

Explaining Grammatical Structure

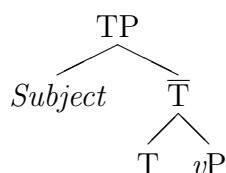
Notes for Lecture 5

David Adger
d.j.adger@qmul.ac.uk

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1 Introduction

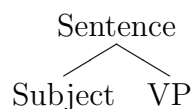
(1)



2 Sentences are headed

2.1 Theoretical Considerations

(2)



2.2 Empirical Evidence

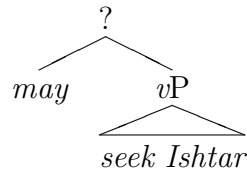
2.2.1 Modals

- (3) Gilgamesh may seek Ishtar
- (4) Gilgamesh must seek Ishtar
- (5) Gilgamesh can seek Ishtar
- (6) Gilgamesh should seek Ishtar
- (7) Gilgamesh will seek Ishtar

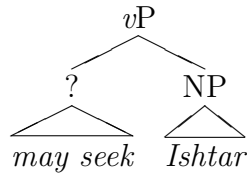
Notice that modals occur before, and not after the lexical verb:

- (8) *Gilgamesh seek may Ishtar
- (9) What Gilgamesh may do is [seek Ishtar]
- (10) ...and [seek Ishtar], Gilgamesh may

(11)



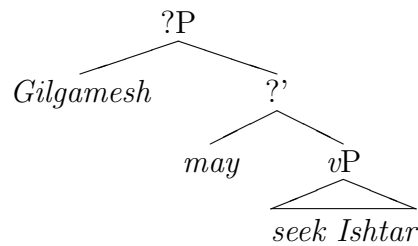
(12)



(13) *Gilgamesh must should seek Ishtar

(14) *Gilgamesh might can seek Ishtar

(15)



(16)

<i>Present</i>	<i>Past</i>
may	might
can	could
shall	should
will	would
must	

(17) I think [she is pregnant]

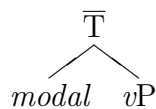
(18) I thought [she was pregnant]

(19) *I thought [she is pregnant]

(20) I thought [she might be pregnant]/[she could do that]/[she would go]

(21) *I thought [she may be pregnant]/[she can do that]/[she will go]

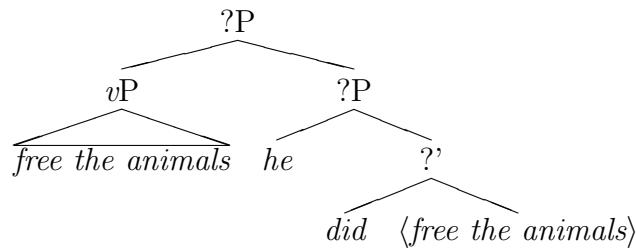
(22)



(23) *Gilgamesh might loved Ishtar

2.2.2 Do

- (24) Enkidu does free animals
 (25) Enkidu frees animals
 (26) Enkidu said he would free the animals and [free the animals] he will
 (27) *Enkidu said he freed the animals and [freed the animals] he
 (28) Enkidu said he freed the animals and [free the animals] he did
 (29)



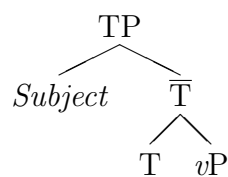
- (30) Gilgamesh loved Ishtar and Enkidu did [] too
 (31) Gilgamesh fears death and Shamash does [] as well

2.2.3 to

- (32) She tried [to leave]
 (33) *She tried [to left]
 (34) *She tried [to may leave]
 (35) *She tried to do go.
 (36) Enkidu wanted to live and Ishtar tried to
 (37) *Enkidu wanted to live and Ishtar tried to do

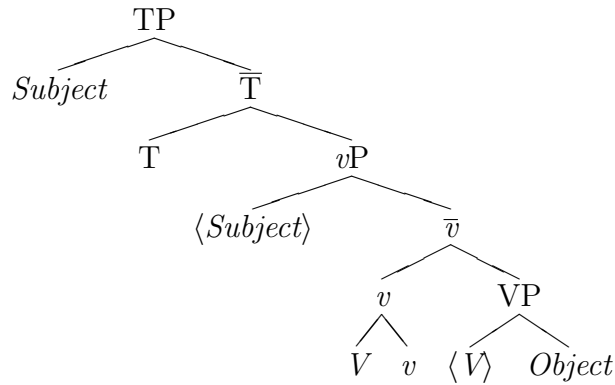
1. Modals are in a position in the sentence associated with tense features.
2. Emphatic *do* is in this same position, as is non-finite *to*.
3. This position is outside the *vP*, but follows the surface position of the subject.
4. Morphological tense marking may appear in this position.

