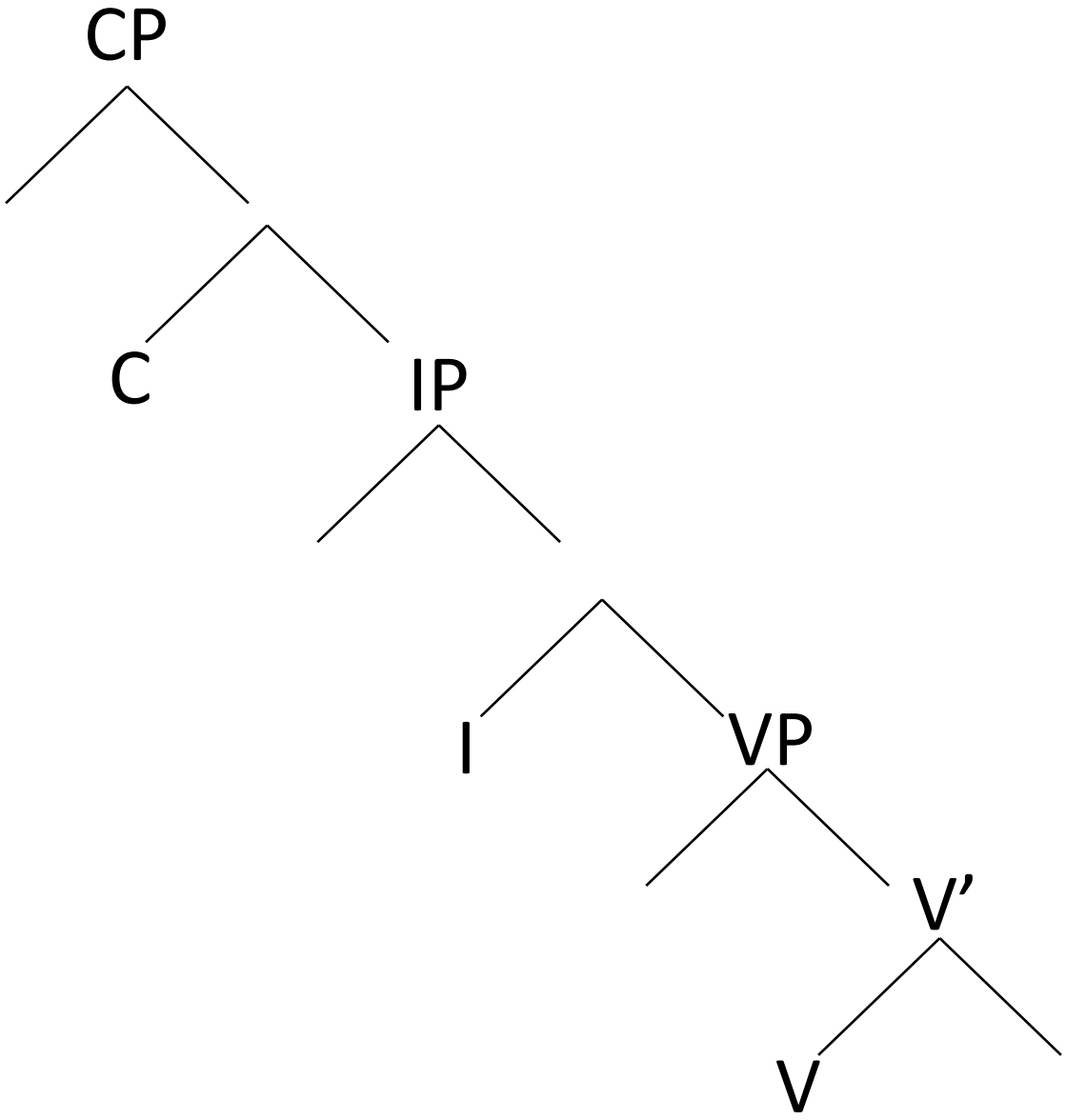
b. Prosody-to-syntax mapping

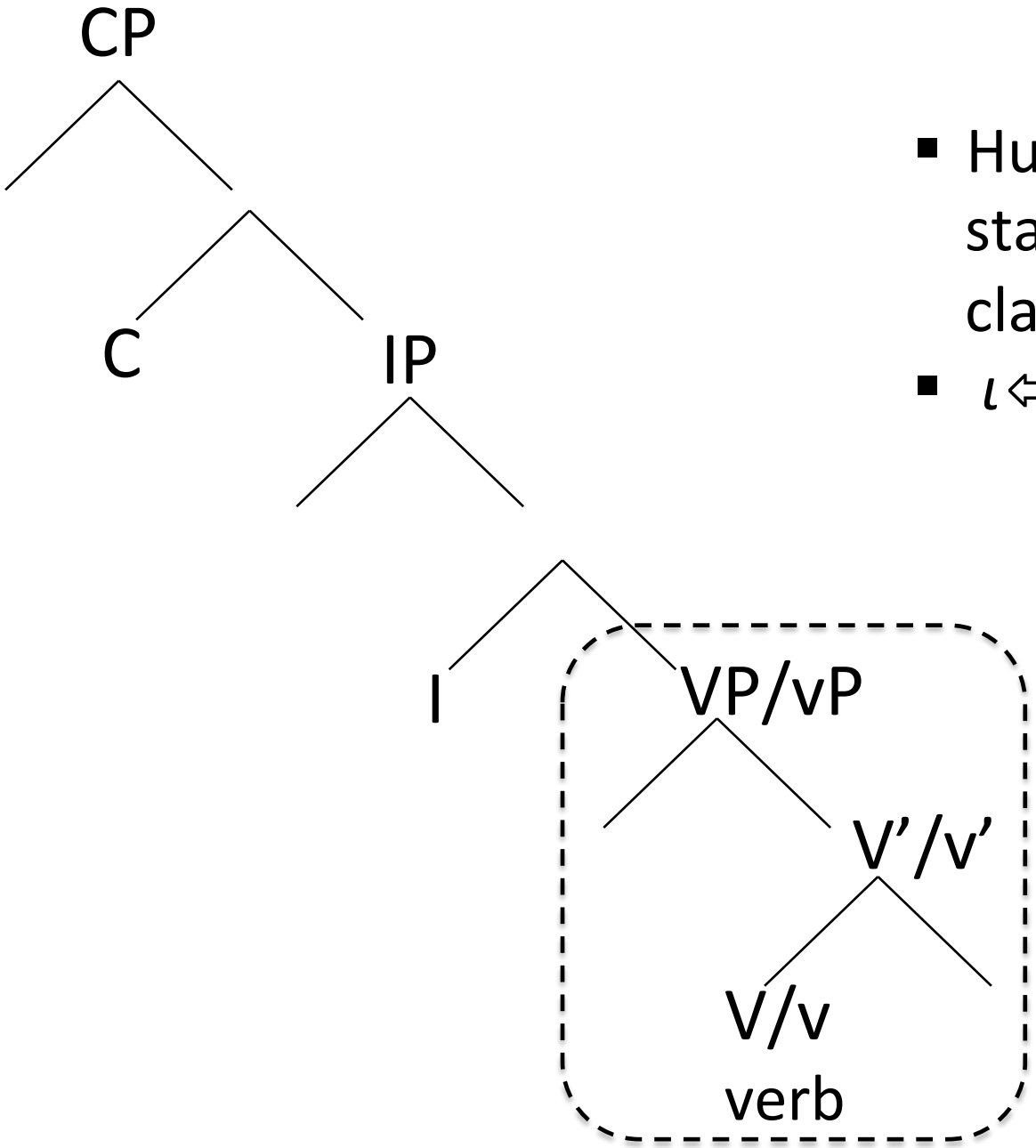
(i) ALIGN-L (*ι*-HVP):

