

# Dynamic Syntax: Update Dynamics within and across structures

Developing an evolving, structural concept of context

July 31, 2008

## Tree Growth: Capturing the Local/Nonlocal distinction

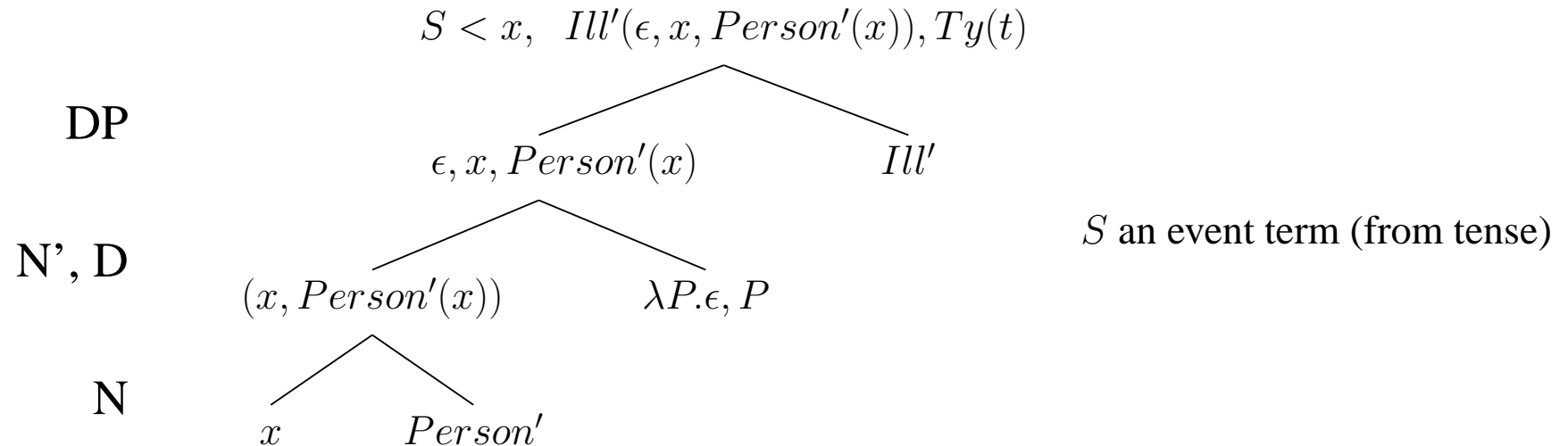
- Relative clauses
  - nonrestrictive
  - restrictive
  - apposition
- Periphery Effects (Interactions between dislocation, anaphora, ellipsis)
  - left periphery
    - \* Hanging Topic constructions
    - \* Left Dislocation
  - right periphery
    - \* Pronoun Doubling
    - \* Extraposition
    - \* Subject inversion
    - \* Right node raising
- Scrambling - Latin
  - Short Scrambling and constructive use of case
  - Multiple Long distance scrambling

## Constructing “names” for quantifier phrases

Building up arbitrary-names via terms with scope constraints:

$$\frac{\exists x \phi(x)}{\phi(\epsilon, x, \phi(x))}$$

Parsing *Someone is ill*



Rule for interpreting logical form yields equivalent of:

$$\exists x. Person'(x) \wedge Ill'(x)$$

$$S : Person'(\mathbf{a}) \wedge Ill'(\mathbf{a})$$

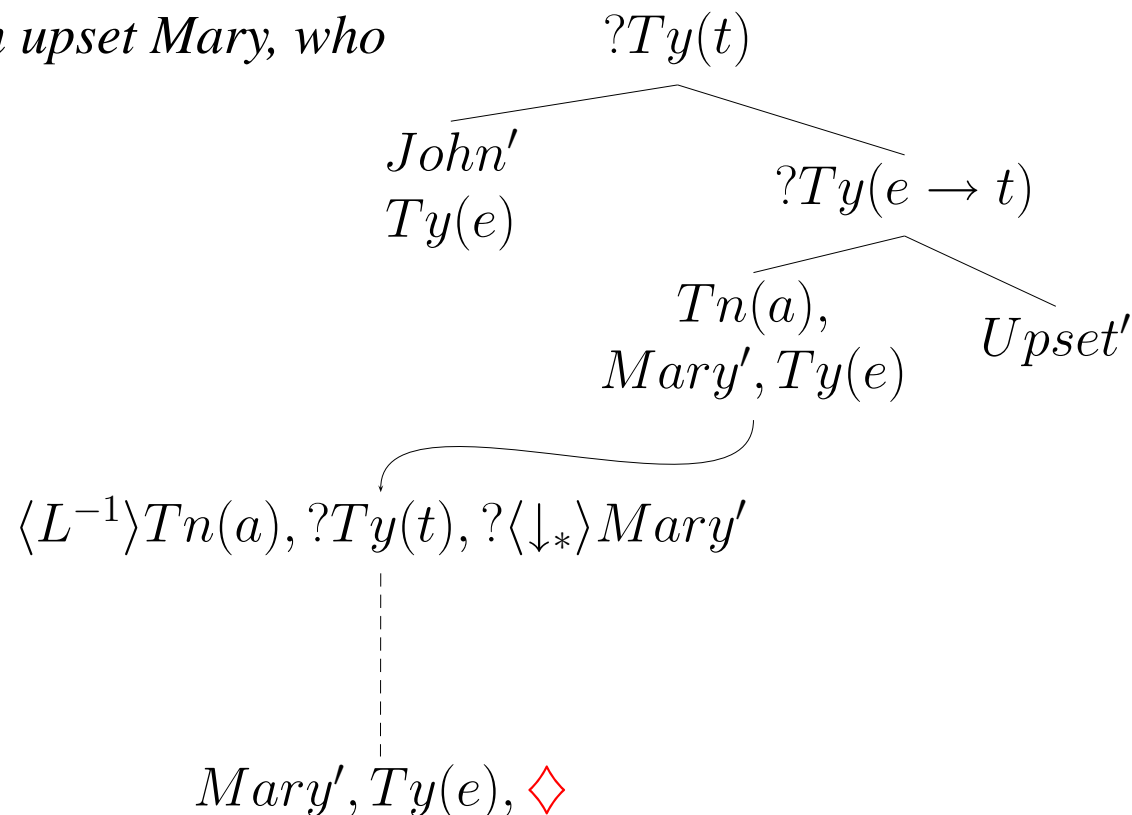
$$\mathbf{a} = (\epsilon, x, Person'(x) \wedge Ill'(x))$$

## Constructing context - relative clause construal

- one partial tree as context for another – “linked” trees share a formula
  - relative pronouns: providing a copy of the head at an unfixed node

(1) John upset Mary, who cried.

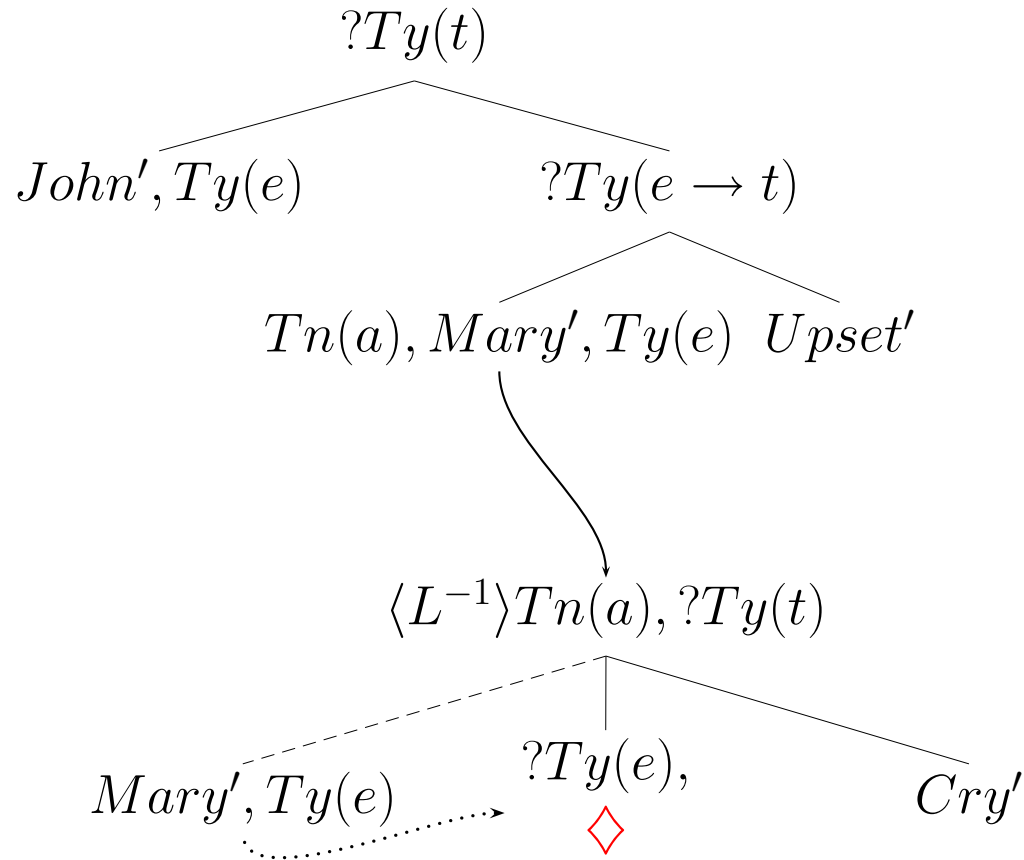
Parsing *John upset Mary, who*



With linguistic names as terms (with internal structure),  
the LINK transition would be from the containing type-*e* node

## Building up ‘linked’ trees for NONRESTRICTIVE construal

Parsing *John upset Mary, who cried*



The Result:       $Upset'(Mary')(John')$  &  $Cry'(Mary')$

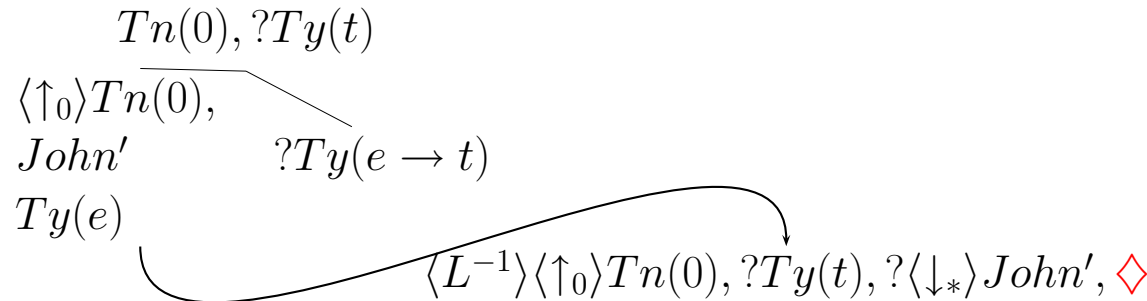
Partial tree as context, relative pronoun induces copy in linked tree.

Requirement for the copy is removed (Completion, Thinning)

## Linked Structures and relatives

- One partial tree as the context for constructing the second.
- (2) John, who I like, ignored any book (the cover of) which was torn.
- (3) \*John helped any student the work of who was inadequate.

The relative as a separate linked tree: island constraint for copy expressed in requirement - relative pronoun decorates unfixed node:



<i>which<sub>rel</sub></i>	<b>IF</b> $\{?Ty(e), \langle \uparrow_* \rangle \langle L^{-1} \rangle Fo(\mathbf{x}), ?\exists x.Tn(x)\}$	<b>THEN</b> <b>IF</b> $\{?Ty(e), \langle \uparrow_* \rangle \langle L^{-1} \rangle Fo(\mathbf{x}), ?\exists x.Tn(x)\}$	$\uparrow \top$
	<b>THEN</b> $put(Fo(\mathbf{x}), Ty(e), [\downarrow] \perp)$	<b>THEN</b>	<b>abort</b>
	<b>ELSE</b> <b>ABORT</b>	<b>ELSE</b>	$put(Fo(\mathbf{x}), Ty(e), [\downarrow] \perp)$
		<b>ELSE</b> <b>ABORT</b>	

## Relative clauses as paired linked trees)

- complementiser as relative pronoun: providing a copy of the head, having applied \*Adjunction:

(4) John, who Sue upset, cried.

Parsing *John, who*

$$\begin{array}{c}
 Tn(0), ?Ty(t) \\
 \hline
 Tn(n), John' \quad ?Ty(e \rightarrow t) \\
 \hline
 \langle L^{-1} \rangle Tn(n), ?Ty(t), ?\langle \downarrow_* \rangle John' \\
 \hline
 \langle \uparrow_* \rangle \langle L^{-1} \rangle Tn(n), John', ?\exists \mathbf{x}. Tn(\mathbf{x}), \diamond
 \end{array}$$

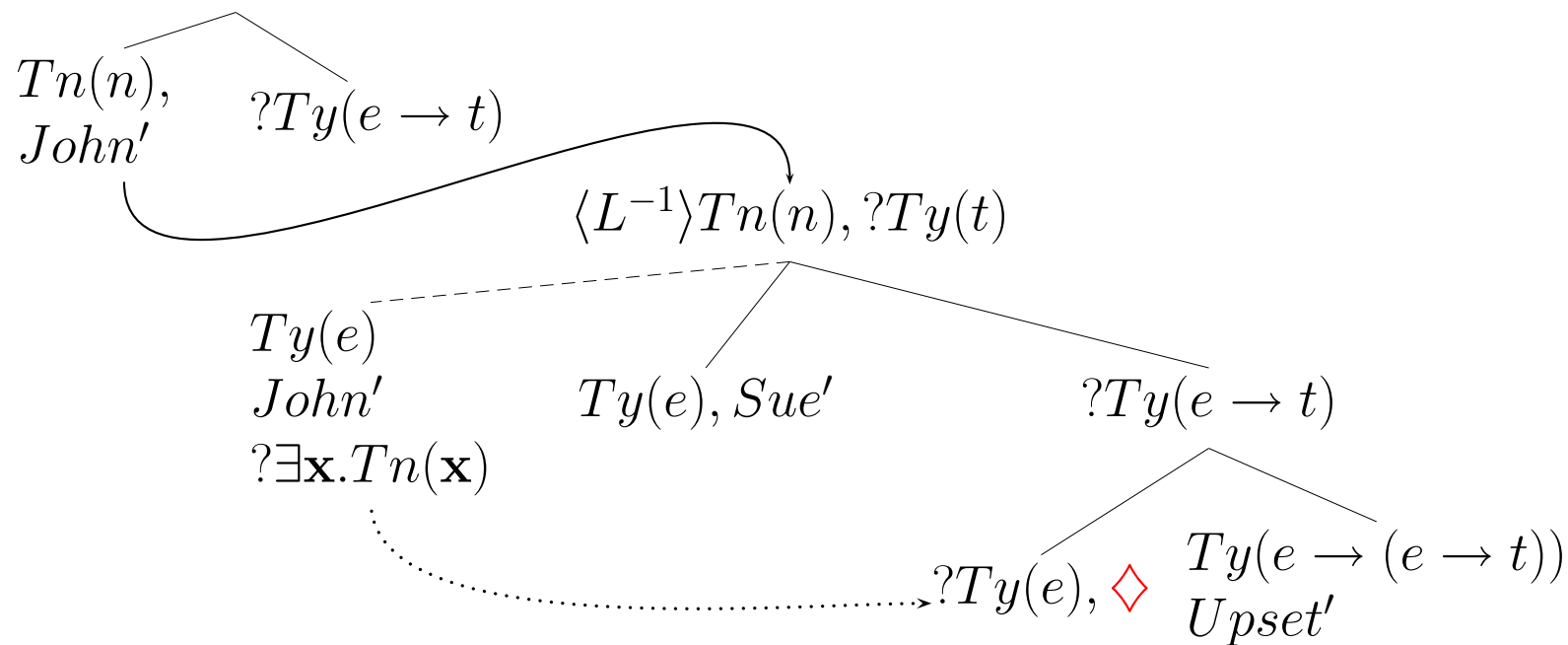
*Link Adjunction (English)*

$$\begin{array}{c}
 \text{head} \\
 \overbrace{\{.. \{Tn(a), Fo(\alpha), Ty(e), \diamond\}\}} \\
 \hline
 \{.. \underbrace{\{Tn(a), Fo(\alpha), Ty(e)\}}_{\text{head}}, \underbrace{\{\langle L^{-1} \rangle Tn(a), ?Ty(t), ?\langle \downarrow_* \rangle Fo(\alpha), \diamond\}}_{\text{linked node}}\}
 \end{array}$$

