Capturing scope ambiguity with Tier-Local Syntax

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CompPhon workshop
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Outline

C-Command at work

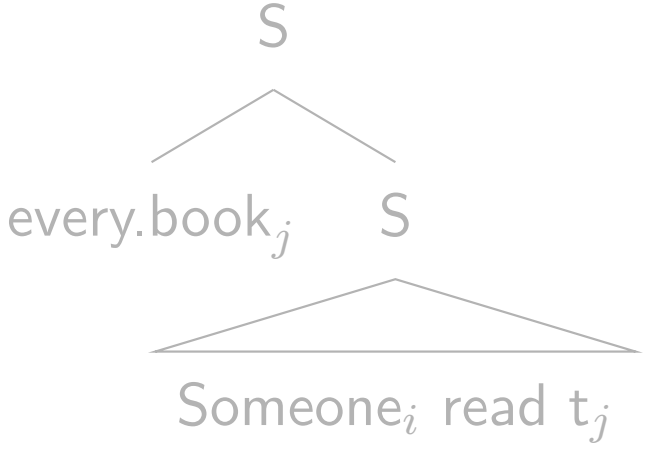
	Syntax	TSL
C-Command	✓	¯_(ツ)_/¯

Example

(1) Someone read every book. $\exists \succ \forall$, $\forall \succ \exists$

- The scope of α = the C-Command domain of α. (May 1985)

$\exists \succ \forall$	$\forall \succ \exists$
Someone$_i$	every.book$_j$
$\mathbb{C}$	$\mathbb{C}$
every.book$_j$	Someone$_i$



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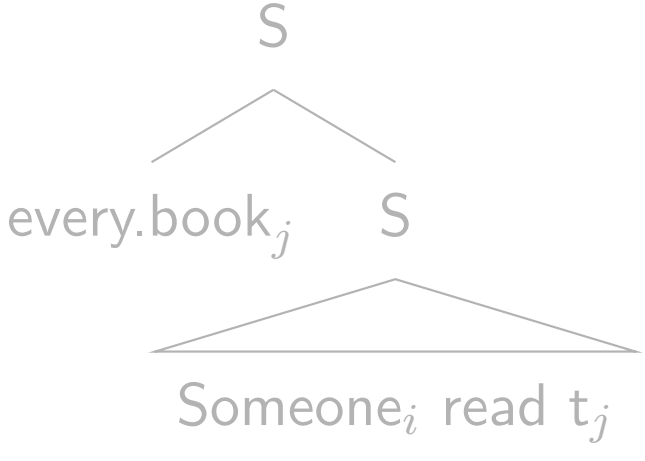

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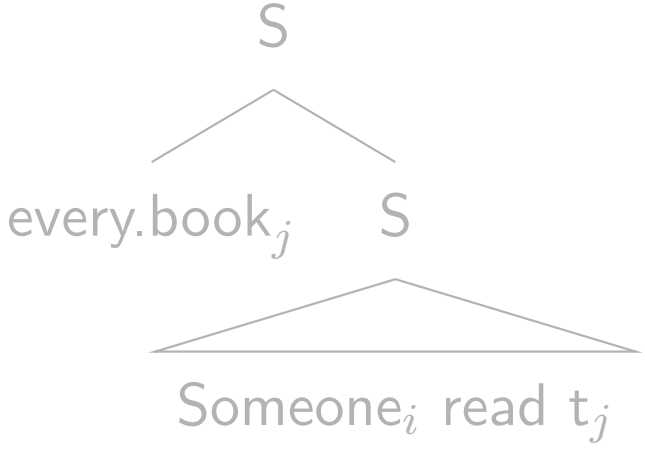