Align the left edge of an *ι* with the left edge of the highest projection whose head is overtly filled by the verb or verbal material.

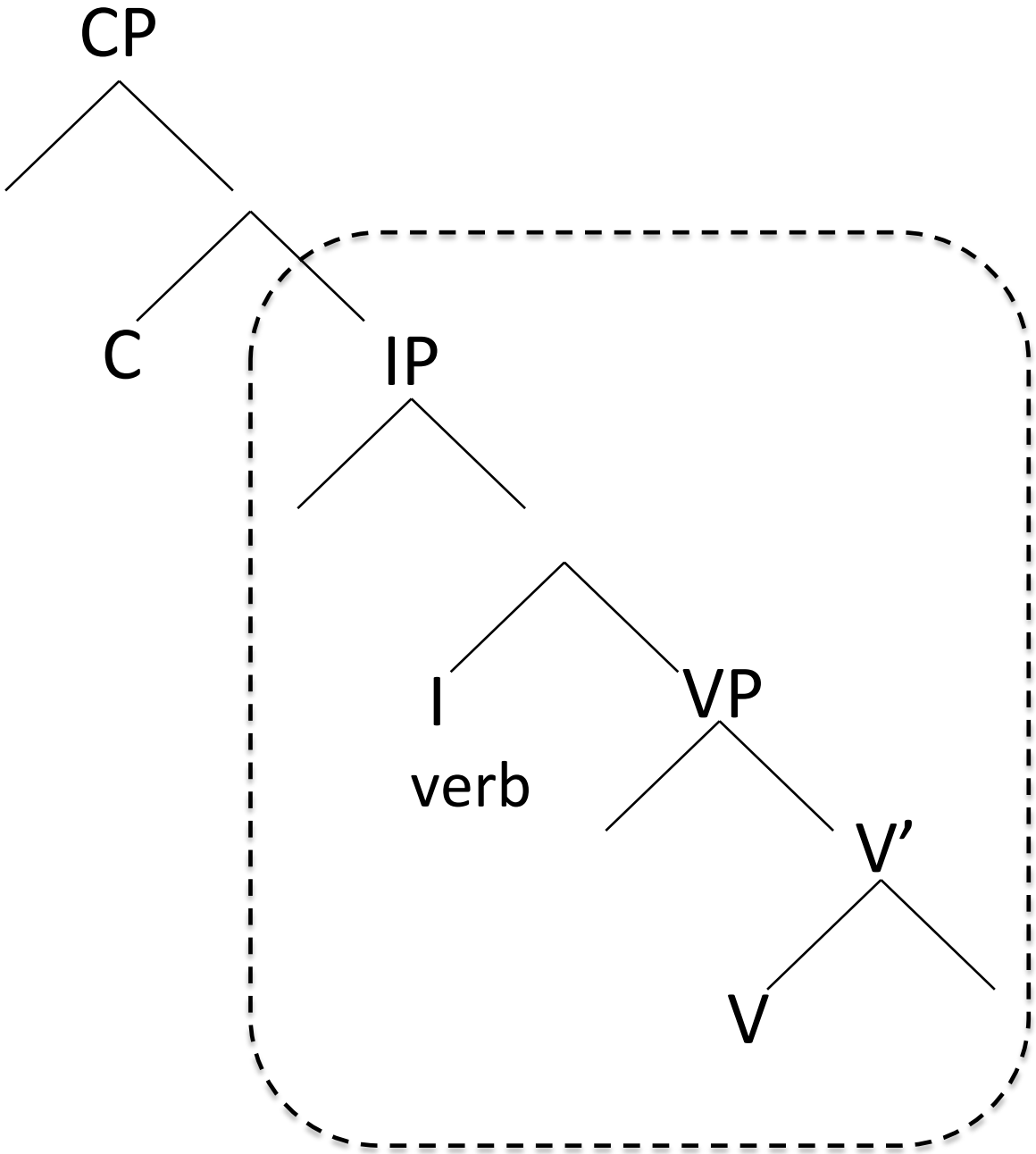
(ii) ALIGN-R (*ι*-HVP):

Align the right edge of an *ι* with the right edge of the highest projection whose head is overtly filled by the verb or verbal material.