## Developing linked trees

Parsing *John, who Sue upset*

$Tn(0), ?Ty(t)$

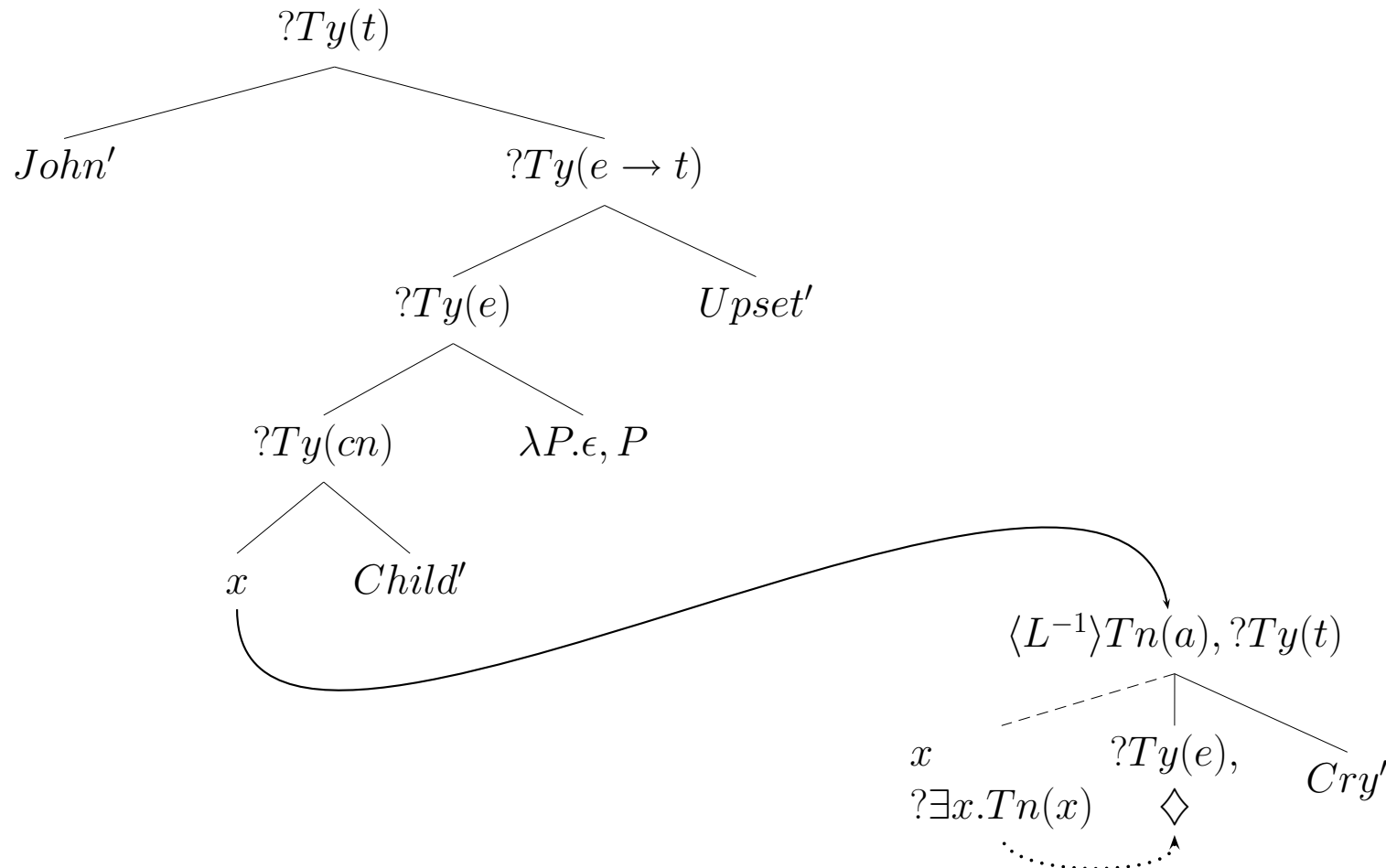


The Result:  $Fo(Upset(John)(Sue) \wedge Cry(John))$

- partial tree as context (at any point in the derivation)
- relativiser as a “relative pronoun” constructs copy at unfixed node

## Restrictive Relatives: an anaphoric account

- LINK transitions can be built from any node (lower variable type  $e$  node)
  - Parsing *John upset a child who cried*  
relative pronoun induces variable in linked tree
  - Evaluation creates conjunction in restrictor:  $\epsilon, x, Child'(x) \wedge Cry(x)$

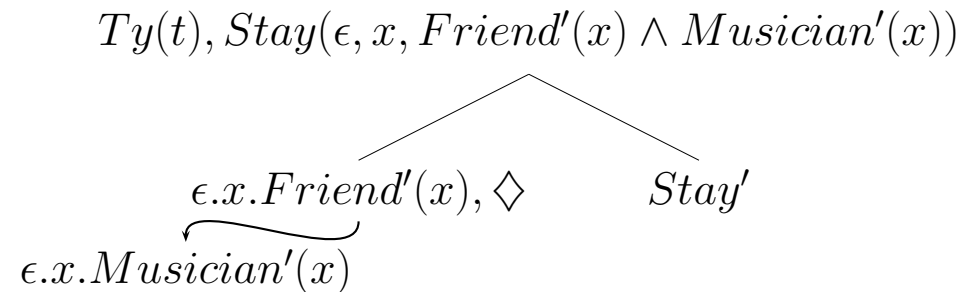
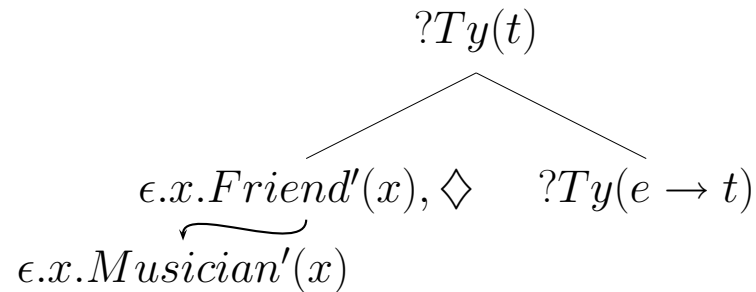


## Building link transitions onto nodes of arbitrary type

- Linked trees of type  $e$ :

e.g. A friend, a musician, is staying.

- Partial tree as context with term enriched by linked tree of same type
- Parsing *A friend, a musician*



Evaluation of linked nodes both of type  $e$  yields composite term:

$$\epsilon.x, Friend'(x) \wedge Musician'(x)$$

Resulting tree involves predication on composite term

Final evaluation:

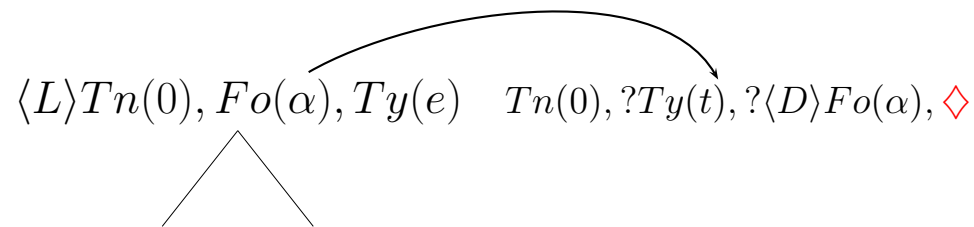
$$Friend'(\mathbf{a}') \wedge Musician'(\mathbf{a}') \wedge Stay'(\mathbf{a})$$

where

$$\mathbf{a} = (\epsilon, x, Friend'(x) \wedge Musician'(x) \wedge Stay'(x))$$

## Building a LINK relation from the root

- Hanging Topic Left Dislocation



The main structure requires a COPY of formula from the first tree. No analogue of relative pronoun, so pronoun obligatory unless pro-drop. Marked intonation break after first expression. No island restrictions. No case-matching.

### A. “Hanging (gapless) Topic” structures

(5) As for Maria, I know the man who married her.

(6) I maria<sub>NOM</sub>, ti<sub>ACC</sub> sinantise xtes  
 Maria, her I met yesterday  
 Maria, her I met yesterday'

[Mod. Greek]

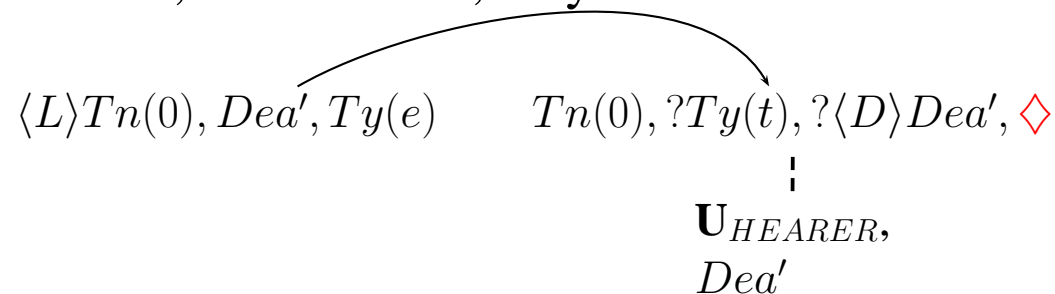
(7) \* I Maria<sub>NOM</sub> sinantise xtes  
 Maria<sub>NOM</sub>, I-met yesterday

## Mixtures of linked trees and an unfixed node

(8) As for John, that man I think should get a medal.

(9) *Te Dea fugiunt*  
 You<sub>ACC</sub> Goddess<sub>VOC</sub> Flee<sub>3.ps.plural</sub>  
 You, Oh Goddess, they flee from

[Latin]



Linked Structure Introduction :

$$\frac{\{.. \{Tn(0), ?Ty(t), \diamond\}\}}{\{.. \{Tn(0), ?Ty(t)\}\}, \{\langle L \rangle Tn(0), ?Ty(e), \diamond\}}$$

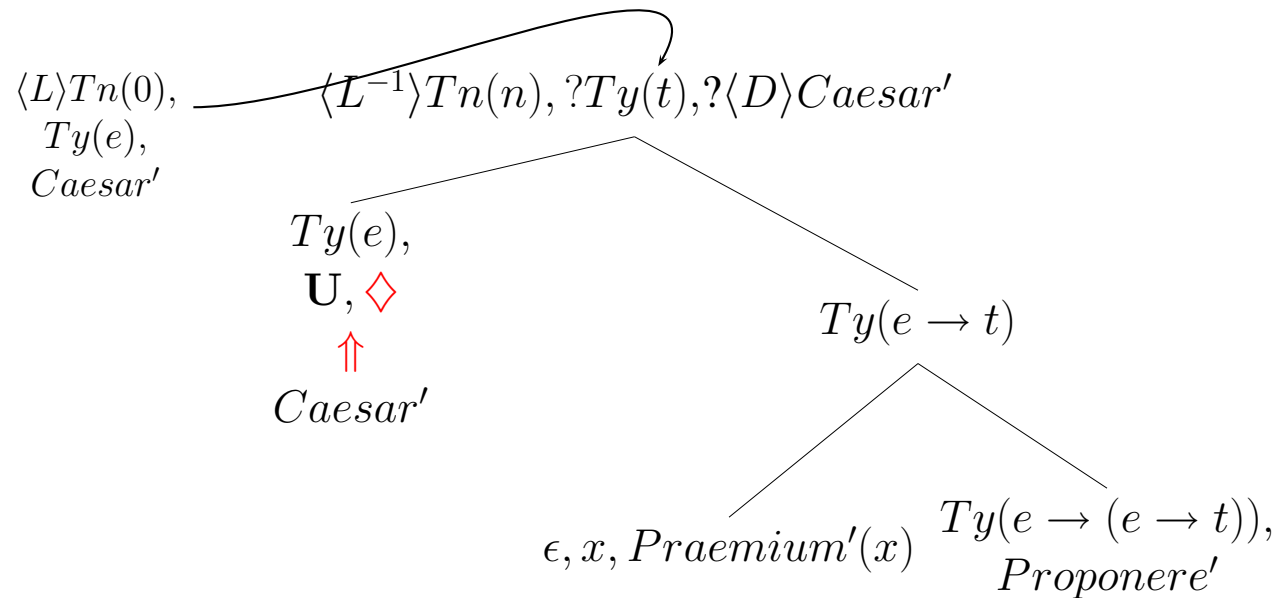
Imposing the Copy Requirement:

$$\frac{\{.. \{Tn(0), ?Ty(t)\}, \{\langle L \rangle Tn(0), Fo(\alpha), Ty(e), \diamond\}\}}{\{.. \{Tn(0), ?Ty(t), ?\langle D \rangle Fo(\alpha), \diamond\}\}, \{\langle L \rangle Tn(0), Fo(\alpha), Ty(e)\}}$$

## Parsing alternatives

(10) LINK vs. unfixed-node in pro-drop structures  
processing *Caesar praemium proposuit* via

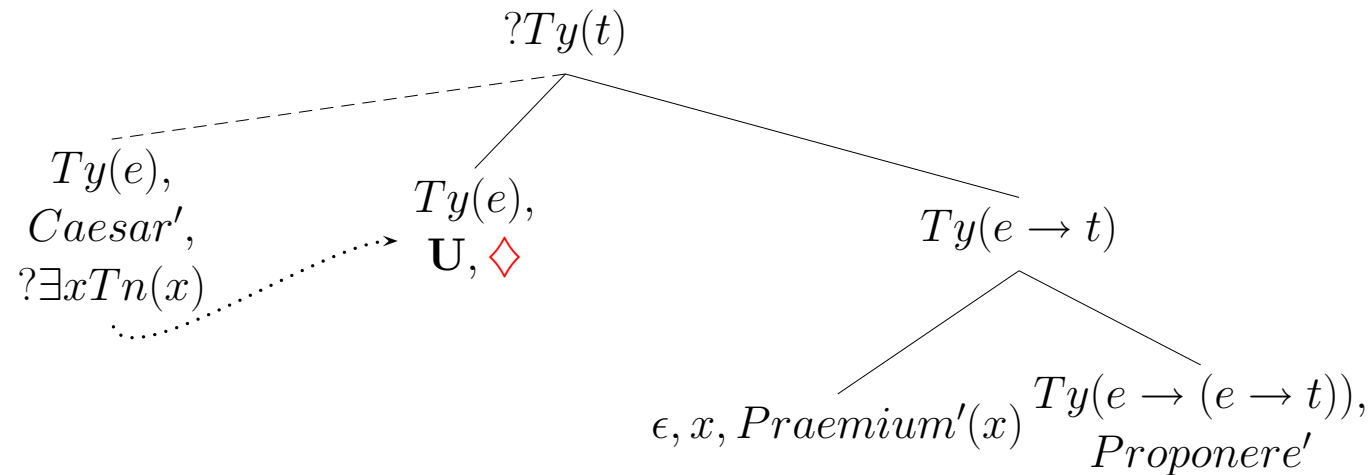
LINK: copy provided by Substitution of subject metavariable



