

## 7 LTAG and minimalist grammar

Frank (1992, 2002): Principled theory of elementary trees based on insights from minimalist grammar.

### 7.1 Phases and elementary trees

Minimalist grammar Chomsky (2000, 2001):

- operation *merge* to construct base structures
- operation *move* to obtain derived structures
- derivations are not permitted to manipulate structures beyond a certain size (so-called *phases*)  $\Rightarrow$  dependencies localized within phases

Concept of a phase: semantically saturated phrase structure (e.g., CP or VP)

Problem: phases actually not frozen, movement out of CPs possible  $\Rightarrow$  cyclic movement necessary to explain this

Frank (2002): idea that locality of movement-derived syntactic dependencies stems from the derivational independence of structural units that are bounded in size can be kept using TAG:

- derived elementary trees are generated from base elementary trees using transformations; dependencies are localized within elementary trees; i.e., elementary trees realize the idea of phases
- further structures are generated using adjunction and substitution; movement-based transformations are not possible at this level

(41) *The fundamental TAG hypothesis*

Every syntactic dependency is expressed locally within a single elementary tree.

(42) *Nonlocal dependency corollary*

Nonlocal dependencies always reduce to local ones once recursive structure is factored away.

A TAG-based grammatical theory must include some additional component that determines the well-formedness of elementary trees in a principled fashion.

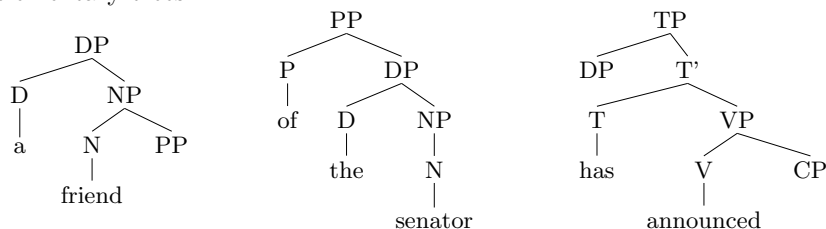
### 7.2 The nature of elementary trees

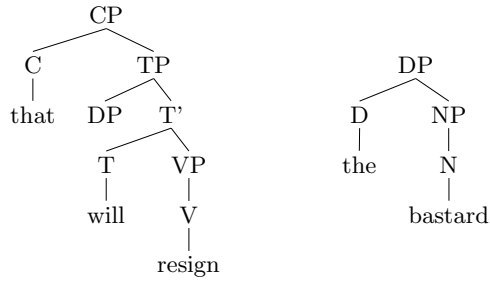
Elementary trees should contain at least the *thematic domain* of a lexical predicate, i.e., the structural context in which it takes its arguments.

Besides lexical predicates, there are functional elements (that do not assign  $\Theta$ -roles) expressing, e.g., tense, negation, mood, aspect, illocutional force. Frank proposes to include them in the elementary trees of lexical predicates: elementary trees correspond to *extended projections* including the projections of all functional heads that embed a lexical predicate (up through but not including the next lexical head).

(43) a. a friend of the senator has announced that the bastard will resign

b. elementary trees:





(Usually, in LTAG, the *announced* elementary tree would be an auxiliary tree. But for the segmentation of the constituency tree into elementary tree this is not relevant.)

(44) *Condition on Elementary Tree Minimality (CETM)*

The syntactic heads in an elementary tree and their projections must form an extended projection of a single lexical head.

The  $\Theta$ -criterion from GB says that each argument is assigned one and only one  $\Theta$ -role<sup>12</sup> and, furthermore, each  $\Theta$ -role is assigned to one and only one argument. A corresponding principle for LTAG elementary trees can be stated as follows:

(45)  *$\Theta$ -Criterion (TAG version) part I*

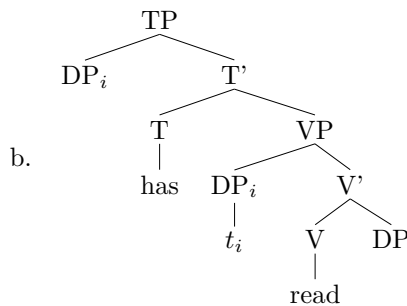
If H is the lexical head of elementary tree T, H assigns all of its  $\Theta$ -roles within T.

(46)  *$\Theta$ -Criterion (TAG version) part II*

If A is a frontier nonterminal node of elementary tree T, A must be assigned a  $\Theta$ -role in T.

Under the assumption that  $\Theta$ -roles are assigned within VP, *read* in (47a.) could have a VP rooted elementary tree. However, in order to fill the subject position, the subject must be considered as being moved to Spec TP which leads to the elementary tree in (47b.).

(47) a. Peter has read the book



In GB, this movement is caused by the *Extended Projection Principle (EPP)* that, roughly, requires subject (i.e., Spec TP) positions to be filled. A corresponding LTAG elementary tree principle:

(48) *Extended Projection Principle (TAG version)*

All TP projections within an elementary tree must have specifiers.

<sup>12</sup>Possible  $\Theta$ -roles: AGENT, PATIENT, THEME, EXPERIENCER, BENEFACTIVE, GOAL, SOURCE, LOCATION.