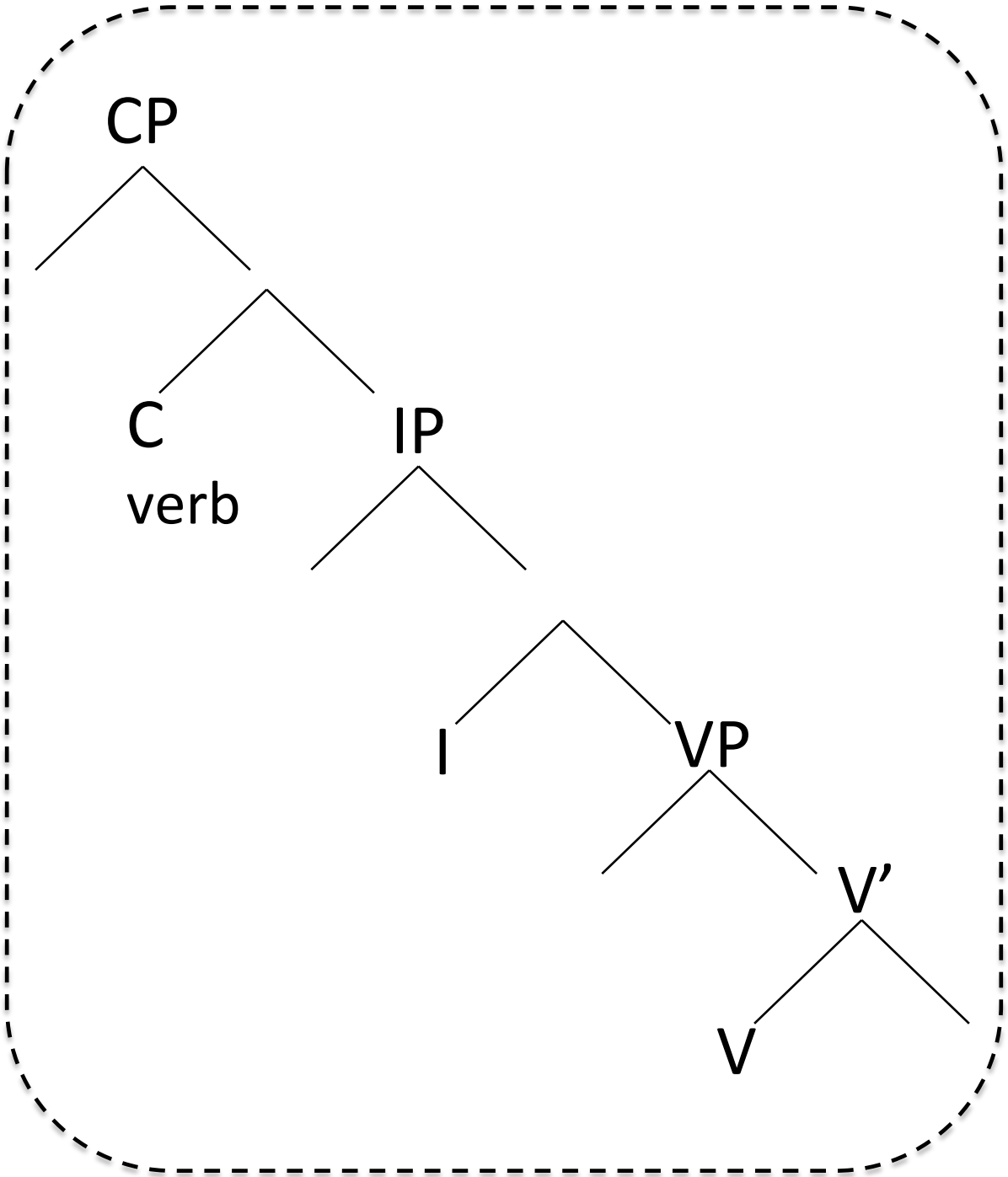

CP
C
IP
I
VP
V’
V



- Hungarian: no Aux, V stays low in neutral clauses
- ι ⇔ VP/vP



- Italian: V-to-I
  English: Aux in I
- $\iota \Leftrightarrow$ IP



- Italian/ English *wh*-questions
- German: V2
- $\iota \Leftrightarrow$ CP

Hungarian left-peripheral focus

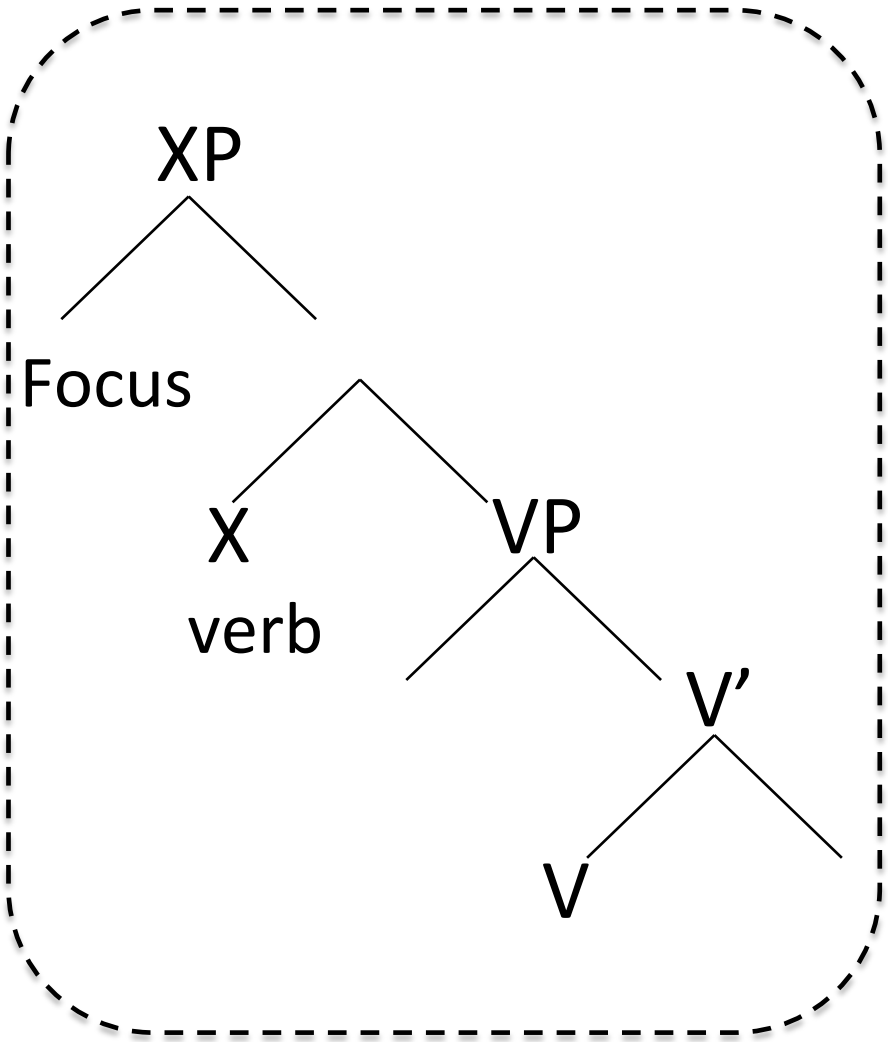
(3)

[$_{\textbf{FocP}}$ PÉTERT$_i$ <u>szerette</u>$_j$ [$_{VP}$ meg t$_j$ Mari t$_i$]]**]**

Peter.ACC loved PRT Mary

'It was PETER that Mari fell in love with.'