## Parsing alternatives

(10) LINK vs. unfixed-node in pro-drop structures -  
processing *Caesar praemium proposuit* via:

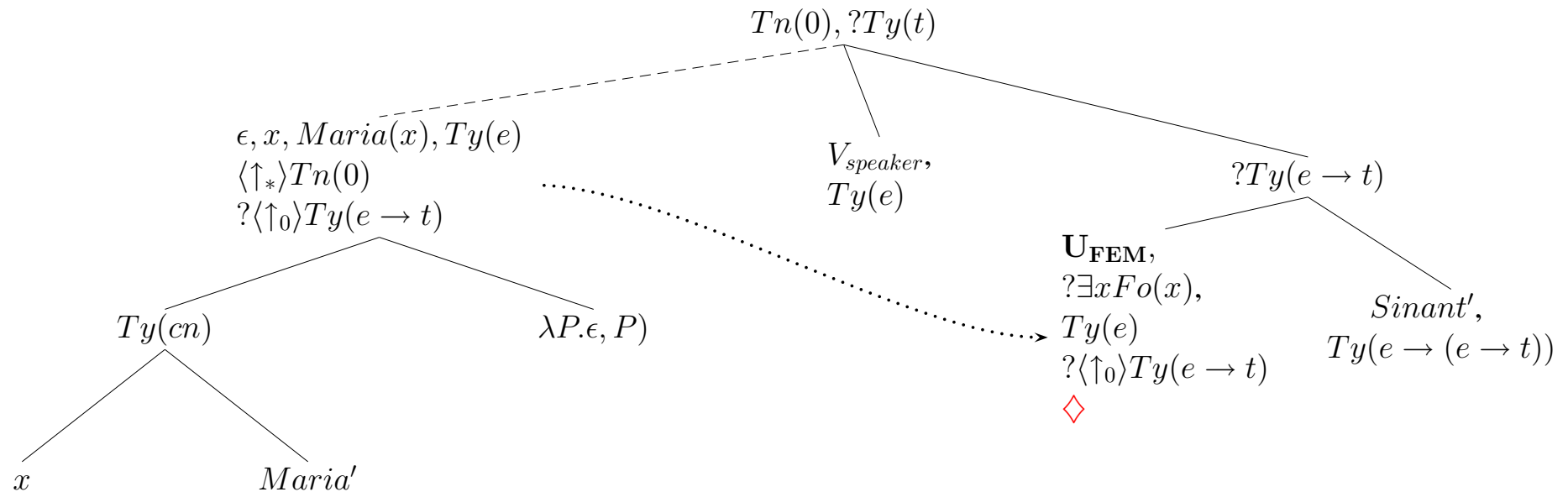
Unfixed node: Merge with subject node



## Unfixed node dominated by root: long-distance dependency

- Blurring of options also if the pronoun has lost its “bottom” restriction) [Greek object “agreement” clitics].

(11) Ti Maria ti sinantise  
 Maria<sub>ACC</sub> her<sub>ACC</sub> met-I



Case as filter on output: ACC a requirement for  $Ty(e \rightarrow t)$  as mother.  
 Pronoun remains an anaphoric place-holder

## Exploring Growth options at the right periphery

Linked structures and Recapitulation effects

(12) Background Topic:

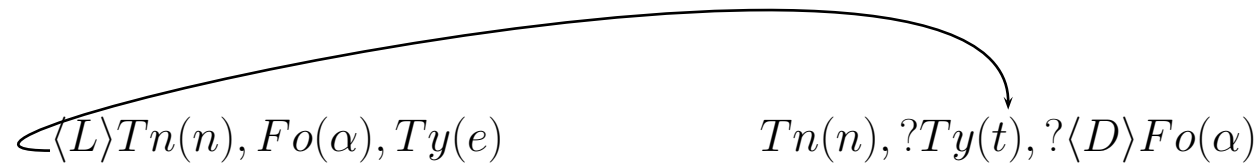
- I think you should realise that it's an impossible topic, right dislocation.
- He's not very good, that new administrator.

(13) Right dislocated expressions must be construable as co-referential with some expression in main clause:

- a. She's a fool, my mother.
- b. She's a fool.
- c. \*She's a fool, my brother.
- d. ??She's a fool, a woman I saw yesterday.

## Linked structures and Recapitulation effects

(14) LEFT TOPIC – tree as context:



**FROM** a LINKed completed tree of type  $e$

**TO** an *incomplete* propositional tree ( $?Ty(e)$ )

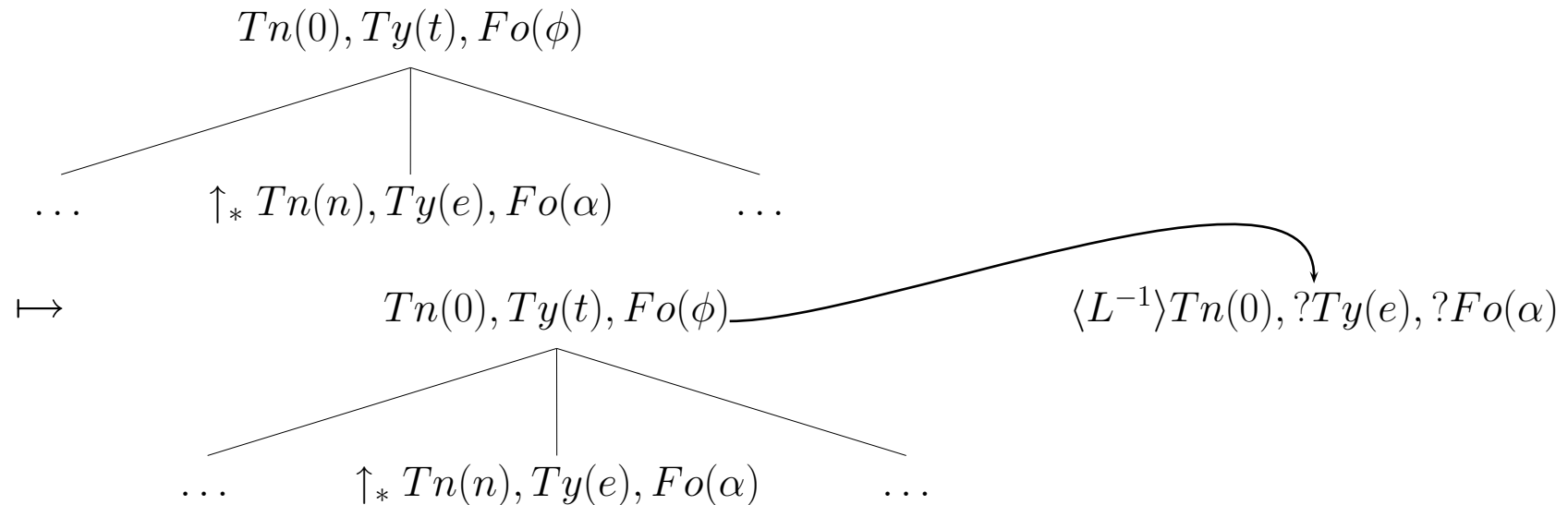
**WITH** a requirement to find a copy of the initial term somewhere in the unfolding tree.

## Linked structures and Recapitulation effects

(15) RECAPITULATION:

$$\frac{\{\dots, \{Tn(0), \dots Ty(t), Fo(\phi), \dots, \{\uparrow_* Tn(0), Tn(n), Ty(e), Fo(\alpha)\}, \dots, \diamond\}\}}{\{\dots, \{Tn(0), \dots Ty(t), Fo(\phi), \dots, \{\uparrow_* Tn(0), Tn(n), Ty(e), Fo(\alpha)\}, \dots\} \dots\} \{\langle L^{-1} \rangle Tn(n), ?Ty(e), ?Fo(\alpha), \diamond\}}$$

Tree growth:

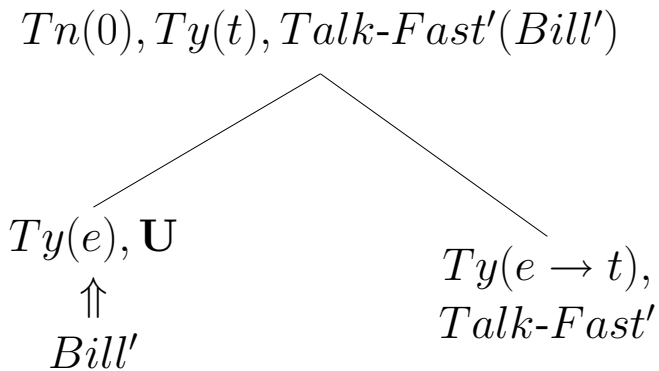


**FROM** a completed tree of type  $t$   
**TO** an *incomplete* LINKed tree of type  $e$  ( $?Ty(e)$ )  
**WITH** a requirement for the LINKed tree to be decorated by a copy of some term in the initial tree.

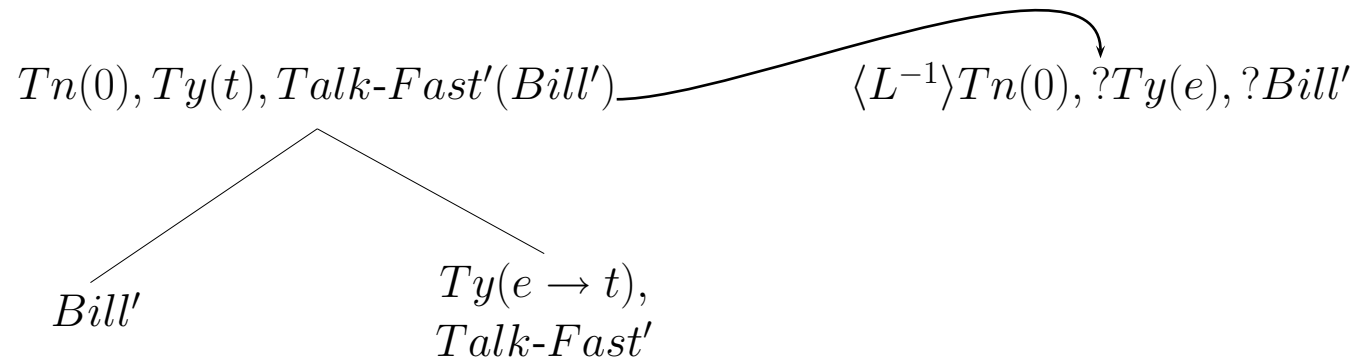
## Linked structures and Recapitulation effects

(16) *He talks too fast, that man*

a. Parsing *He talks too fast*

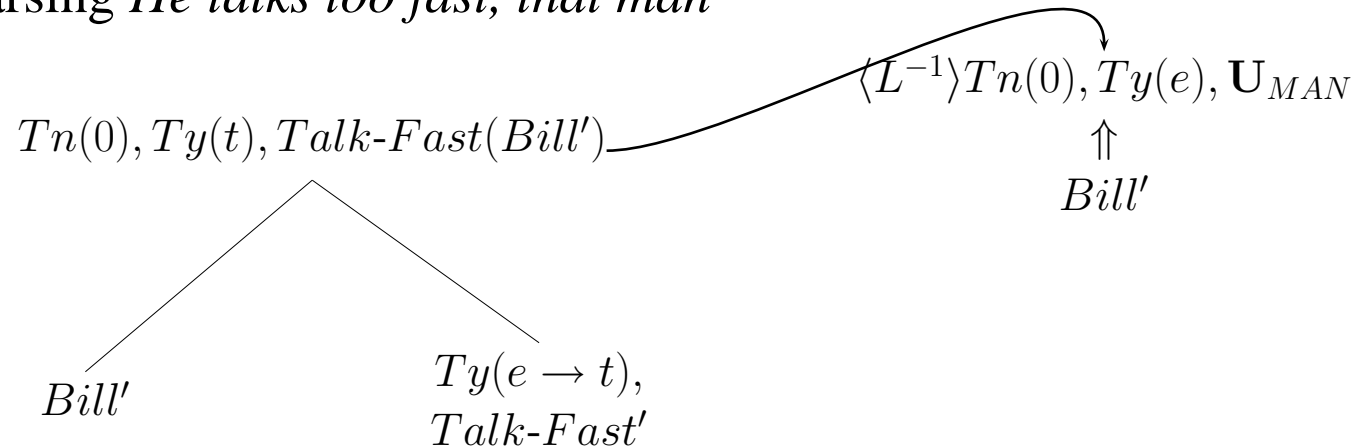


b. Parsing *He talks too fast* with building linked trees after main tree



## Linked structures and Recapitulation effects

c. Parsing *He talks too fast, that man*



### Properties of RECAPITULATION

- optionality:** determined by the fact that the initial propositional tree is complete;
- co-referentiality:** determined by the requirement imposed on the LINKed tree.
- restriction to referring expressions:** determined by completeness of initial tree (a mother node cannot be completed and eliminated unless both daughters carry no outstanding requirements - metavariables projected by pronouns must thus all be assigned values) and requirement on LINKed tree to find a copy (so only 'referential NP - definite, proper name or, dialectally in English, a pronoun).

## Expletives and delayed node-development

(17) Late projection of structure: Sentential Extraposition

- a. That I am wrong is possible (but not likely).
- b. It's possible that I am wrong (but it's not likely).
- c. \*Is possible that I am wrong (but it's not likely).

Expletive pronoun is necessary in English:

it allows the identification of the content of the subject to be delayed, hence providing an underspecified formula as an interim value to some type requirement associated with a node.