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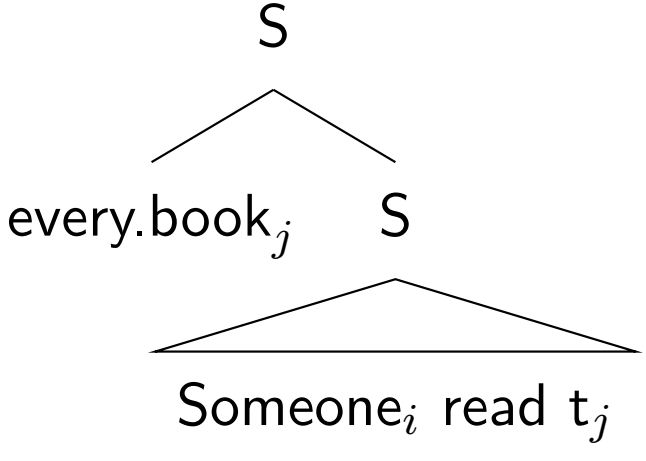
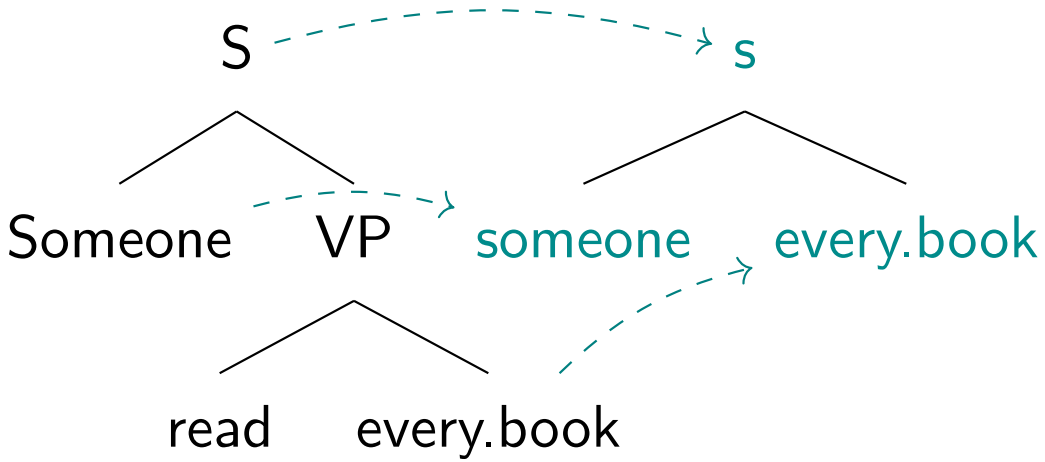


TSL syntax

- Dependencies of syntax captured by Tier-based Strictly Local (TSL) grammars over trees (Graf 2016)
- $\mathbb{T} = \{s, QPs\}$



On the tier...

- C-Command gone
- Locality gained

Can TSL handle scope interpretation without C-Command? Yes!

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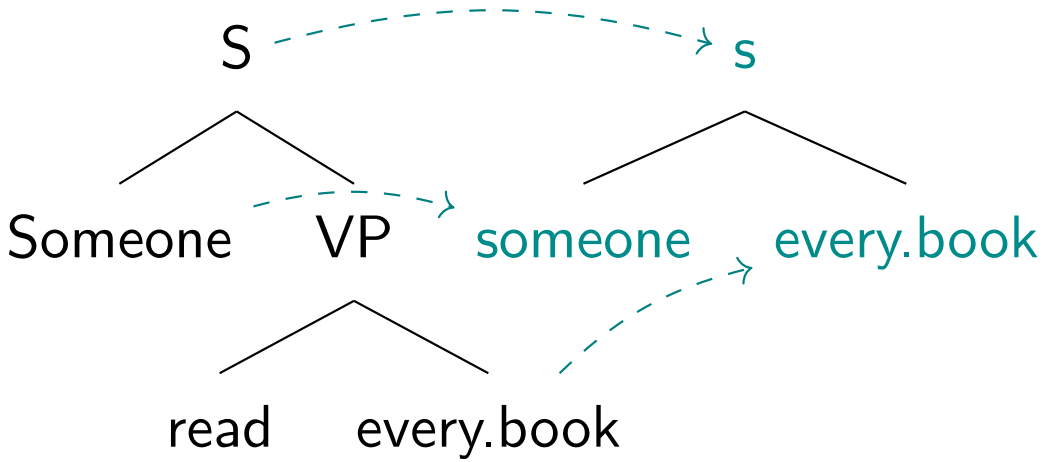