Left-peripheral focus movement can target [Spec, XP] with verb in X:



Stress-focus correspondence

(7) *Stress–Focus Correspondence Principle*

The focus of a clause is any constituent containing the main stress of the *ι*, as determined by the stress rule (Reinhart 1995/2006; Szendrői 2001, 2003).

Hungarian left-peripheral focus

(3)

(ι [$_{FocP}$ PÉTERT$_i$ <u>szerette</u>$_j$ [$_{VP}$ meg t$_j$ Mari t$_i$]]] **)**

Peter.ACC loved PRT Mary

'It was PETER that Mari fell in love with.'

Hungarian left-peripheral topics

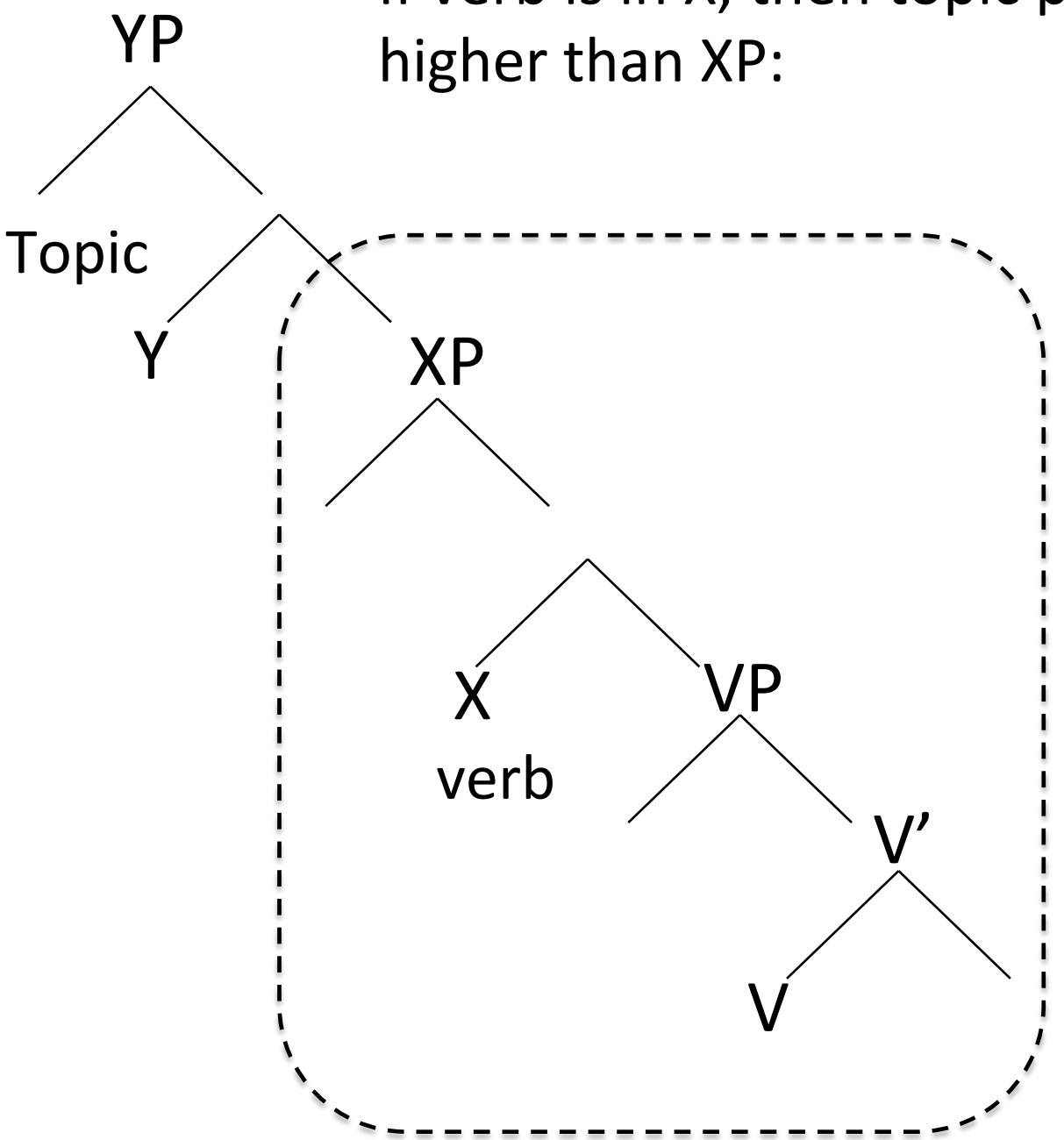
(4)

[Pétert$_i$ **[$_{FocP}$** MARI$_k$ <u>szerette</u>$_j$ [$_{VP}$ meg t$_j$ t$_i$ t$_k$]]**]**]

Peter.ACC Mary loved PRT

'About Peter, it was MARY that he fell in love with.'