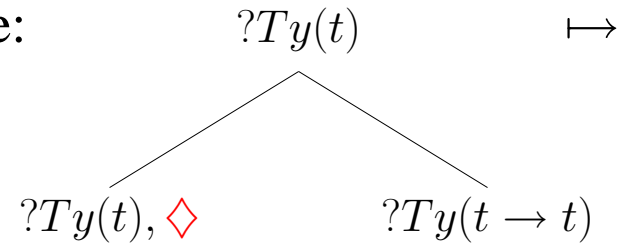
(18)  $it_{expl}$

IF	$?Ty(t)$		
THEN	IF	$\langle \uparrow \rangle \perp$	(not main proposition)
	THEN	ABORT	
	ELSE	$put(Fo(\mathbf{U}), Ty(t), ?\exists x Fo(x)),$	
		$go(\langle \uparrow_0 \rangle \langle \downarrow_1 \rangle)$	
ELSE	ABORT		

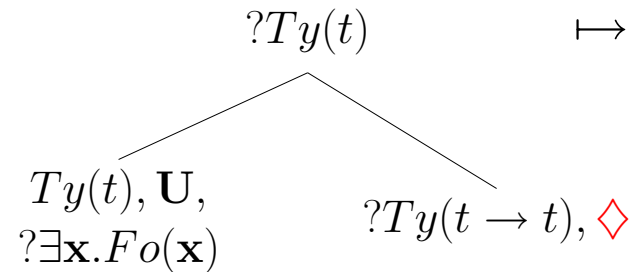
## Expletives and Late\*Adjunction

(19) Parsing *it's possible*

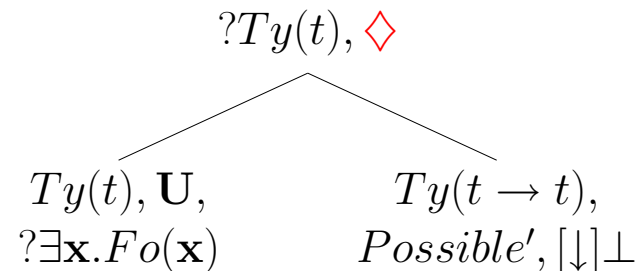
Subject-predicate tree:



Parsing *it*:



Parsing *it's possible*



## Expletives and Late\*Adjunction

*Late\*Adjunction*

Rule:

$$\frac{\{Tn(n), \dots, \{\uparrow_* Tn(n), Tn(a), \dots, Ty(X), \diamond\}, \dots\}}{\{Tn(n), \dots, \{\uparrow_* Tn(n), Tn(a), \dots, Ty(X)\}, \{\langle \uparrow_* \rangle Tn(a), ?Ty(X), \diamond\}, \dots\}}$$

Tree growth:

$$\uparrow_* Tn(n), Tn(a), Ty(X), \dots, \diamond \quad \mapsto \quad \uparrow_* Tn(n), Tn(a), Ty(X)$$

$$\phantom{\uparrow_* Tn(n), Tn(a), Ty(X), \dots, \diamond \quad \mapsto \quad \uparrow_* Tn(n), Tn(a), Ty(X)} \quad \vdots$$

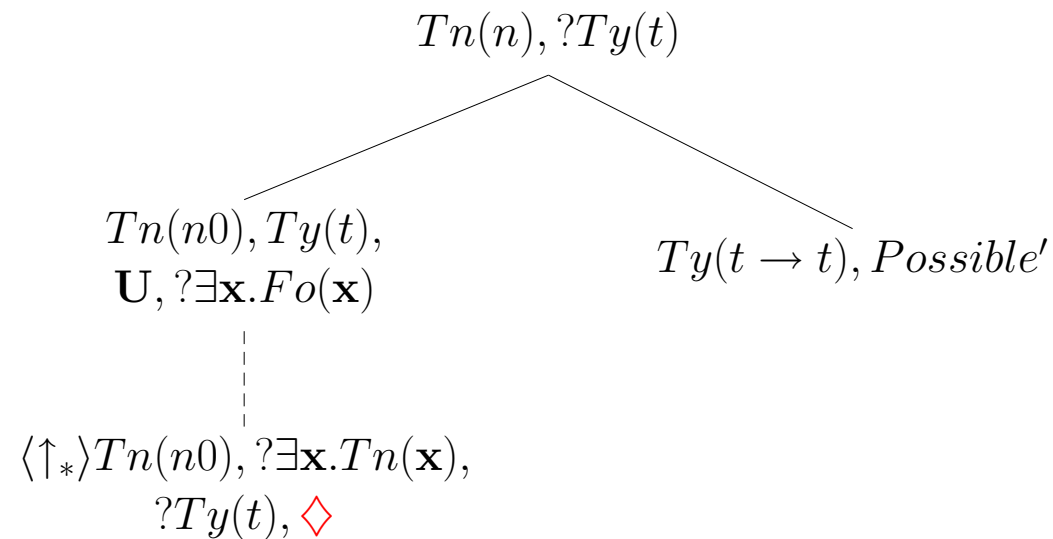
$$\phantom{\uparrow_* Tn(n), Tn(a), Ty(X), \dots, \diamond \quad \mapsto \quad \uparrow_* Tn(n), Tn(a), Ty(X)} \quad \langle \uparrow_* \rangle Tn(a), ?Ty(X), \diamond$$

**FROM** a fixed type-complete node ( $Ty(X)$ )

**PROJECT** an unfixed node with a requirement for a tree rooted in the same type ( $?Ty(X)$ ).

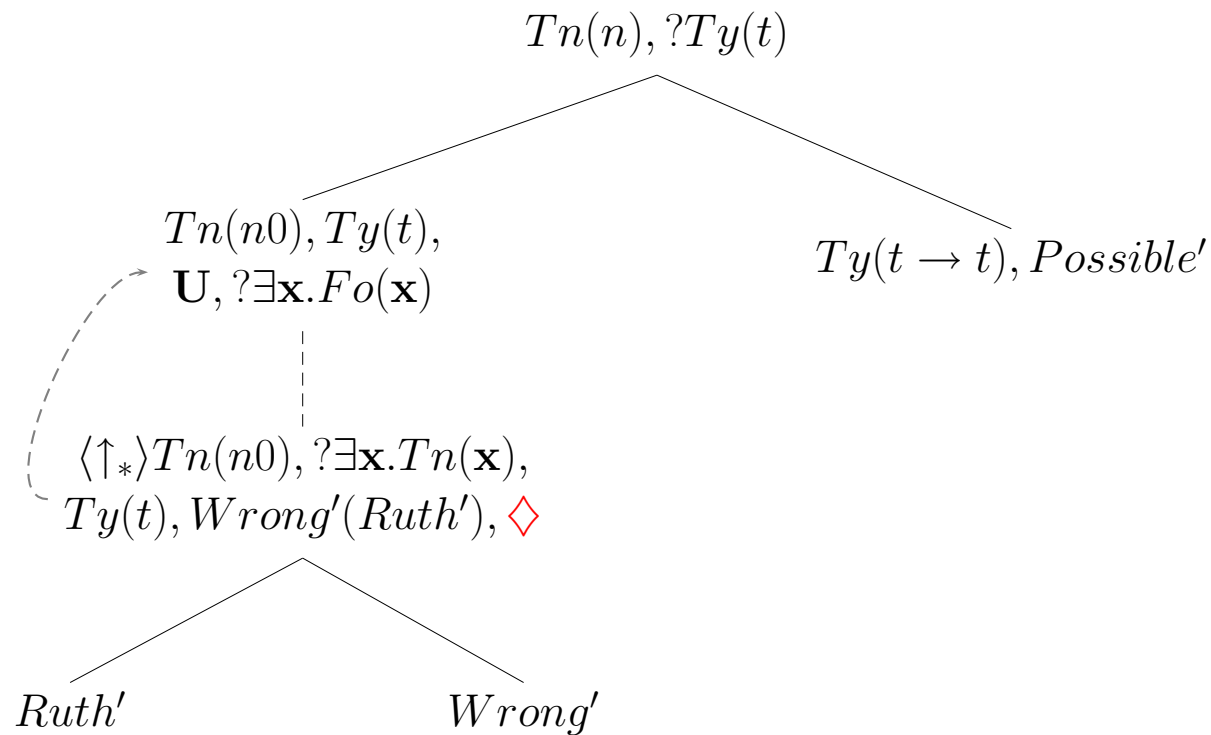
## Expletives and Late\*Adjunction

(19) Parsing *it's possible* with Late\*Adjunction



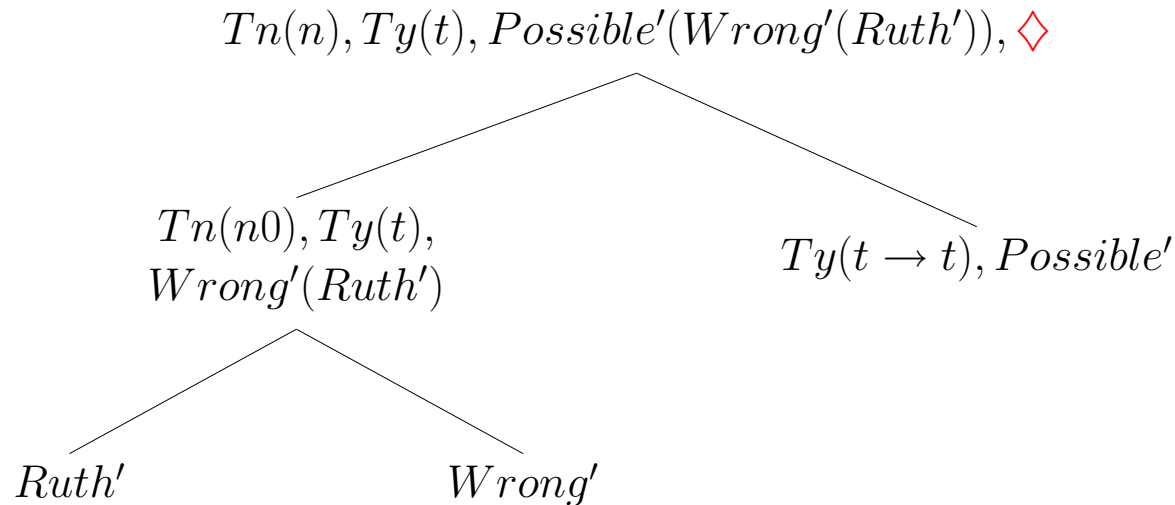
## Expletives and Late\*Adjunction

(19) Parsing *it's possible that I am wrong*



## Expletives and Late\*Adjunction

(19) Parsing *it's possible that I am wrong*



- Note that an expletive expression does not project the bottom restriction ( $[\downarrow] \perp$ ) otherwise Late\*Adjunction could not apply since the terminal node restriction is contradicted by the modality  $\langle \downarrow_* \rangle ?Ty(X)$  induced by the rule.

## Expletives and Late\*Adjunction

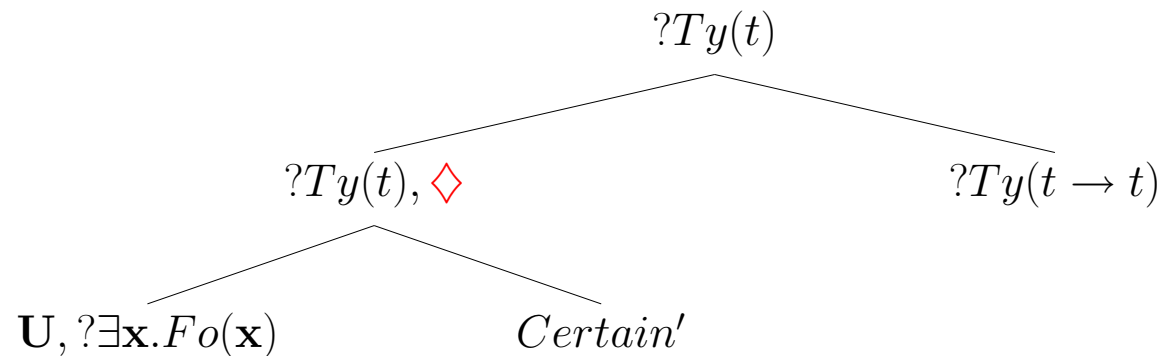
(20) **Right Roof Constraint** – bonus for the analysis:

- a. \*That it is certain is unfortunate that I am wrong.
- b. That it is certain that I am wrong is unfortunate.

Completion and elimination only when a daughter contains **no** outstanding requirements.

No annotation and completion of mother and so no pointer movement.

Parsing *That it is certain*



*is unfortunate* can only be parsed successfully if the subject node is completed by parsing a propositional string (20b).

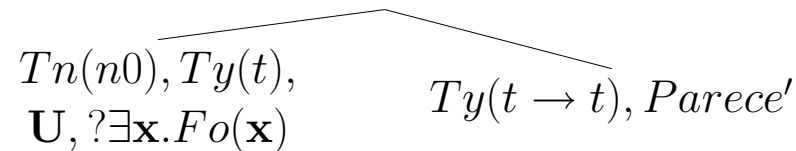
If substitution occurs, parsing the final clause in (20a) will fail.

## Ellipsis, inversion, and right-periphery effects

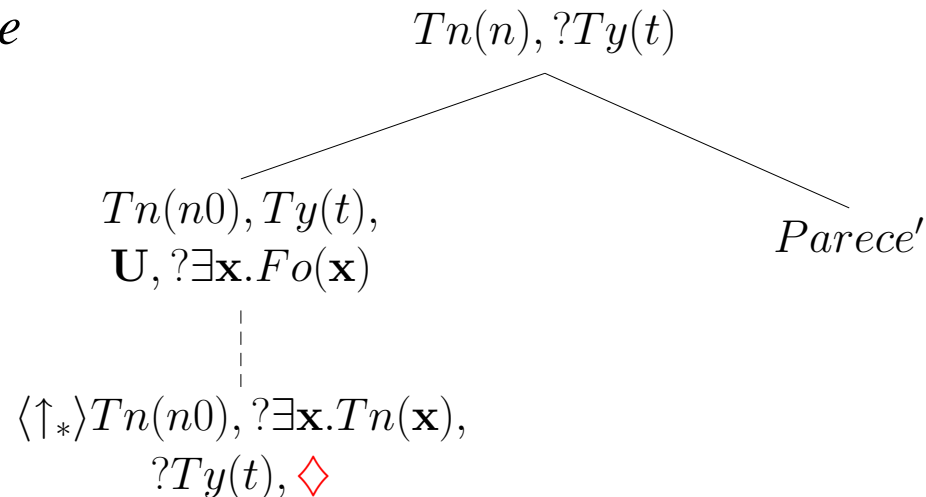
(21) Pro-drop languages do not need expletive subjects:

- a. *llegó un estudiante*  
 Arrived a student  
 A student arrived.
- b. *parece que llegó un estudiante*  
 seems that arrived a student  
 ‘It seems that a student has arrived.’

b. Parsing *parece*  $Tn(n), ?Ty(t)$



c. Parsing *Parece que*



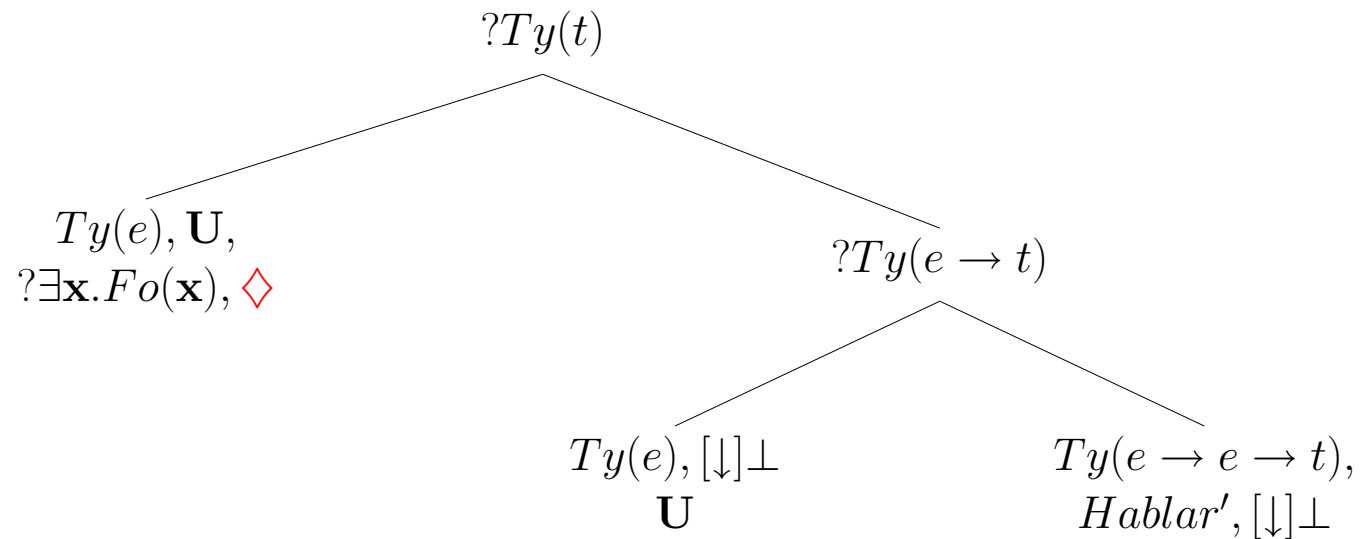
## Subject Inversion

- (22) *Llegó un estudiante*  
arrived a student  
'A student arrived'
- (23) *Llamó Beatriz*  
'Beatrice has telephoned.'  
'She has telephoned Beatrice'  
'She<sub>i</sub> has telephoned, Beatrice<sub>i</sub>'
- (24) *Habla Juan inglés*  
Speaks Juan English  
'Juan speaks English'
- (25) *Habla inglés Juan*  
Speaks English Juan  
'Juan speaks English.'