(38)



What about the position of the subject?

(39)



2.2.4 Functional Categories

Categories like T, which head a projection, but which do not assign θ -roles, are usually called **functional categories**.

- (40) **Hierarchy of Projections:**
 $T \succ v \succ V$

3 Tense Marking

3.1 Tense on Main Verbs

- (41) Gilgamesh misses Enkidu
 (42) Gilgamesh missed Enkidu

Somehow, we need establish a relationship between the tense feature on T (past, or present) and the verbal complex.

3.1.1 Checking and Valuing Features

- (43) a. $T[\text{past}] \dots V+v[\text{past}]$
 b. $T[\text{present}] \dots V+v[\text{present}]$
 c. $*T[\text{past}] \dots V+v[\text{present}]$
 d. $*T[\text{present}] \dots V+v[\text{past}]$
- (44) **The Checking Requirement:** Uninterpretable features must be checked, and once checked they delete.
- (45) **Agree** An uninterpretable feature F on a syntactic object Y is checked when Y is in a c-command relation with another syntactic object Z which bears a **matching** feature F.
- (46) a. $T[\text{past}] \dots V+v[\text{upast}]$
 b. $T[\text{present}] \dots V+v[\text{upresent}]$
 c. $*T[\text{past}] \dots V+v[\text{upresent}]$
 d. $*T[\text{present}] \dots V+v[\text{upast}]$

We now ask the question of how we ensure that the “right” uninterpretable feature appears on the little v in the first place.

An alternative is to say that little v is specified as having an uninterpretable feature, and what happens when this feature is checked is that it gets a **value** from the tense feature on T.

$$(47) \quad T[\text{tense:past}] \dots v[\text{utense:}] \rightarrow T[\text{tense:past}] \dots v[\cancel{\text{utense:}} \text{past}]$$

We can make this more general, and incorporate it into our definition of Agree as follows:

$$(48) \quad \textbf{Agree:}$$

In a configuration

$$X[\text{F:val}] \dots Y[\text{uF:}]$$

where \dots represents c-command, then F checks and values uF , resulting in:

$$X[\text{F:val}] \dots Y[\cancel{\text{uF:}} \text{val}]$$

$$(49) \quad [\text{uF:}] \dots [\text{uF:}] \text{ — no checking}$$

$$(50) \quad \text{a. } [\text{G}] \dots [\text{uG}] \rightarrow [\text{G}] \dots [\cancel{\text{uG}}]$$

$$\text{b. } [\text{uG}] \dots [\text{uG}] \rightarrow [\cancel{\text{uG}}] \dots [\cancel{\text{uG}}]$$

3.1.2 Applying the System

$$(51) \quad \text{Little } v \text{ contains an uninterpretable inflectional feature } [\text{uInfl:}].$$

$$(52) \quad \text{Pronounce } v[\cancel{\text{uInfl:}} \text{past}] \text{ as } ed$$

$$(53) \quad \text{Pronounce } eat \text{ as } ate \text{ when it is adjacent to } v[\cancel{\text{uInfl:}} \text{past}], \text{ and in this case, do not pronounce } v[\cancel{\text{uInfl:}} \text{past}].$$

$$(54) \quad \text{Enkidu misses Gilgamesh.}$$

In this situation T bears only a number feature, and it is this number feature that values Infl on v .

just like feature checking for selectional features, but this time using c-command rather than sisterhood.