If verb is in X, then topic phrases may attach higher than XP:



Hungarian left-peripheral topics

(4)

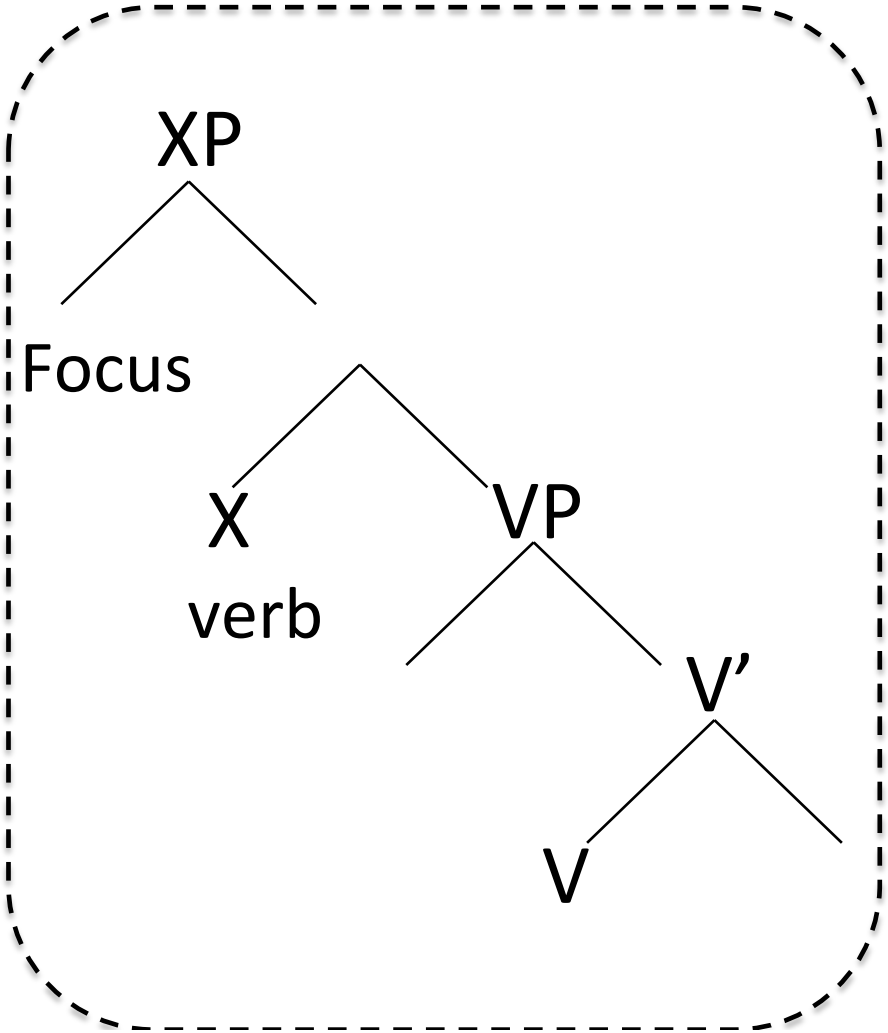
($_{\iota}$ [Pétert$_i$ **($_{\iota}$** [$_{FocP}$ MARI$_k$ <u>szerette</u>$_j$ [$_{VP}$ meg t$_j$ t$_i$ t$_k$]]] **)**])

Peter.ACC Mary loved PRT

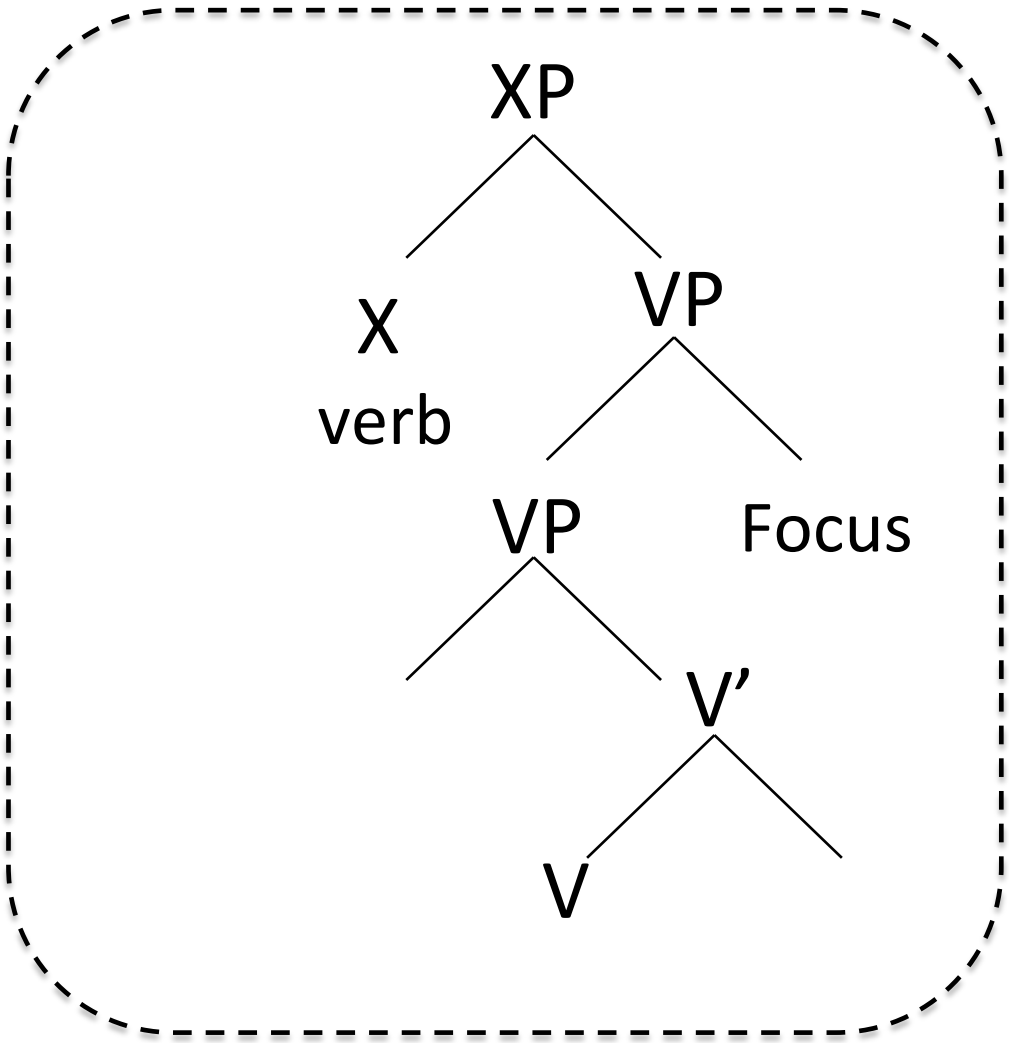
'About Peter, it was MARY that he fell in love with.'