Ellipsis, analogous to anaphora, allows locally subsequent identification

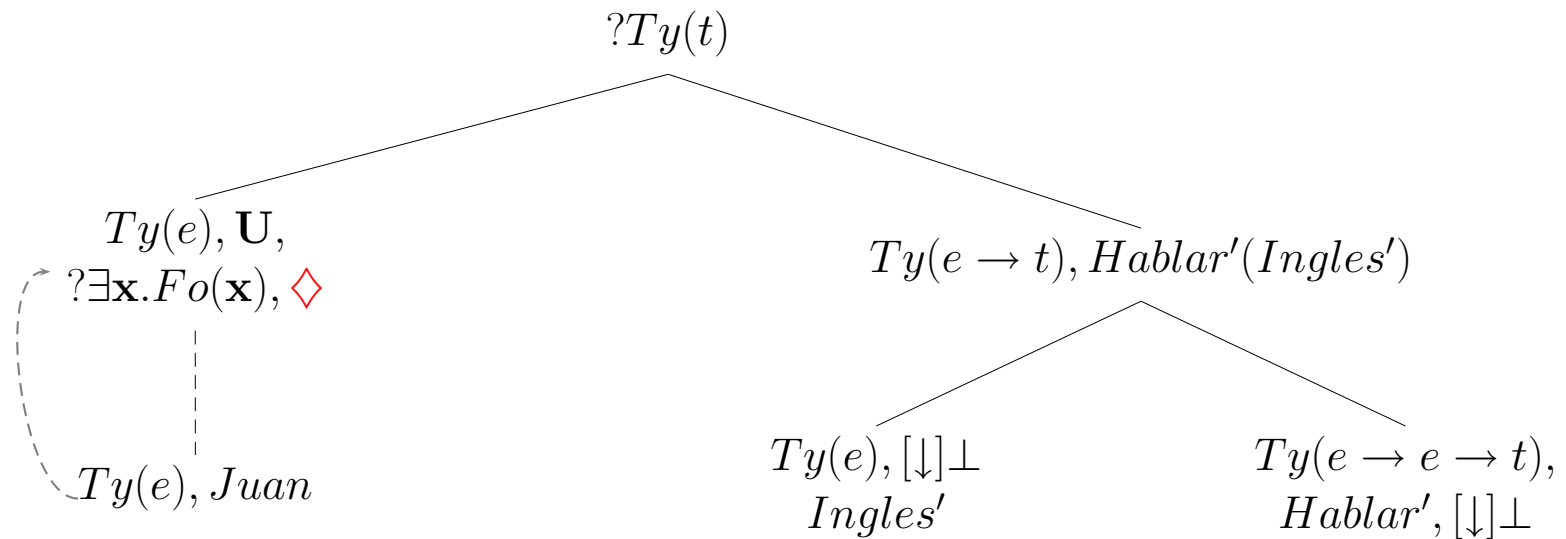
## Subject Inversion

(26) Parsing *Habla Juan* in *Habla Juan inglés*



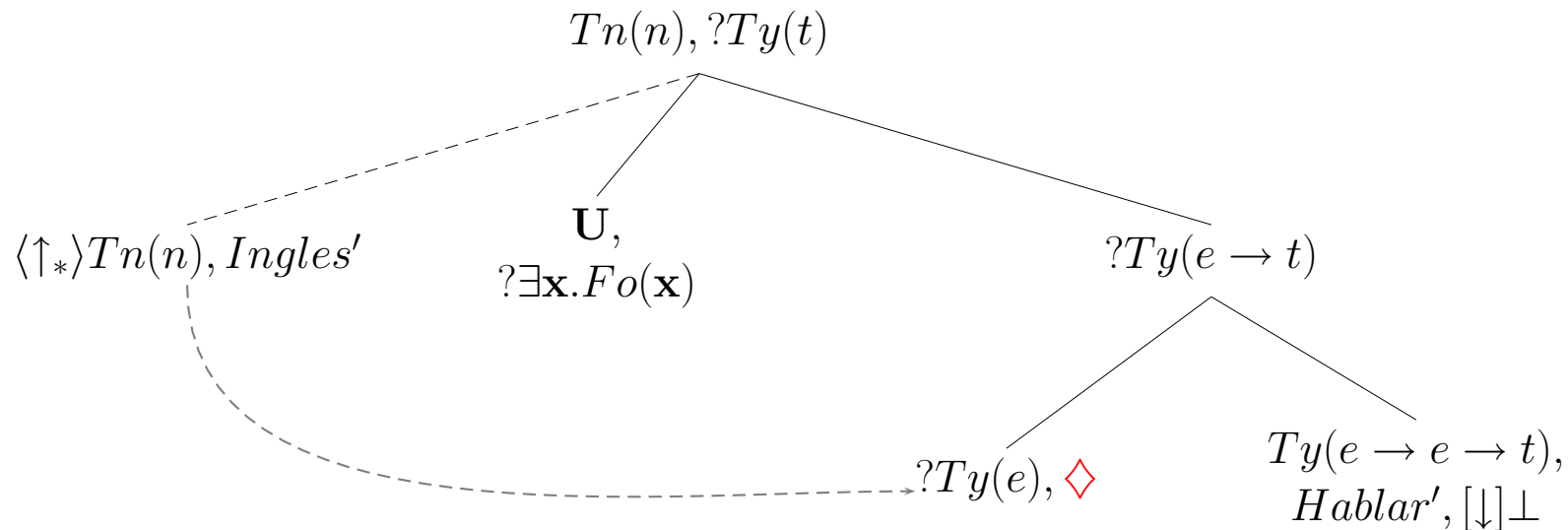
## Subject Inversion

(27) Parsing *Habla inglés Juan*



## Combining Left and Right Periphery Effects

- (28) *Inglés habla Juan*  
 English speaks Juan  
 ‘English, Juan speaks’



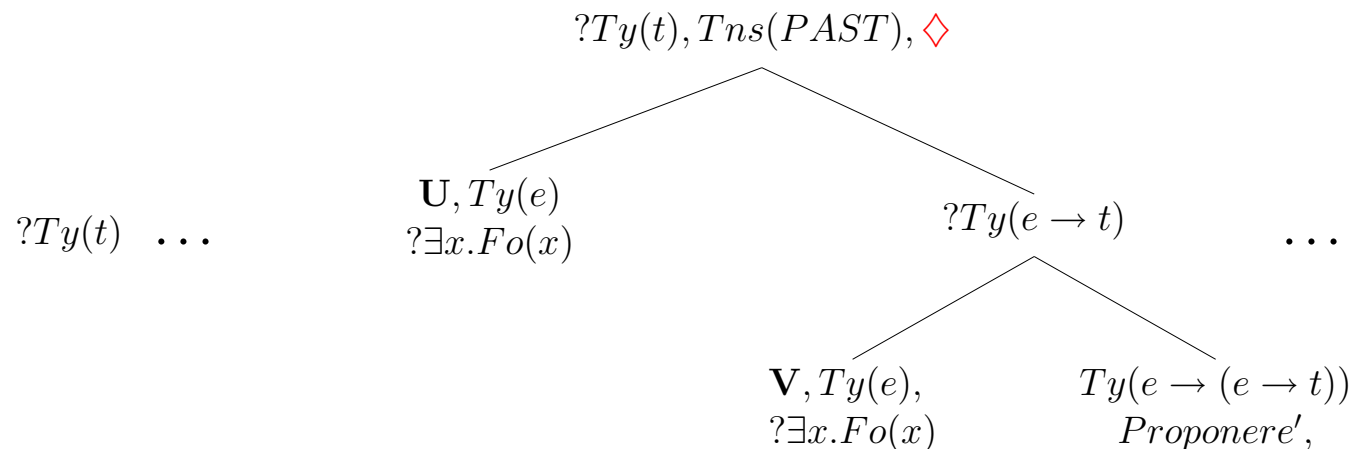
- Subject must be postposed: only one unfixed node licensed at a time.

## Latin and a grammar reflecting parsing strategy possibilities

## The Syntactic Process

Verbs induce propositional templates, with arguments contextually identifiable

Parsing *proposuit*



$?X$ : requirement to provide label  $X$  - drives parsing process

$?∃x.Fo(x)$ : requirement to find contentful formula

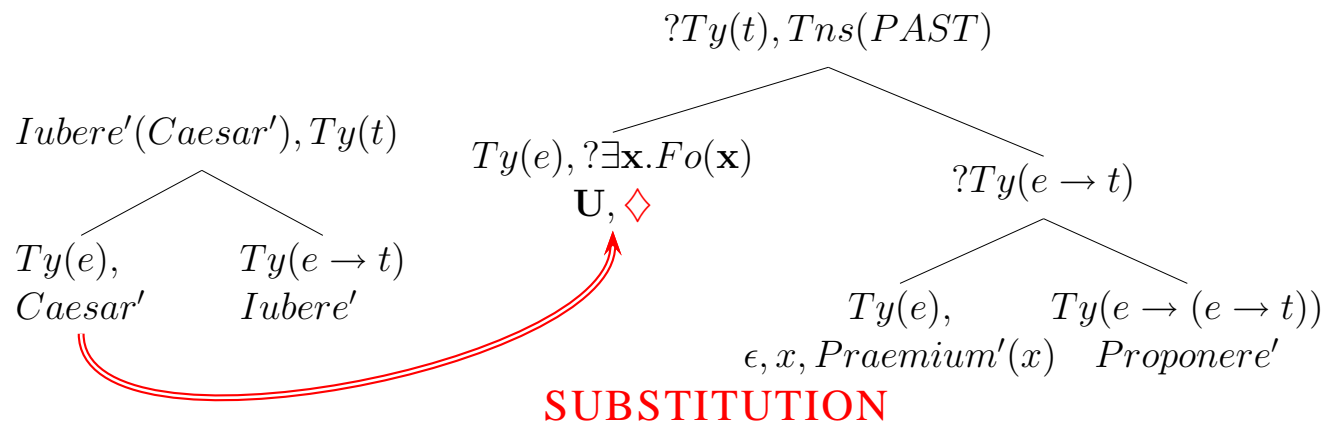
## The Syntactic Process: ellipsis of arguments

**Context-dependence:** ellipsis/pronouns project underspecified placeholders that require to be substituted by some contentful expression taken from the discourse context – META-VARIABLES (**U**, **V**)

- |      |                       |                            |                         |                     |                        |
|------|-----------------------|----------------------------|-------------------------|---------------------|------------------------|
|      | Caesar                | iussit                     | milites                 | castrum             | captare                |
| (20) | Caesar <sub>NOM</sub> | ordered                    | soldiers <sub>ACC</sub> | camp <sub>ACC</sub> | capture <sub>INF</sub> |
|      | Praemium              | proposuit                  |                         |                     |                        |
|      | reward <sub>ACC</sub> | offered <sub>3.ps.sg</sub> |                         |                     |                        |
- Caesar ordered the soldiers to capture the camp.*  
*He offered a reward.*

CONTEXT:

TREE UNDER CONSTRUCTION



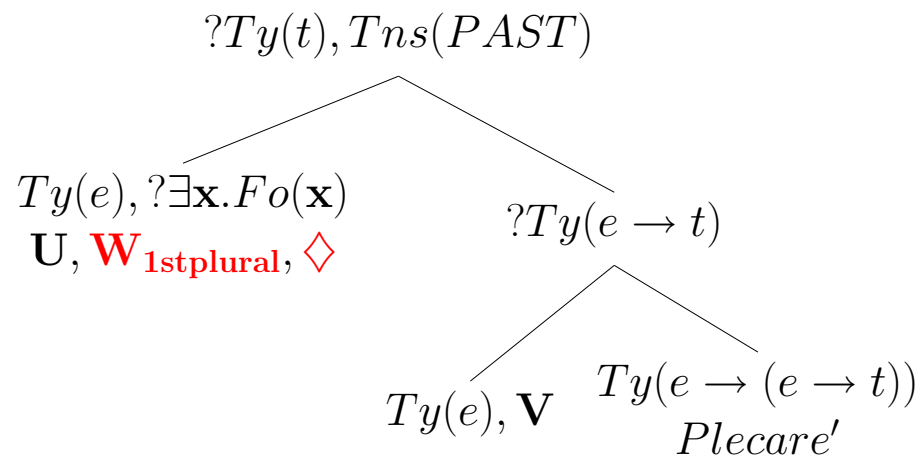
## The Syntactic Process

Pronouns also project metavariables:

*nos* IF  $?Ty(e)$   
 THEN  $\text{put}(\mathbf{U}_{1stplural}, Ty(e), ?\exists \mathbf{x}. Fo(\mathbf{x}))$   
 ELSE Abort

Nothing stops an anaphoric pronoun being used with a pro-drop verb, as node decorations collapse:

(21) *Plecaremus nos ad Montem Dei.*  
*We turned towards the Mountain of God.*



## Latin Word Order: Short and Long Scrambling

- Local Word Order Variation and only one unfixed node at a time?

(22) Catullus      Lesbiam    amavit  
 Catullus<sub>Nom</sub>    Lesbia<sub>Acc</sub>    loved  
 (in any order)

(23) Lesbiam Catullus amavit.

(24) Amavit Catullus Lesbiam.

(25) Lesbiam amavit Catullus.

- Non-local Word Order Variation

(26) Stercilinum    magnum    stude      ut    habeas  
 Dunghill<sub>ACC</sub>    big<sub>ACC</sub>    ensure<sub>IMP</sub>    that    have<sub>2.ps.sing.</sub>  
 See that you have a large dung hill

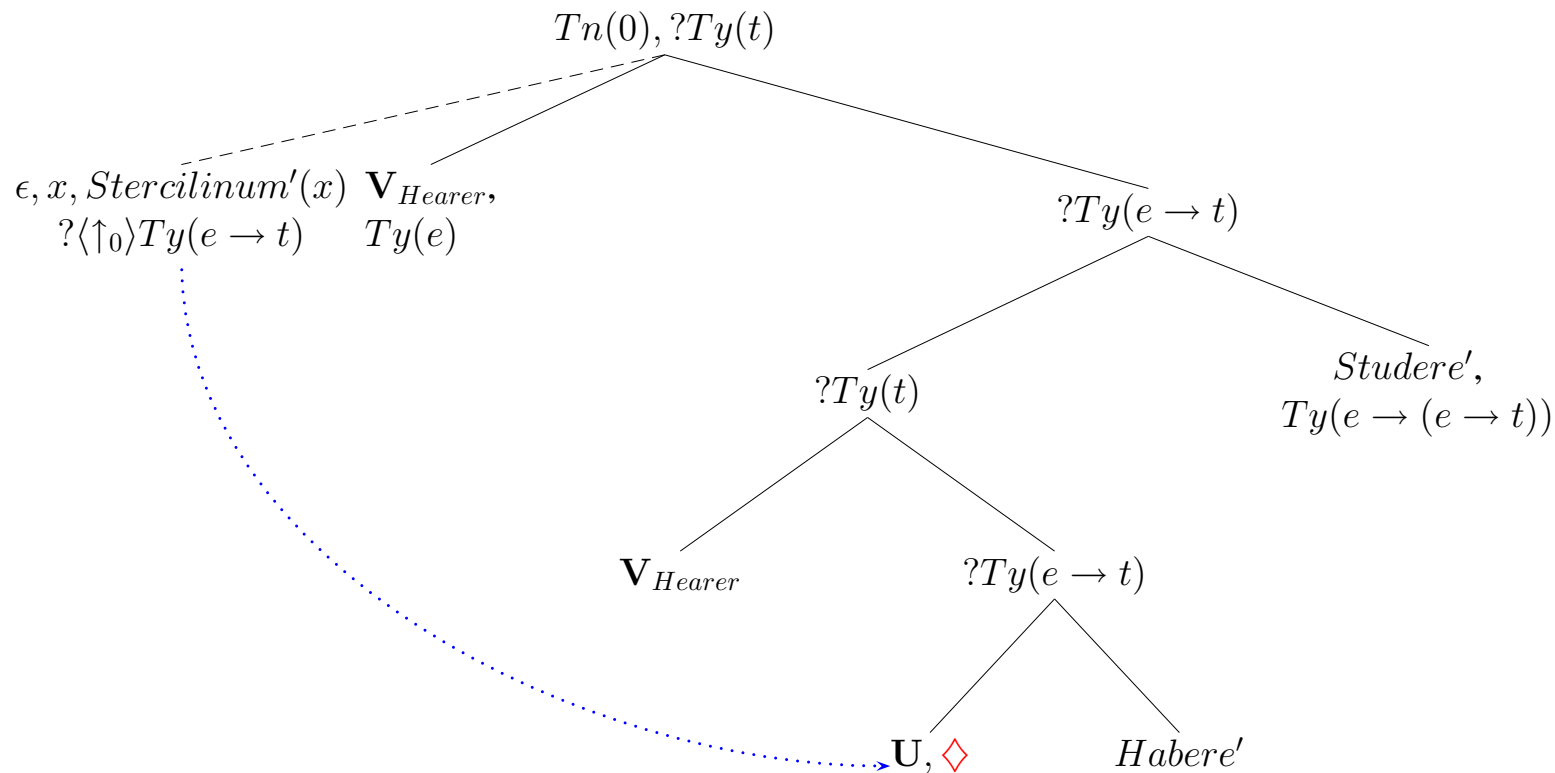
## Latin Word Order: Short and Long Scrambling