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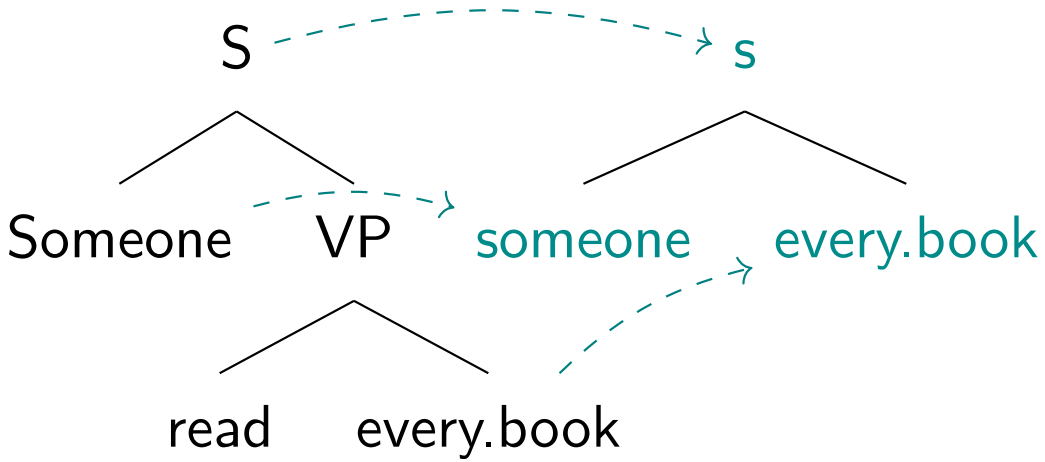

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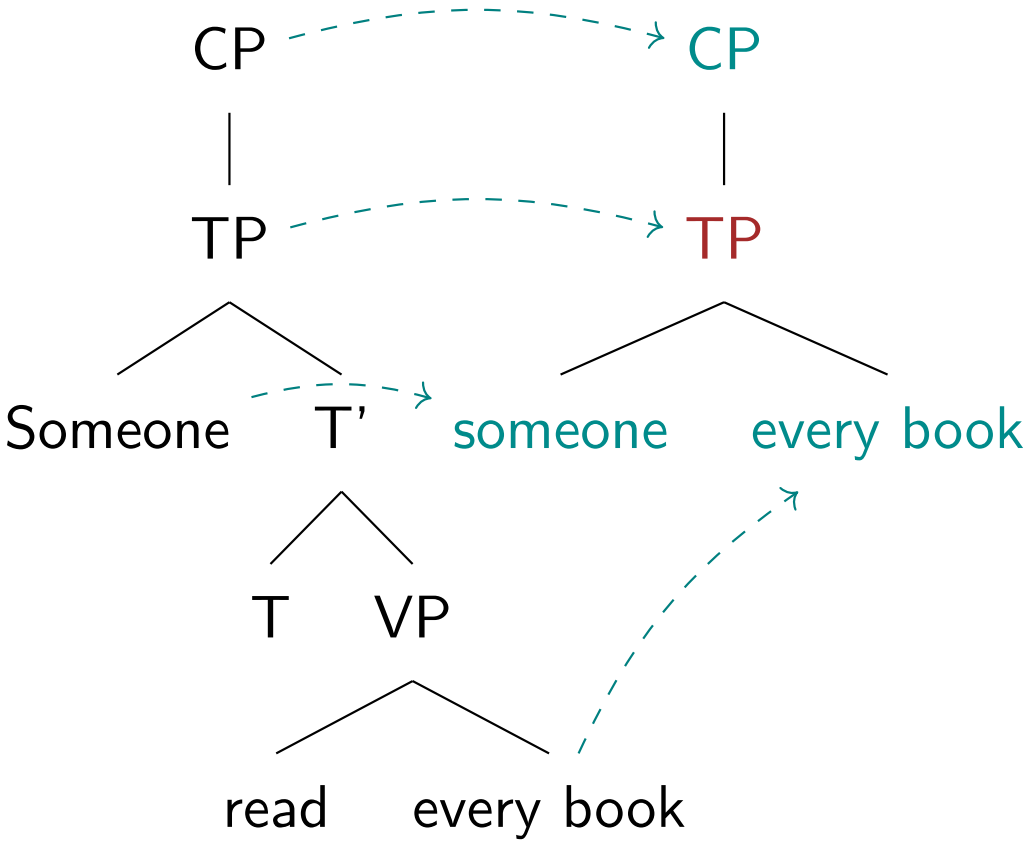
Proposal