What about languages with rightward oriented stress?

Left-peripheral focus movement can target [Spec, XP] with verb in X:



Right-peripheral focus movement can target a position lower then X if the verb is in X:



English HNPS
(Szendrői *to appear*)

- English: $\iota \Leftrightarrow$ IP
- English: Main stress is rightmost within innermost ι

(13)

($_{\iota}$ φ φ $\boldsymbol{\varphi}$)

[$_{IP}$ John [$_{VP}$[$_{VP}$ gave t_{NP} to Mary] all of the money in the SATCHEL]

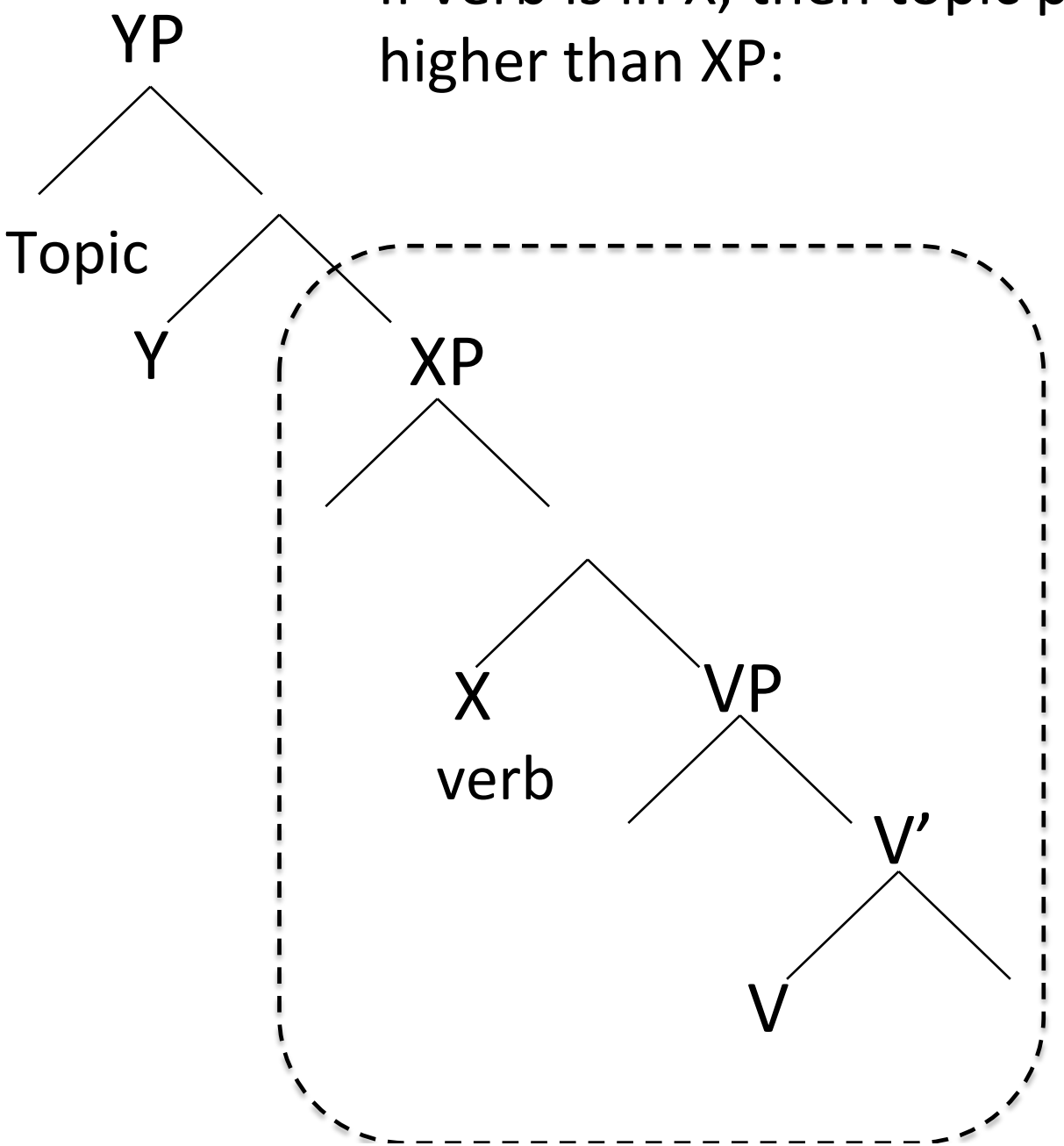
English HNPS

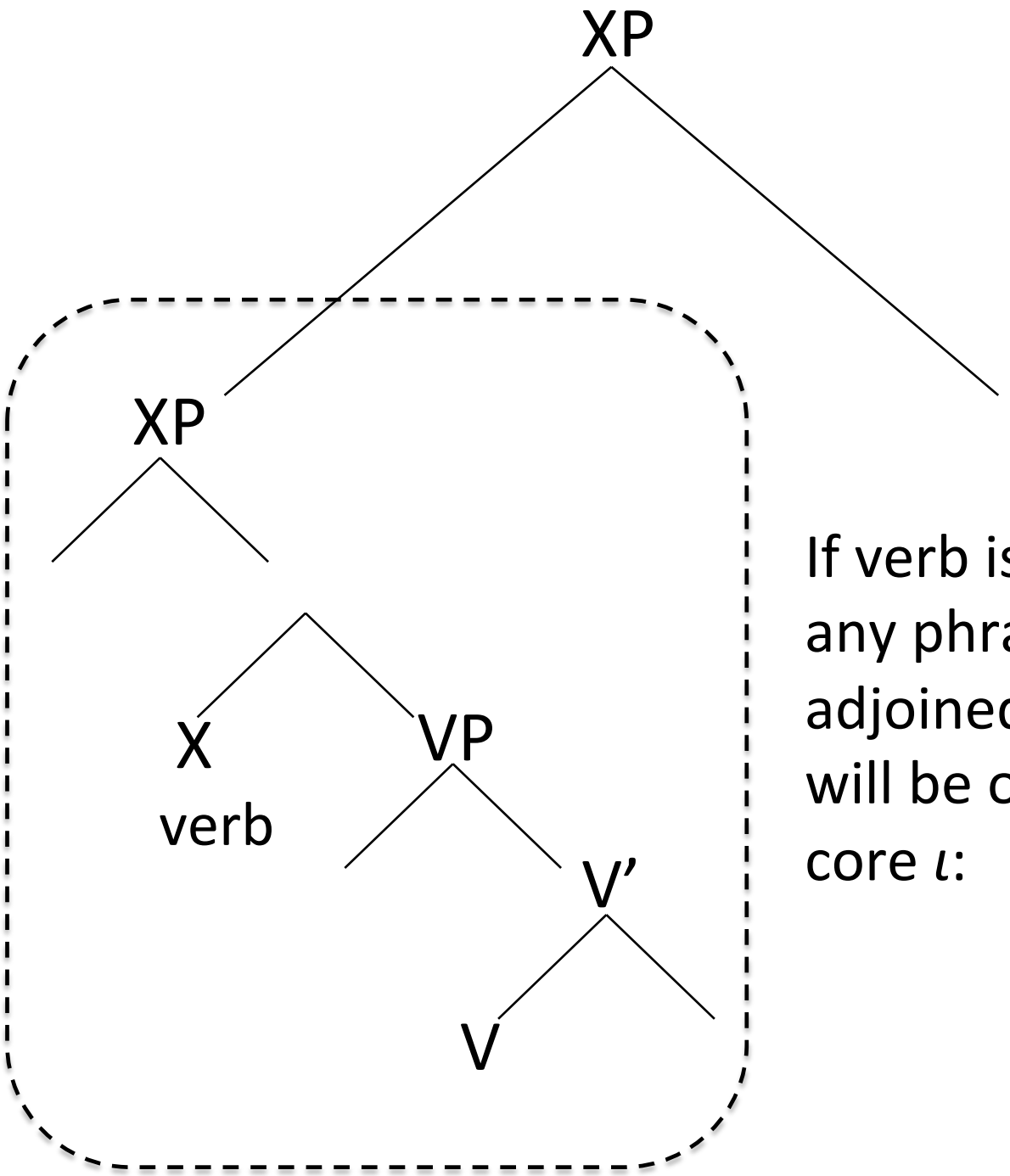
Focus is implicated in English HNPS (Rochemont 1978, Culicover & Rochemont 1990, Williams 2003):

(11) (Williams 2003:34 ex. 11)

a. John gave to Mary all of the money in the SATCHEL
b. *John gave to MARY all of the money in the satchel.
c. John gave all the money in the satchel to MARY
d. John gave all of the money in the SATCHEL to Mary.

If verb is in X, then topic phrases may attach higher than XP:





If verb is in X, then any phrase adjoined to XP will be outside core *ι*:

Italian

(9) Context: Avete raccontato tutto a Marco?
(You) have told everything to Mark
'Did you tell everything to Mark?'

a. *string-final focus*
Abbiamo raccontato tutto [a $LUCA_F$], (non a Marco).
(We) have told everything to Luke, (not to Mark)
' We told everything to LUKE (not Mark).'

b. *string-medial focus*
Abbiamo raccontato [a $LUCA_F$], tutto , (non a Marco).
(We) have told to Luke, everything, (not to Mark)
' We told everything to LUKE (not Mark).'

c. *left-peripheral focus*
[A $LUCA_F$], abbiamo raccontato tutto , (non a Marco).
To Luke (we) have told everything, (not to Mark)
' We told everything to LUKE (not Mark).'

(adapted from Samek-Lodovici 2015:183, ex. 36)

Italian: Samek-Lodovici (2005)

- string-medial focus is string-final focus + right-dislocation of the post-verbal material
- right-dislocated material are adjoined high, to IP
  - RD not freely ordered w r t right-peripheral subjects

(10) a. Le ha parlato GIANNI a Maria
to-her has.3sg spoken John, to Mary
JOHN spoke to her, to Mary
(Context: Who spoke to Mary?)