(26) Case as output filter

Stercilinum magnum stude ut habeas

Dunghill large strive<sub>Imp</sub> that have<sub>2.sg.Subjunct</sub>

Ensure that you have a large dunghill



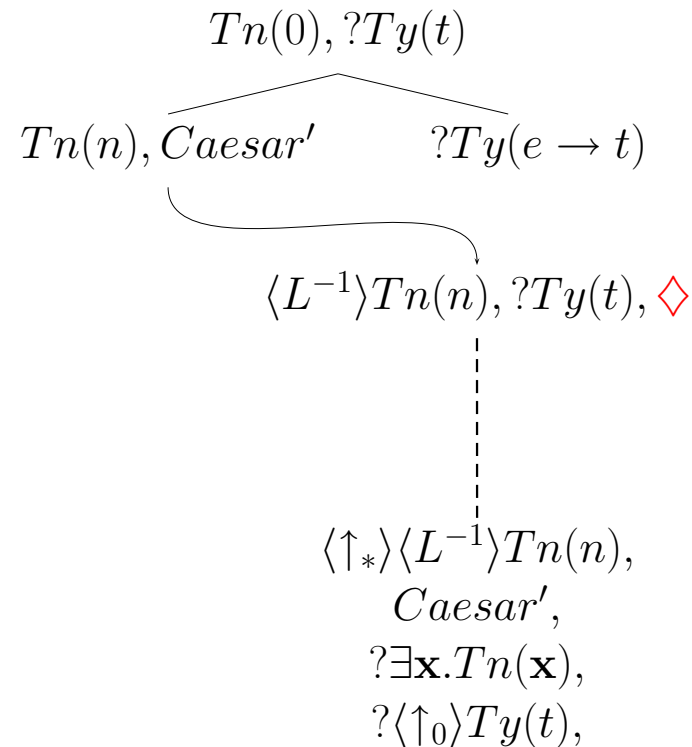


## Relative clauses as paired linked trees

One partial tree as context for another

– relative pronouns: providing a copy of the head at an unfixed node

Parsing *Caesar, quis*

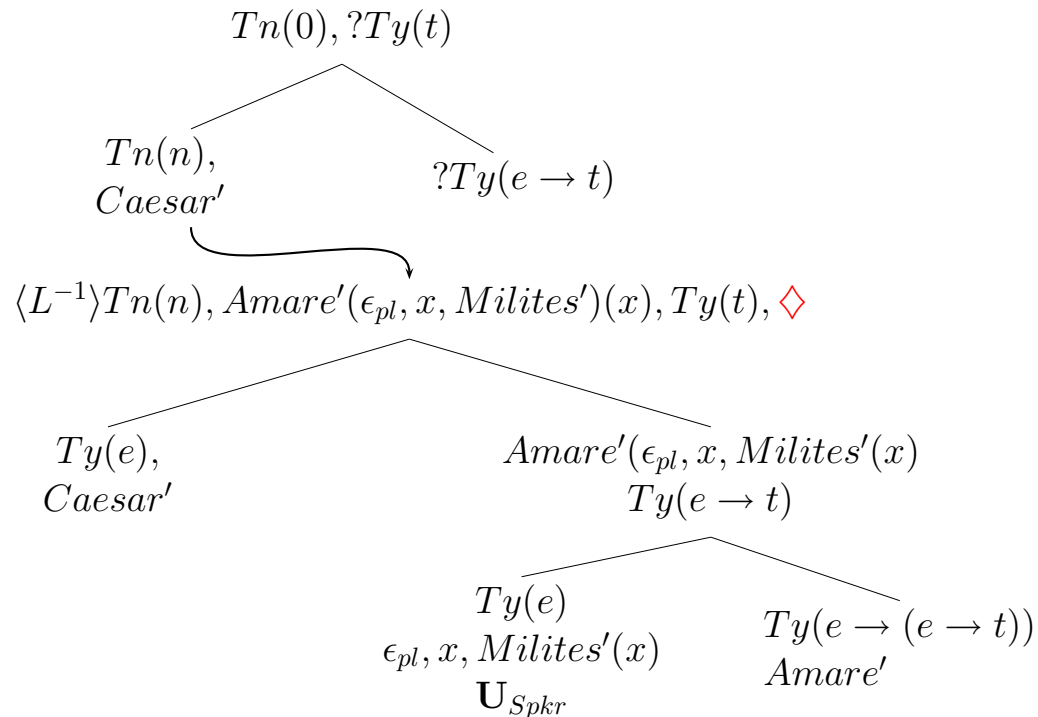


building an unfixed node

## Relative clauses as paired linked trees

One partial tree as context for another

Parsing *Caesar, quis nos amabat*



Completing the linked tree with actions of:  
 building subject node (unifying with unfixed node)  
 building and decorating object node  
 processing the verb  
 decorating nonterminal nodes

## Variation in the syntactic process

One (partial) tree providing the context with respect to which another is constructed:

### (28) **Relative clauses**

Xerxes quis nos amabat ...  
 Xerxes who<sub>nom.sg</sub> us<sub>acc</sub> loved<sub>impfv.3.sg</sub>  
*Xerxes who loved us ...*

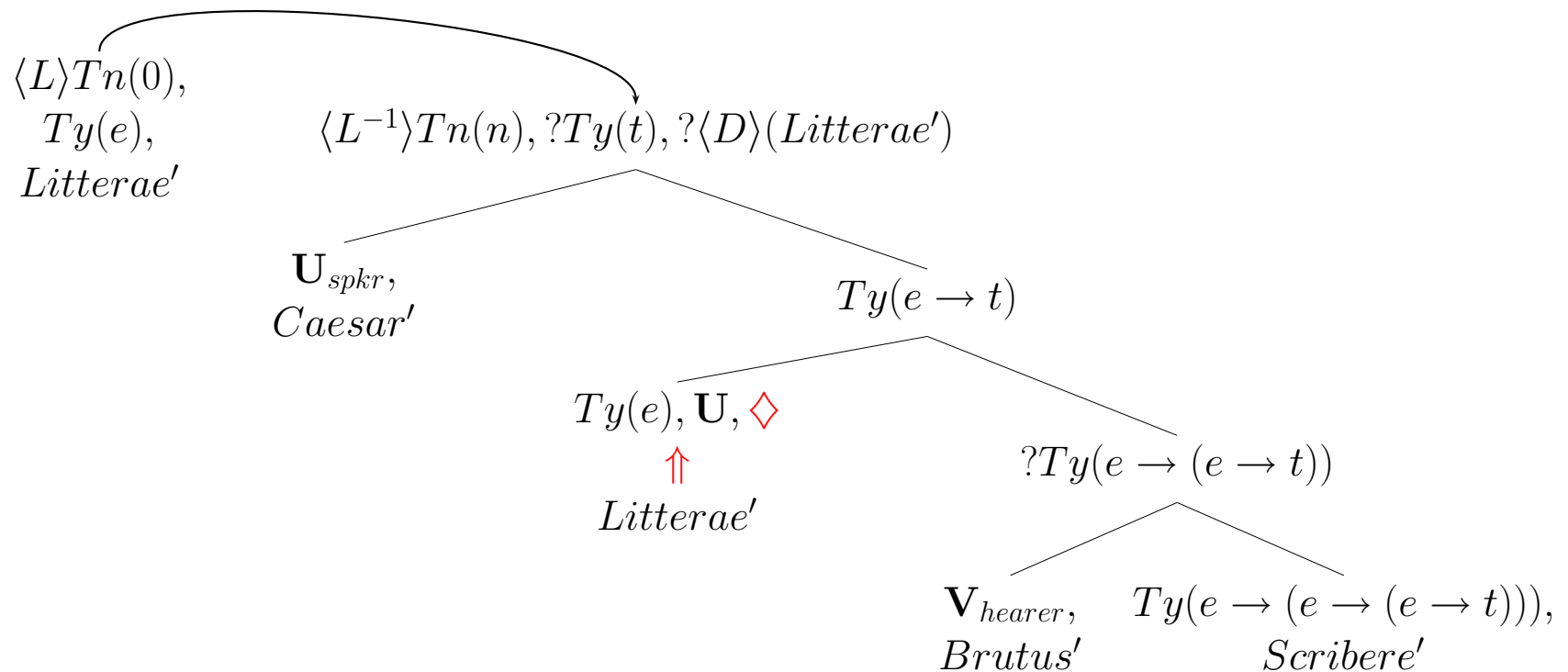
### (29) **Hanging Topic Left Dislocation**

haec ad te scripsi verbosius  
 these to you write<sub>1.sg</sub> with some verbosity  
*I write this to you at some length*

## Hanging Topic Left Dislocation

Building a LINK relation from the root

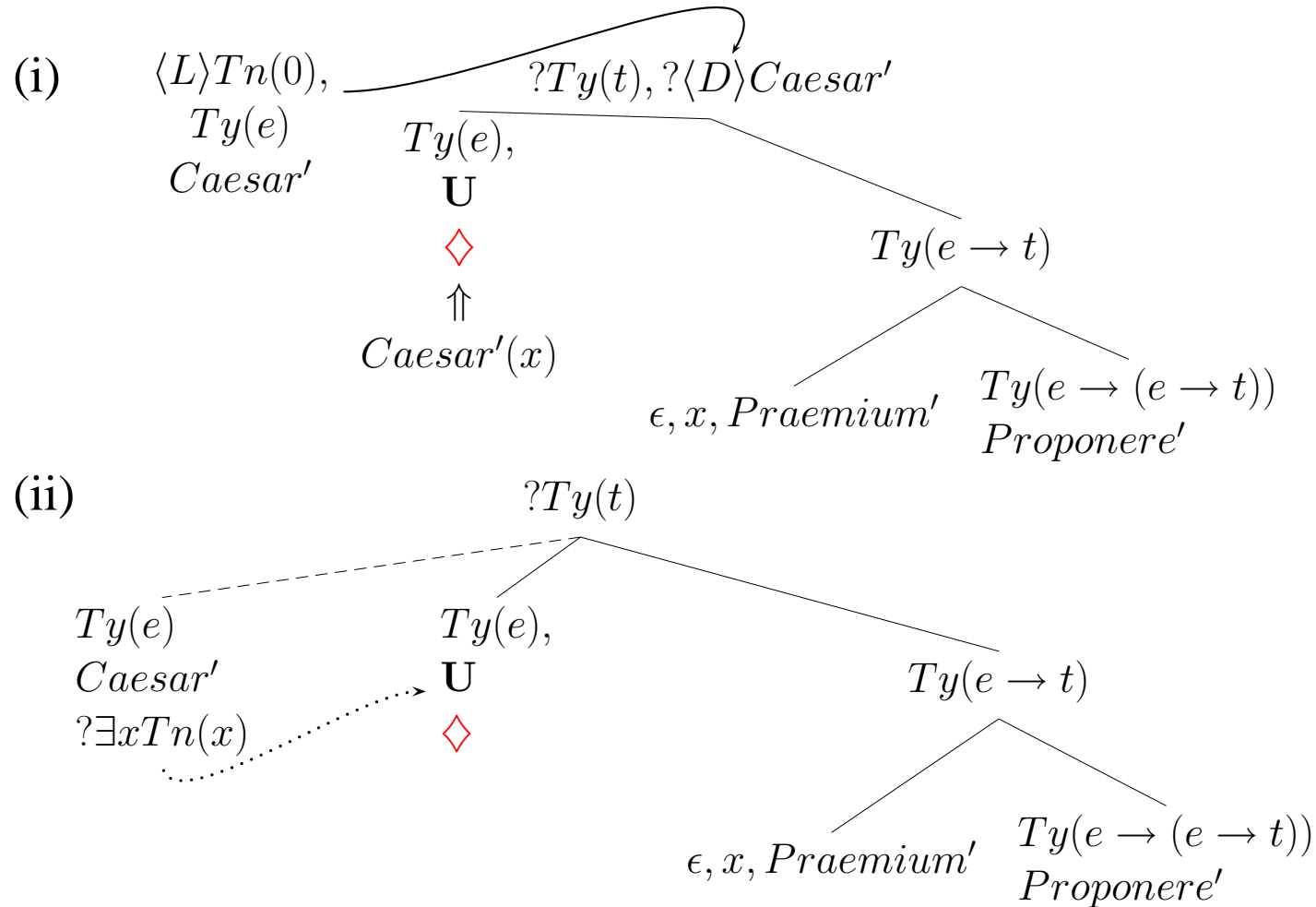
- (30) haec ad te scripsi verbosius  
 these to you write<sub>1.sg</sub> with some verbosity  
*I<sub>Caesar</sub> write this<sub>letters</sub> to you<sub>Brutus</sub> at some length*



The main structure requires a COPY of formula from the first tree:  
 pronoun obligatory (unless pro-drop).