For a quantificational phrase:

- Higher on tier, higher in scope
- Ambiguous when mutual C-Command found in...
  - declarative sentences, within a TP
  - *wh*-questions, within a vP

Declarative sentence



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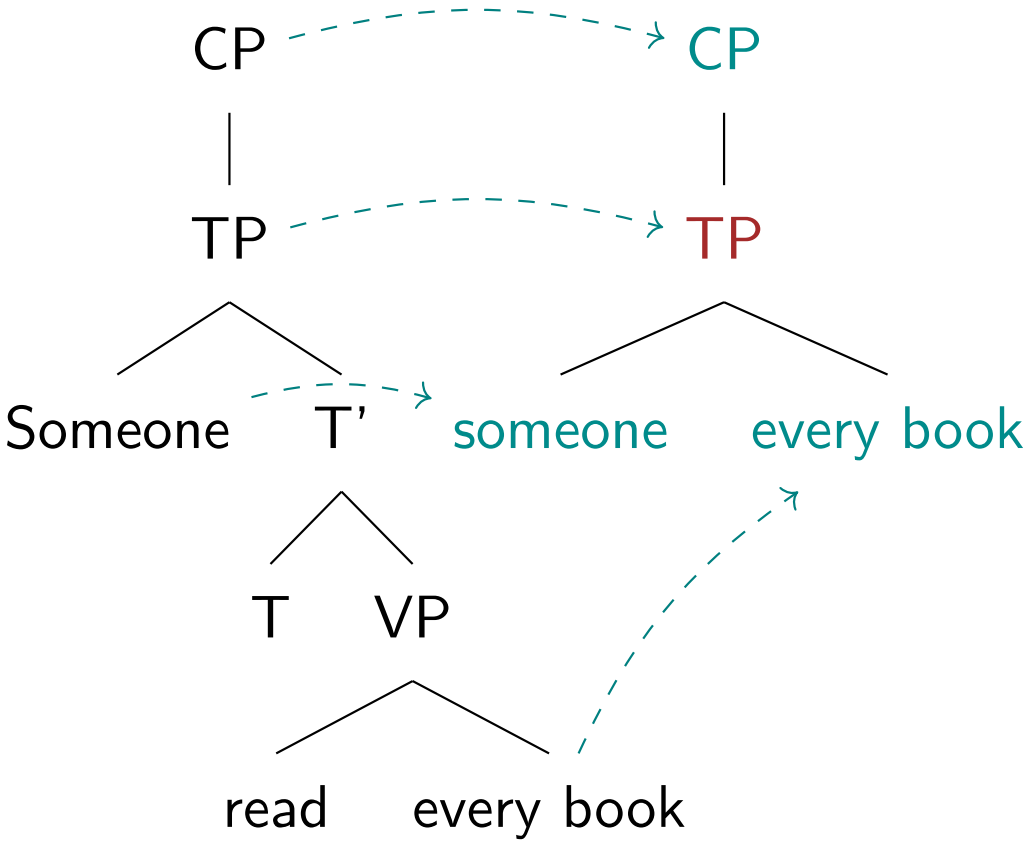
Declarative sentence