3.2 Tense on Auxiliaries

$$(55) \quad \text{I might have eaten some seaweed.}$$

$$(56) \quad \text{I'd planned to have finished by now.}$$

$$(57) \quad \text{I could have been flying helicopters by now.}$$

$$(58) \quad \text{I have been flying helicopters for years.}$$

$$(59) \quad *I \text{ have might be flying helicopters.}$$

$$(60) \quad *I \text{ am having eaten seaweed.}$$

$$(61) \quad \text{I might be leaving soon.}$$

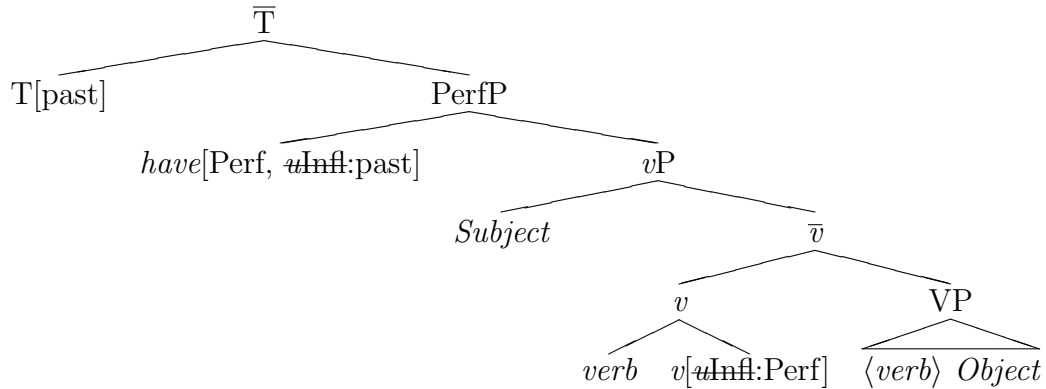
3.2.1 The Perfect Auxiliary

$$(62) \quad \text{I'd planned to have finished, and [finished] I have}$$

(63) I have eaten/*eat/*ate/*eating

(64) *have*[Perf] ... *v*[uInfl:] → *have*[Perf] ... *v*[~~uInfl~~:Perf]

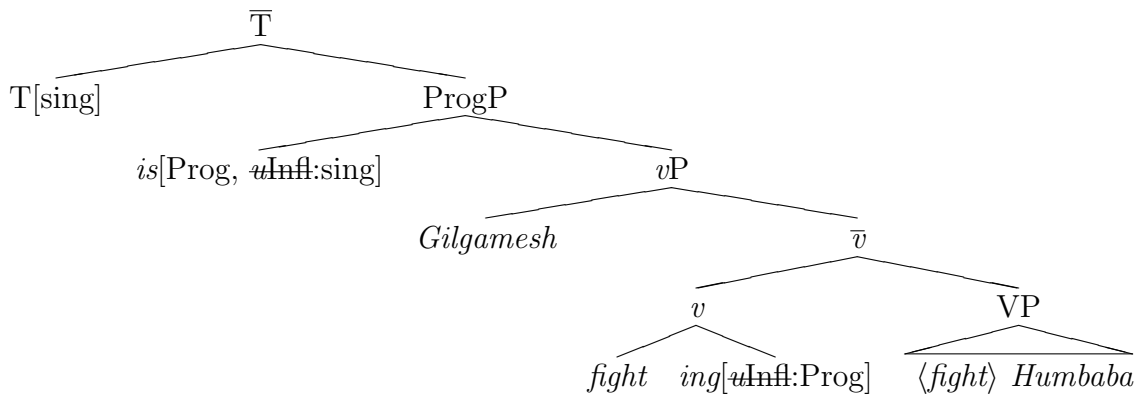
(65)



3.2.2 The Progressive Auxiliary

(66) Gilgamesh is fighting Humbaba.

(67)



(68) **Hierarchy of Projections:** $T \rangle (\text{Perf}) \rangle (\text{Prog}) \rangle v \rangle V$

4 Head Movement

4.1 The position of Negation

(69) I haven't left yet

(70) It is not true that I have left yet.

(71) I might be not going to the party (but washing my hair)

(72) Gilgamesh might not have been reading the cuneiform tablets.

(73) *Gilgamesh might have not been reading the cuneiform tablets.

(74) *Gilgamesh might have been not reading the cuneiform tablets. NB dialectal variation in position of have and negation here.