# Parsing alternatives: LINK/unfixed-node in pro-drop structures

(31) Caesar proposuit praemium  
 Caesar offered a reward

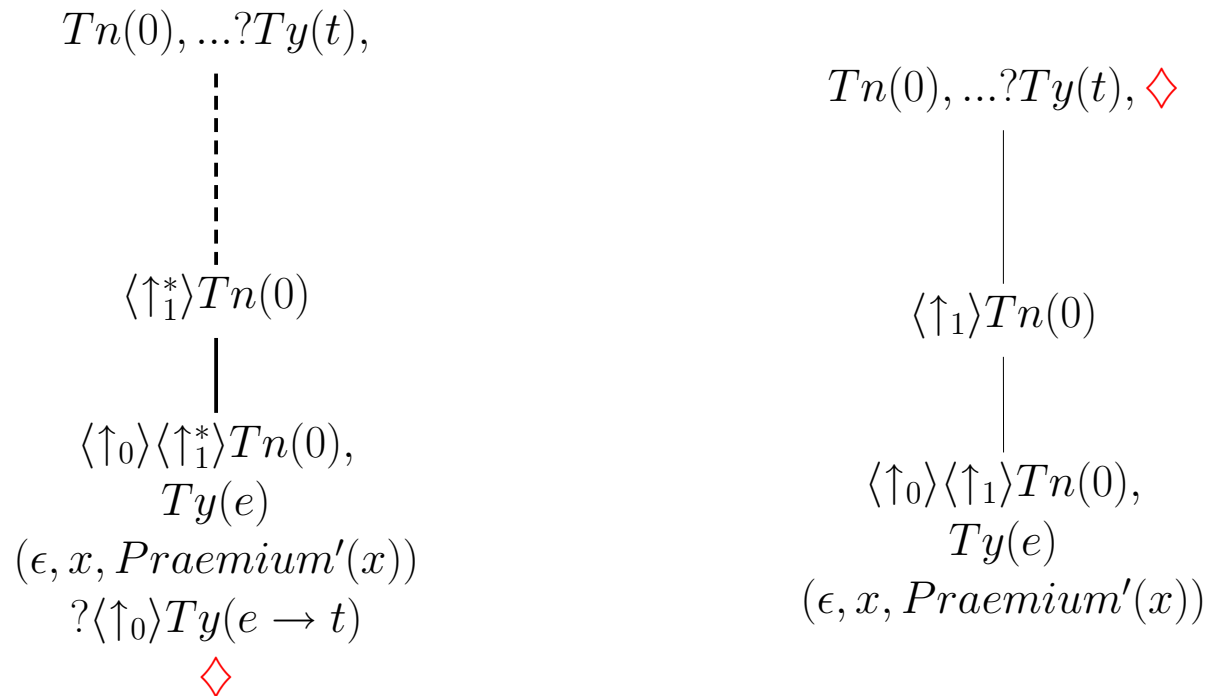




## Latin Word Order: Locality Constraints on structural update

Parsing *Praemium Caesar proposuit*

Local\*Adjunction with *Praemium* plus Abduction

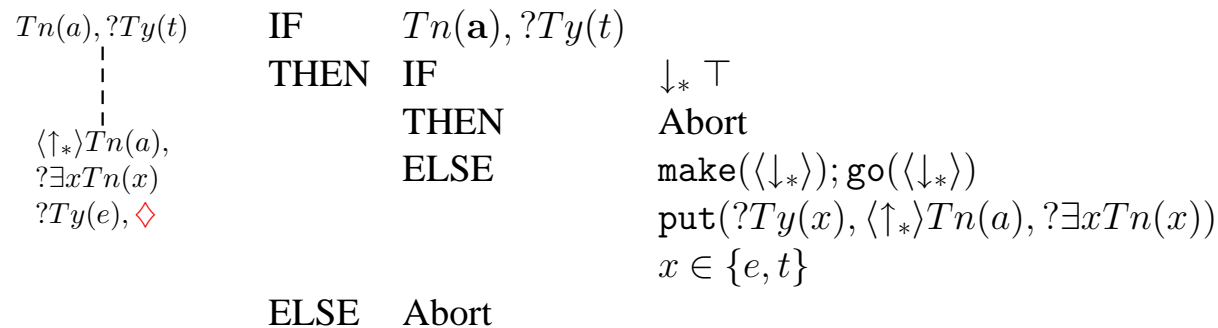


Parsing *praemium*: Using case (and animacy) to fix argument node  
(all internal structure of term omitted)

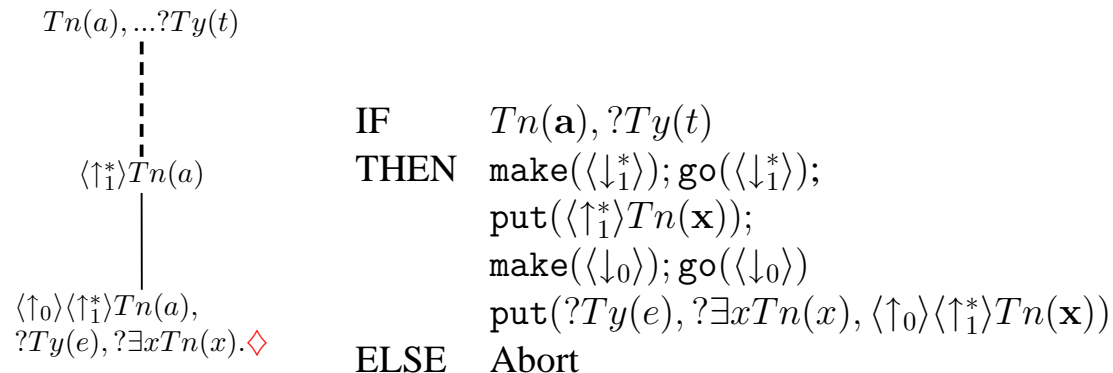
## The Syntactic Process

Two Ways to Update a Structure (analogous to anaphora):

- (i) \* Adjunction - update within a propositional structure (Strong Islands)



- (ii) Local \* Adjunction (within minimal predicate-argument array)



Only 1 unfixed node (of a type) from given node - nodes with same modality necessarily collapse (are the same node).

## (i) Building local structure plus update: constructive use of case

No more than one unfixed node of a type from given dominating node

Case may be used constructively to fix underspecified treenode relations on the fly.

Parsing *Praemium Xerxes proposuit* ( ‘Xerxes offered a reward’)

$Tn(0), ?Ty(t), \diamond$

## (i) Building local structure plus update: constructive use of case(2)

Parsing *Praemium Xerxes proposuit*

$Tn(0), \dots ?Ty(t),$

⋮

$\langle \uparrow_1^* \rangle Tn(0)$

|

$\langle \uparrow_0 \rangle \langle \uparrow_1^* \rangle Tn(0),$   
 $?Ty(e), \diamond$

Output of Local \*Adjunction:  
 a locally unfixed argument node

## (i) Building local structure plus update: constructive use of case(3)

Parsing *Praemium Xerxes proposuit*

$Tn(0), \dots ?Ty(t), \diamond$

$\langle \uparrow_1 \rangle Tn(0)$

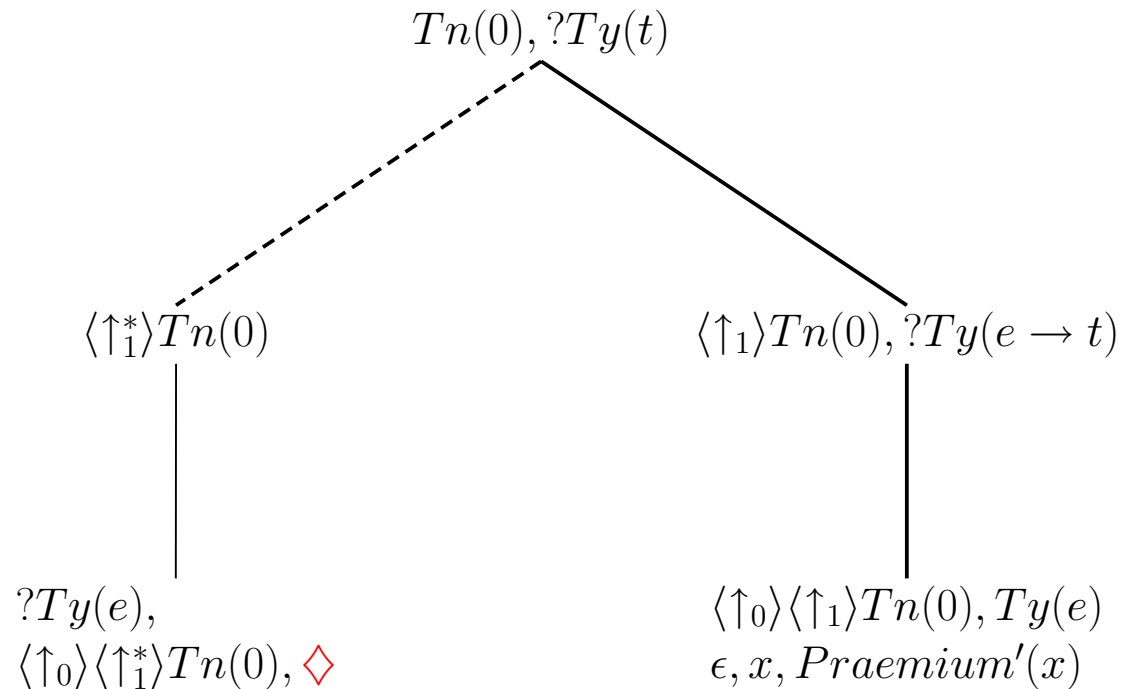
$\langle \uparrow_0 \rangle \langle \uparrow_1 \rangle Tn(0), Ty(e)$   
 $\epsilon, x, Praemium'(x)$

Parsing *praemium*

Using case (and animacy) to fix argument node

## (i) Building local structure plus update: constructive use of case(4)

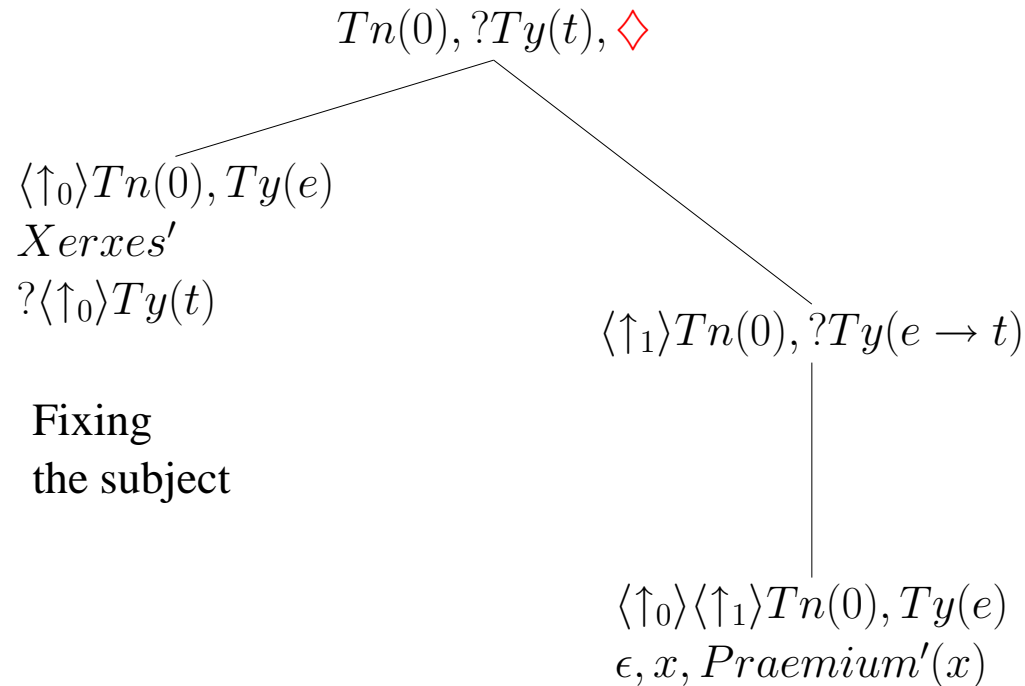
Parsing *Praemium Xerxes proposuit*



Building a locally unfixed node (again)

## (i) Building local structure plus update: constructive use of case(5)

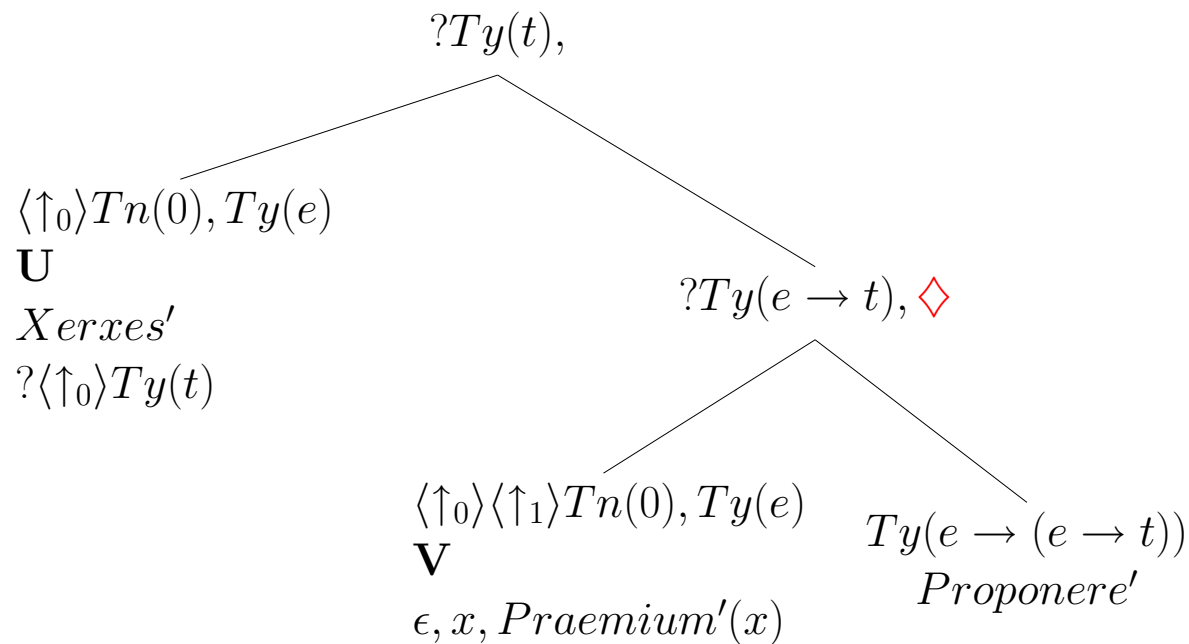
Parsing *Praemium Xerxes proposuit*



Result of parsing *praemium Xerxes* is a partial tree with a cluster of argument nodes

## (i) Building local structure plus update: constructive use of case (6)

Parsing *Praemium Xerxes proposuit*



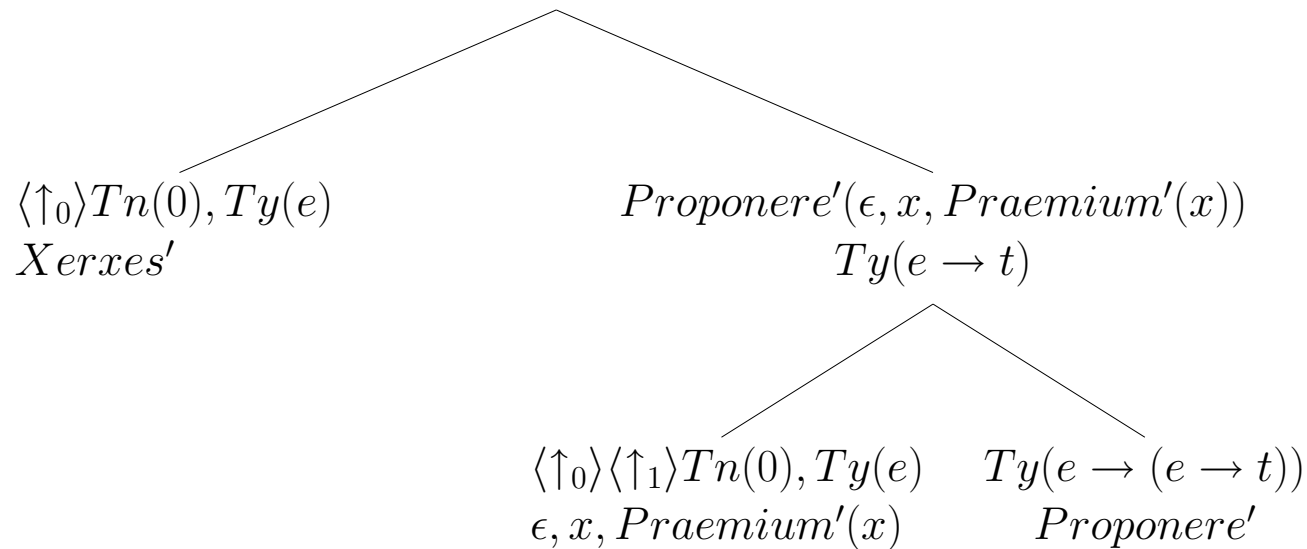
parsing *proposuit*  
 (notice two operations of building subject/object collapse)

## (i) Building local structure plus update: constructive use of case (7)

Parsing *Praemium Xerxes proposuit*

Deriving compositionality on resulting tree

$Ty(t), Proponere'(\epsilon, x, Praemium'(x))(Xerxes'), \diamond$



Note: never more than one unfixed node at a time

## Solving puzzles of multiple long-distance scrambling

Combining non-local and local building processes:

\*Adjunction feeding Local\*Adjunction

Building a cluster of argument nodes at an unfixed node

(35) Caseum per cribrum facito transeat in mortarium  
 The cheese through the sieve make cross<sub>3.ps</sub> into the bowl

Cause the cheese to go through the sieve into the bowl

There is a severe restriction that individual dislocated items in multiple long-distance scrambling must be local to each other.