(Samek-Lodovici 2005: 715 ex. 44)

b. *Le ha parlato a Maria GIANNI
to-her has.3sg spoken John, to Mary
JOHN spoke to her, to Mary
(Context: Who spoke to Mary?)

– RD material is external to argumental focus too

(11) A: Chi hai presentato a Gianni?

Who did you introduce to John?

B: Gli ho presentato MARIA a Gianni.

to-him have-I introduced Mary to John

B': * Gli ho presentato a Gianni MARIA.

to-him have-I introduced to John Mary

'I introduced MARY to John.'

'any adequate analysis of Italian rightward focus must explain on one hand why right dislocation prevents focus from occurring rightmost in its clause and on the other why focused constituents are still forced to occur rightward even though they cannot occur rightmost.' S-L (2005: 715)

Our account

- Italian has V-to-I, so IP="clause"
- RD-material is outside that domain

(12) ($_\iota$ ($_\iota$ ϕ **ϕ**) ϕ)

[$_{IP}$ [$_{IP}$ Gli ho presentato [$_{VP}$ t_V MARIA]] a Gianni]

to-him have-I introduced Mary to John

'I introduced MARY to John.'

(13) *Ranking of prosodic constraints in Italian*:

STRESS-ι >> ENDRULE-R >> ENDRULE-L

Our account cont

- this is consistent with the prosodic fact that postfocal material in Italian is flat and no accent may be attached to it, even though Bocci & Avesani (2015) demonstrated that they do form phonological phrases
- it is superior to Samek-Lodovici's account as he needs to assume an extra constraint called DESTRESS-RD, which ensures that 'R-marked [i.e. right-dislocated] constituents are not prominent in *up* [i.e. Utterance Phrase].' (Samek-Lodovici 2015: 287, ex. 109)

Our account cont

Bocci (2013), S-L (2005)

(14)($_{up}$ ($_{\iota}$ gli ho presentato MARIA) **(**$_{\iota}$ Gianni))

- no phonetic evidence
- makes phi-sized IntPs, neutraising the difference between the two
- needs a higher level, UtteranceP to wrap the whole thing
- prosodic differences between left- and right-dislocated elements in Italian (see e.g. Frascarelli 2000; also Feldhausen 2010 for similar distinctions for Catalan) suggest that the former but not the latter may constitute full intonational phrases.