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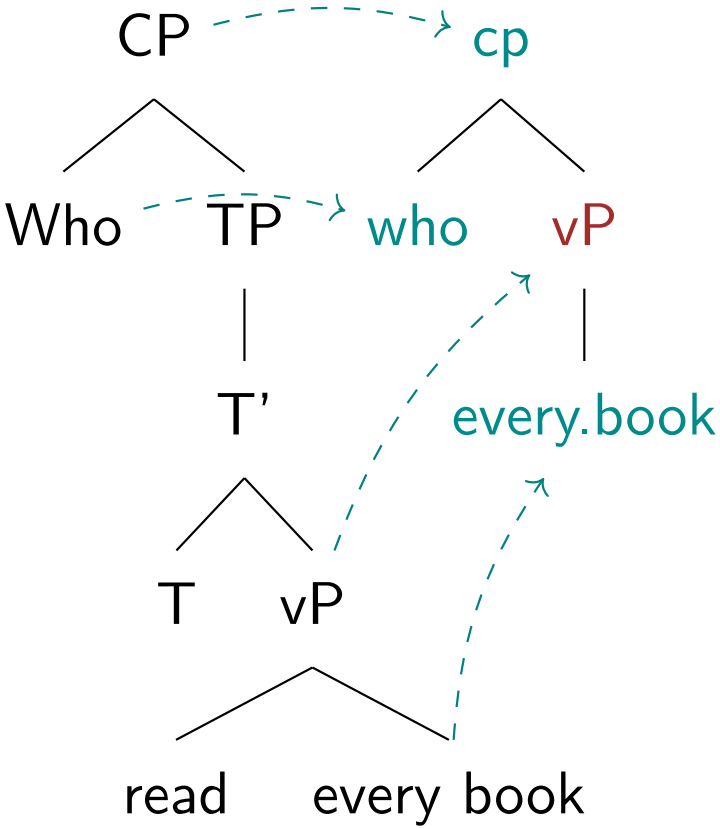
Wh-questions



(2) Who read every book?

who $\succ$ *every.book*!

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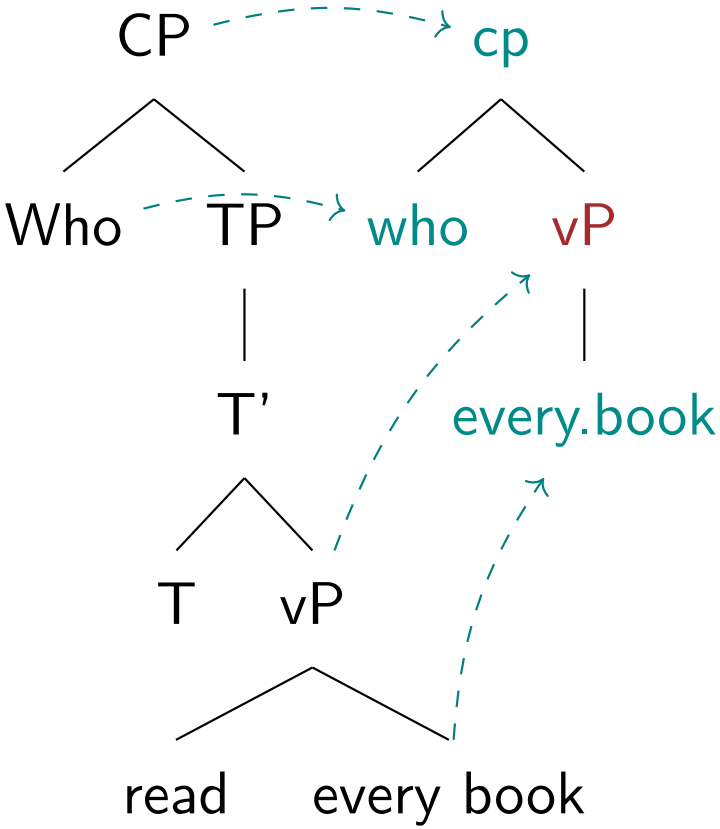