## Multiple Long-Distance Dependency

Parsing (35) *Caseum per cribrum facito transeat in mortarium*

$Tn(0), ?Ty(t)$

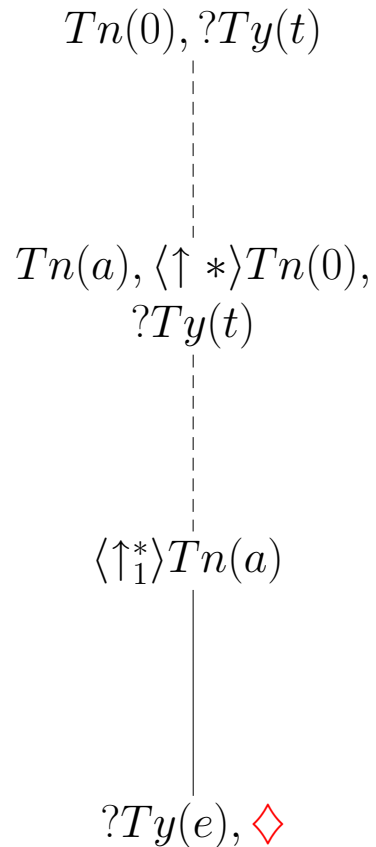


$Tn(a), \langle \uparrow * \rangle Tn(0),$   
 $?Ty(t), \diamond$

## Multiple Long-Distance Dependency

Parsing *Caseum per cribrum facito transeat in mortarium*

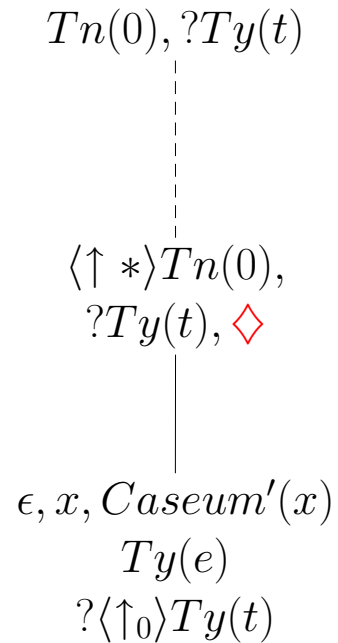
Building a locally unfixed node FROM an unfixed node



## Multiple Long-Distance Dependency

Parsing *Caseum per cribrum facito transeat in mortarium*

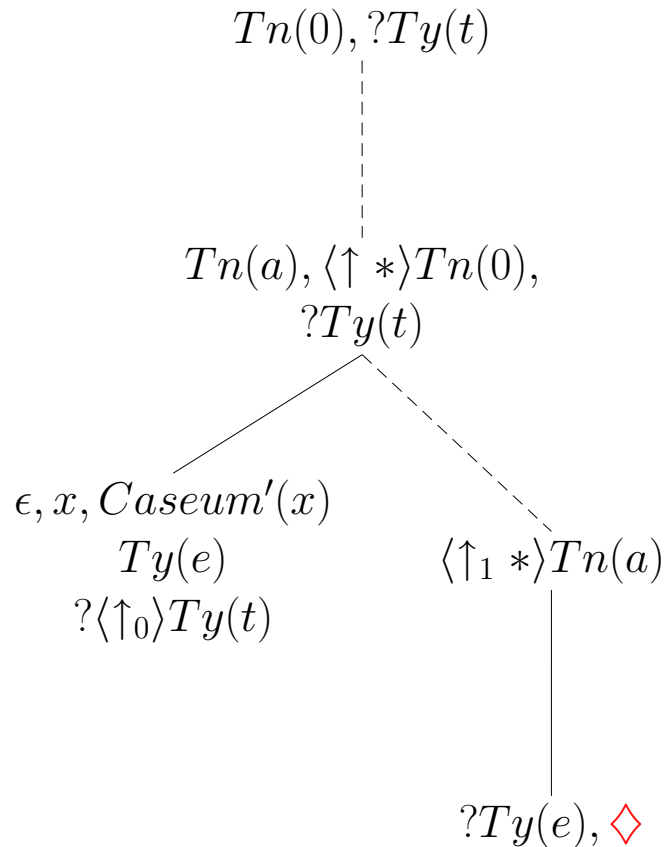
Decorating and fixing a subject node FROM an unfixed node



## Multiple Long-Distance Dependency

Parsing *Caseum per cribrum facito transeat in mortarium*

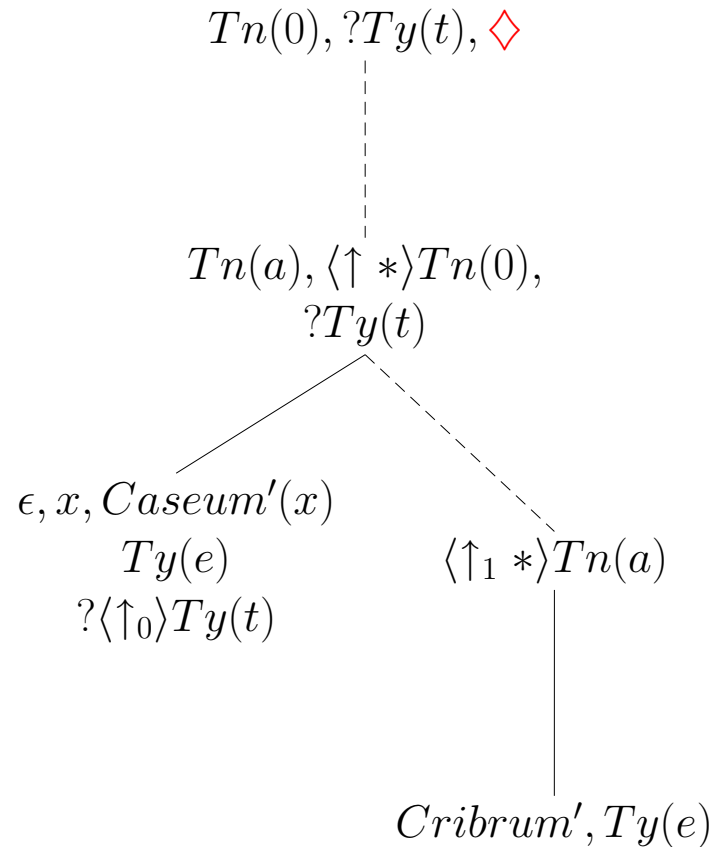
Constructing a second argument node FROM an unfixed node



## Multiple Long-Distance Dependency

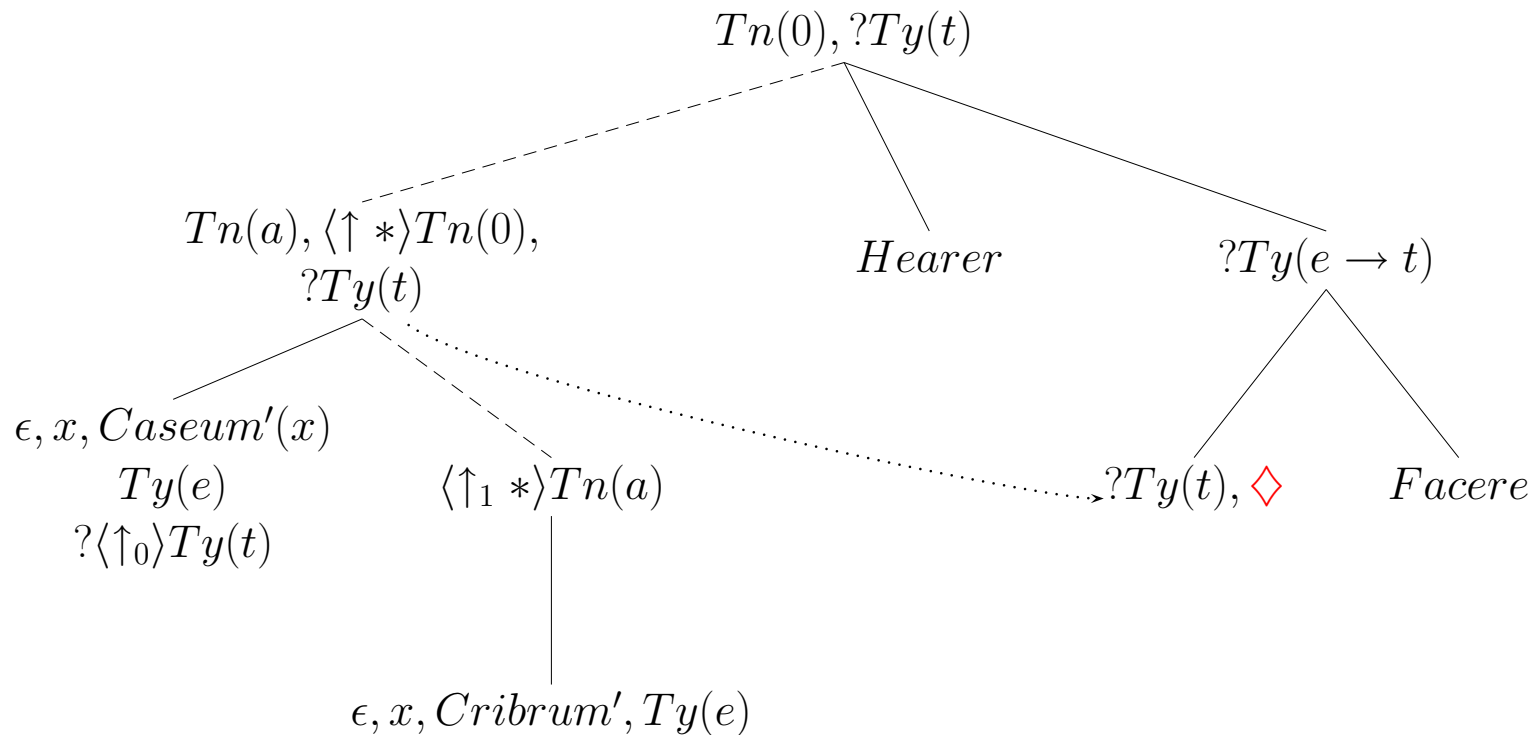
Parsing *Caseum per cribrum facito transeat in mortarium*

Constructing a second argument node FROM an unfixed node



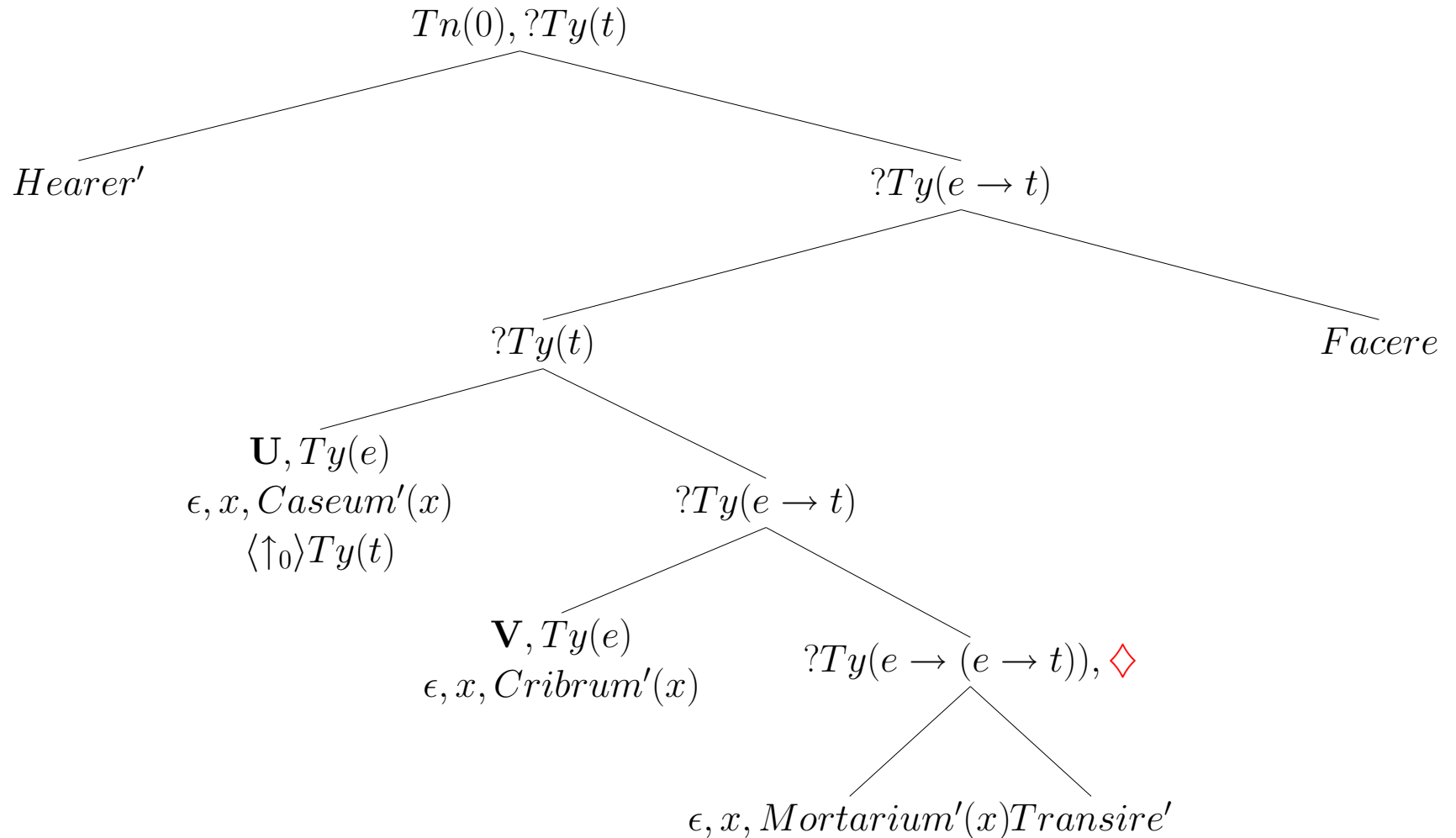
## Multiple Long-Distance Dependency

Parsing *Caseum per cribrum facito transeat in mortarium*  
 constructing the matrix predicate



## Multiple Long-Distance Dependency

Parsing *Caseum per cribrum facito transeat in mortarium*



Never more than one unfixed node of a type from any one node at a time

## Summary

- Overall process of tree growth for all syntactic processes
- General processes of
  - \* building unfixed nodes with update
  - \* building paired structures sharing a term
- These in principle generally available,  
interacting with anaphoric/elliptical construal processes
- Use of metavariables allowed delayed (split) development of a node
- Expanding family of structural underspecified relations constructable
  - \* constructive use of case (abduction)
- The nonlocal building of an unfixed node predicted to feed localised building processes
  - \* Logic of tree growth yielding structural restrictions
- Each process of update relies on a structural concept of context
  - \* pronouns, ellipsis, structural underspecification

## References: Latin and Scrambling effects

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