Italian left-peripheral focus

- S-L: post-focal material is syntactically right-dislocated

(15)a. ($_\iota$ ($_\iota$ ($_\iota$ A MARIA$_F$), la mela,) abbiamo dato.)

To Mary, the apple, (we) have given

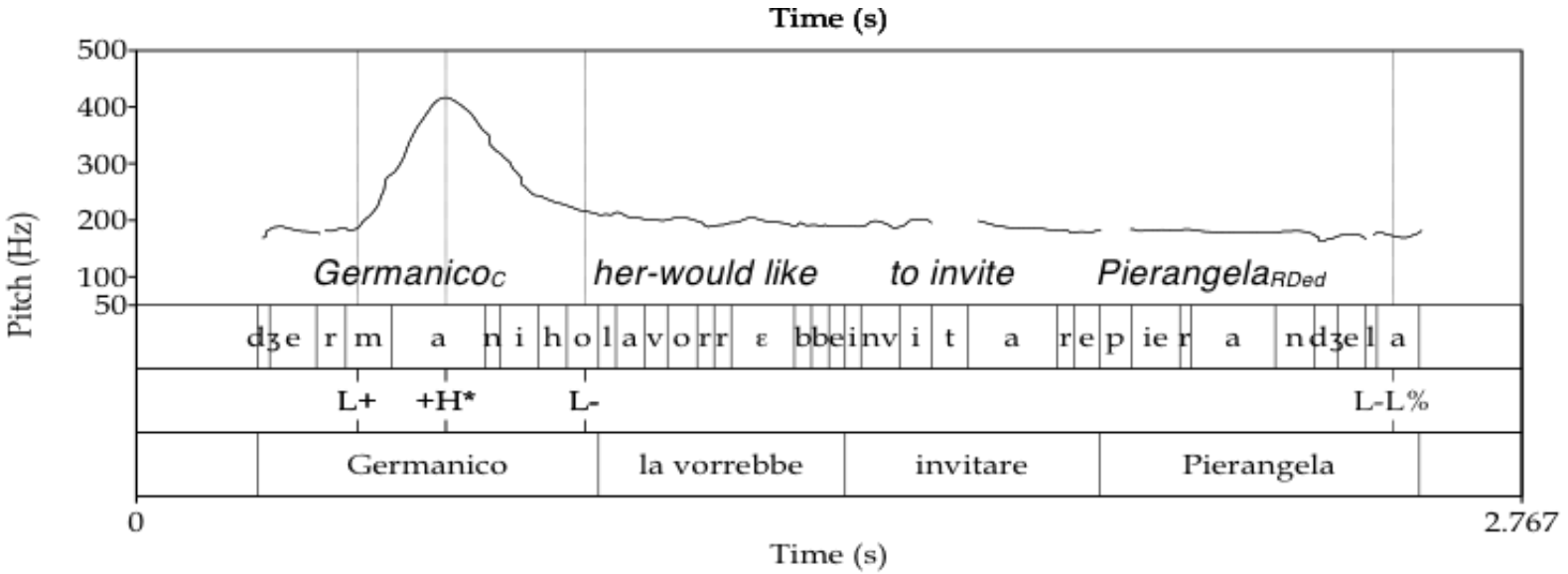
(S-L 2015: 197 ex. 72)

b. ($_\iota$ ($_\iota$ ($_\iota$ A MARIA$_F$), abbiamo dato,) la mela.)

To Mary, (we) have given, the apple

‘ We gave the apple to MARY.’(S-L 2015: 200, (75))

Italian left-peripheral focus



(8) GERMANICO la vorebbe invitare,, Pierangela
GERMANICO would like to invite her,, Piarangela.

from Bocci & Avesani (2011:1359 Figure 1)

- Left-peripheral focus not immediately followed by IntP boundary (contra Samek-Lodovici 2015)
- Not immediately adjacent to verb, cf. Hungarian

Left-peripheral focus cont

- Bocci & Avesani: pre-boundary lengthening

subject of broad focus sentence < left-peripheral focus < left-peripheral contrastive topic

  - two experiments based on three speakers between them
  - crucial compariosn would be between lefy-peripheral focus and string-medial, which is not supplied

Italian left-peripheral focus

- Not stress-driven movement
- Trigger?
  - CFocP vs. IFocP (Cruschina 2011)
    - Uniqueness?
    - Presence or absence of V-movement is ad hoc
  - Bianchi (2013, 2015): updates conversational context, thus restricted to root contexts
    - Does not explain target position
  - Molnár & Winkler 2010: edges are promiment
    - Why?

Typological predictions

Some theoretical implications

- Left-peripheral focus movement, if stress-driven, should always be accompanied by verb movement.

→Italian left-peripheral focus cannot be stress-driven movement

- Topic constructions should (typically) not involve an accompanying verb movement, because that would have the undesired consequence of enlarging the corresponding *ι.*

→ Seems true in Hungarian, Bàsàá; V2 languages like German are more complicated to account for

Interim conclusions and further implications

Italian right-dislocation: deaccented, adjoined to IP

English HNPS: accented, adjoined to VP

- Hamlaoui & Szendrői's (2015) analysis explains this dichotomy as IP is the syntactic clause corresponding to the innermost *ι* in both languages.
- It is the flexible nature of the syntax-prosody mapping of Hamlaoui & Szendrői (2015) that make it sensitive to such relative syntactic relations between the position of the moved (or dislocated) element and the finite verb.

Typology of focus constructions
Intended future work

(16)

a. ($_\iota$ [XP V ...[t_V t_{XP}]]) → Hungarian left-peripheral focus

b. ($_\iota$ [V ...[[t_V t_{XP}] XP]]) → English HNPS

c. i. ($_\iota$ [XP ... [t_{XP} t_V] V]) or

ii. ($_\iota$ [... [t_{XP} t_V] V XP]) → rare, possibly unattested

d. i. ($_\iota$ [... ($_\iota$ [XP V])) → perhaps Turkish, Georgian Japanese

ii. ($_\iota$ [... ($_\iota$ [V XP])) → perhaps IAV in Bantu/ Chadic

Thank you!