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Prediction

- subject *wh*-questions are ambiguous in *wh*-in-situ languages

  (3) Shenme.she yao.LE mei.wei xiangdao?
  what.snake bite.LE every.CL guide
  "What snake bit every guide?" $\exists \succ \forall$, $\forall \succ \exists$

- more "complex" the QPs, smaller the domain relevant for C-Command evaluation.
  - QP - TP
  - wh, QP - vP
  - double objects - smaller than vP

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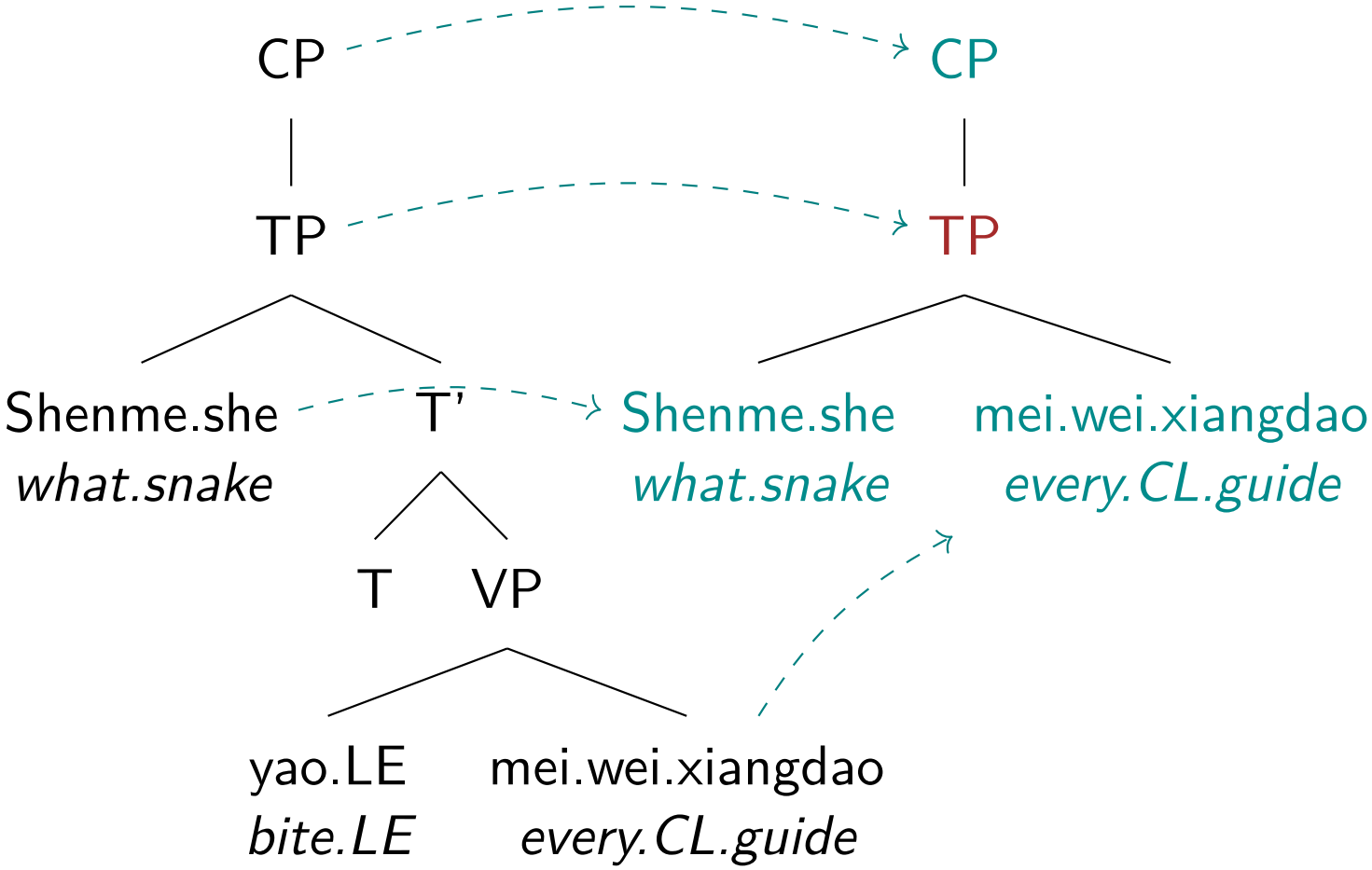
Chinese subject *wh*-question