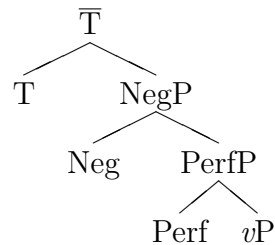
(75) Gilgamesh has not been reading the cuneiform tablets

(76) *Gilgamesh has been not reading the cuneiform tablets.

(77) Gilgamesh is not reading the cuneiform tablets.

4.2 Aux to T movement

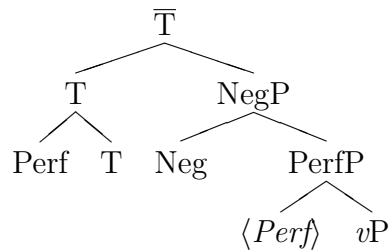
(78)



(79) **Hierarchy of Projections:** T } (Neg) } (Perf) } (Prog) } v } V

(80) Gilgamesh has not read the cuneiform tablets.

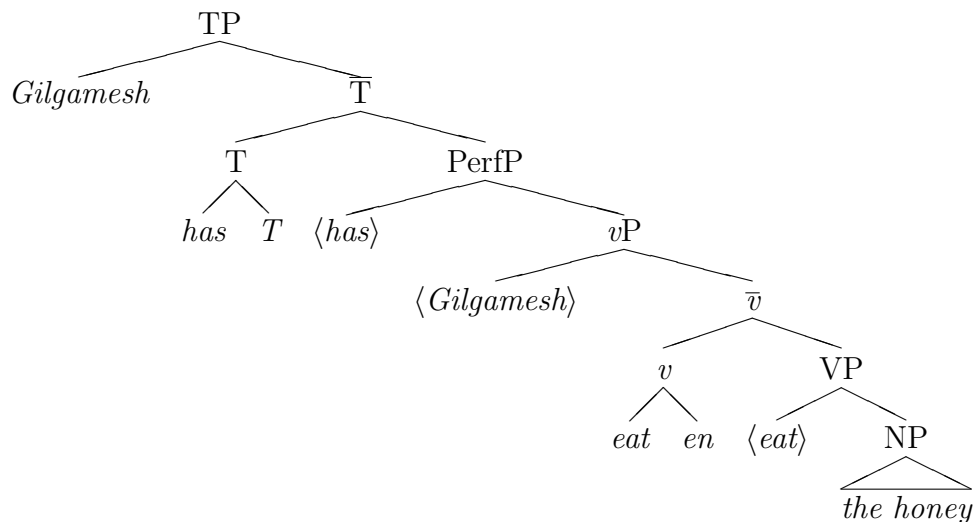
(81)



(82) Gilgamesh is not reading the cuneiform tablets.

(83) Gilgamesh has eaten the honey

(84)



We now have two situations: T either checks tense on an auxiliary, in which case the auxiliary raises to T, or it checks tense on little *v*, in which case no raising takes place.

(85) *Gilgamesh flew not the broomstick.

(86) Gilgamesh didn't fly the broomstick.

Why does a tensed auxiliary raise to T, but a tensed verb stay *in situ* (i.e. in its unmoved position)?

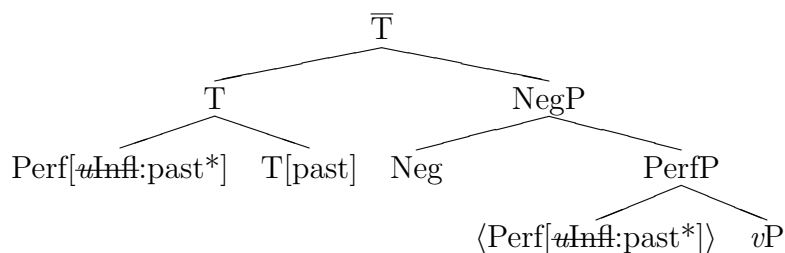
strength.

(87) $X[uF^*] \dots Y[F] \rightarrow X[\cancel{uF^*}] Y[F] \dots \langle Y[F] \rangle$

(88) A strong feature must be local to the feature it checks/is checked by.