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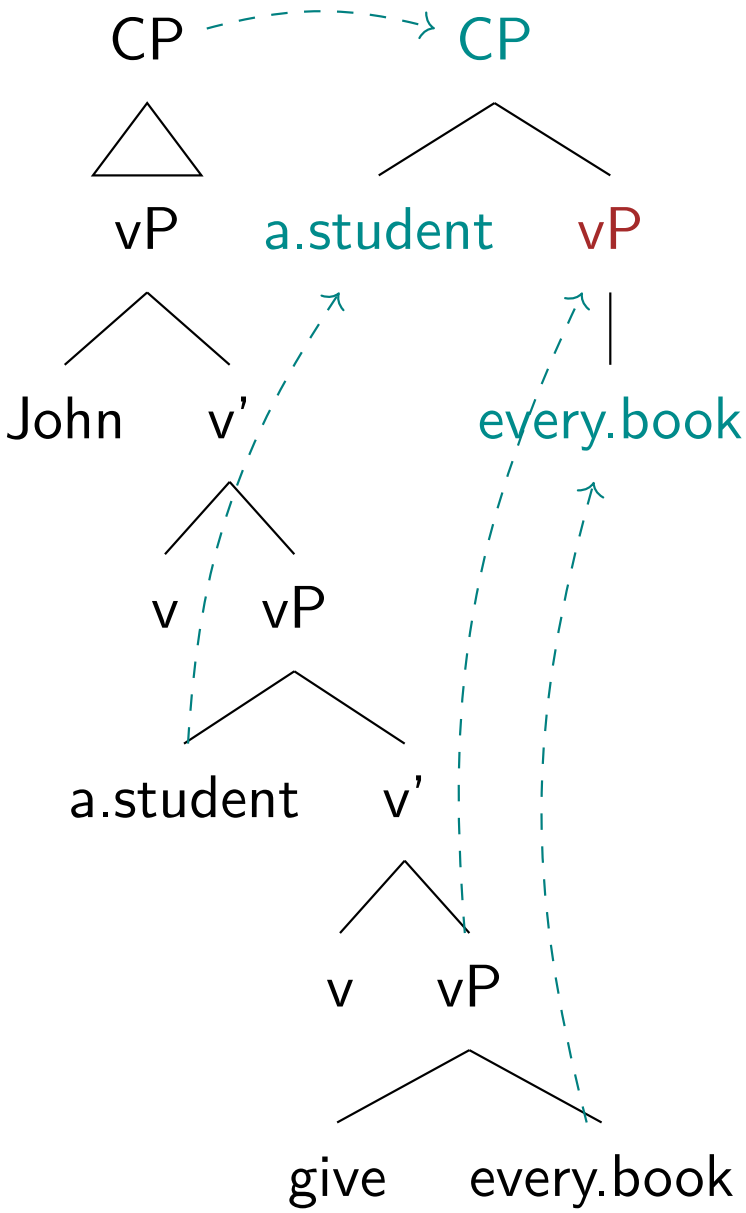
Double Object Construction



(4) John gave a student every book.

a.student $\succ$ *every.book*!

Reference

Graf, T. (2016). Computational parallels across language modules. Invited talk, September 12, Department of Linguistics, Yale University, New Haven, CT.

May, R. (1985). *Logical Form: Its structure and derivation*, volume 12. MIT press.