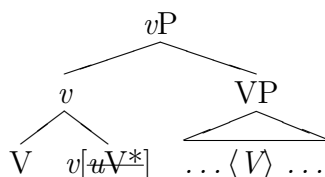
(89) $X[F] \dots Y[uF^*] \rightarrow X[F] Y[\cancel{uF^*}] \dots \langle Y[uF^*] \rangle$

(90)



(91) When $[uInfl:]$ on Aux is valued by T, the value is strong; when $[uInfl:]$ on v is valued by T, the value is weak.

(92)



4.3 V to T movement

(93) Jean n'a pas aimé Marie
John has not loved Mary
'John didn't love Mary.'

(94) Jean n'aime pas Marie
John loves not Mary
'John doesn't love Mary.'

(95) Avant que je ne sois arrivé, ...
Before that I NE be-[SUBJ] arrived, ...
'Before I arrived, ...'

(96) *Jean (ne) pas aime Marie
John not loves Mary

4.4 Aux in situ

(97) ...om hon *inte* har köpt boken
... whether she not has bought book-the
'... whether she hasn't bought the book'

- (98) ...om hon *inte* köpte boken
 ... whether she not bought book-the
 ‘... whether she didn’t buy the book’

(99)

	tense on Aux	tense on <i>v</i>
English	strong	weak
French	strong	strong
Swedish	weak	weak

5 *Do*-support

5.1 Basic Properties of *do*-support

(100) *Gilgamesh not flew the dragon.

(101) Gilgamesh did not fly the dragon.

The insertion of *do* here is called **do-support**.

(102) Gilgamesh wanted to seduce Ishtar, and seduce Ishtar he did [].

Do-support, in Chomsky’s system, is a kind of **last resort** strategy which kicks in when the rule which attaches tense to main verbs fails to apply for some reason.

5.2 Affixal Negation

not is actually an affix which is adjoined to T. If no overt head appears in T, then a special morphological operation inserts *do*.

(103) Gilgamesh hasn’t left

(104) *Gilgamesh not left.

When T[neg] comes to be spelled out, its suffixal nature requires an attached head to its left, but there isn’t one. The sentence is then syntactically well formed, but ruled out by a morphological requirement of T[neg]. The only way to “save” the sentence is to insert a default auxiliary to the left of T[neg], giving (105):

(105) Gilgamesh didn’t leave.

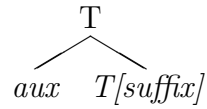
but: (i) Why is it that the tense features appear on the auxiliary, rather than on the verb?
 (ii) how do we explain the fact that *do*-support also applies in VP-ellipsis and VP-fronting contexts?

(106) *Gilgamesh didn’t ate the honey

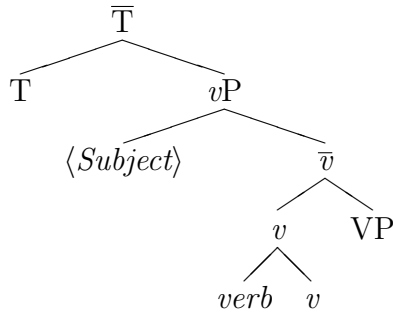
(107) *Gilgamesh doesn’t ate the honey

5.3 Affixal Tense

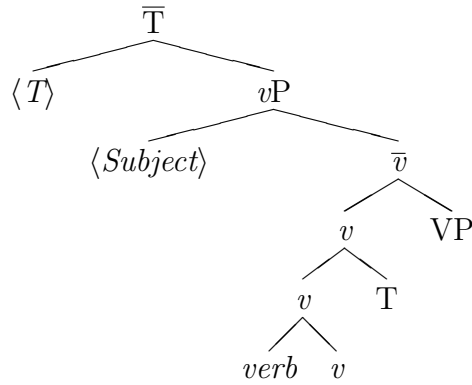
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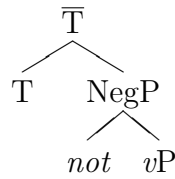
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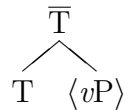
(110)



(111)



(112)



- (113) a. *Gilgamesh didn't ate the honey.
 b. *Gilgamesh don't ate the honey.

is the operation syntactic?

(114) ...and [ate the honey] he did.

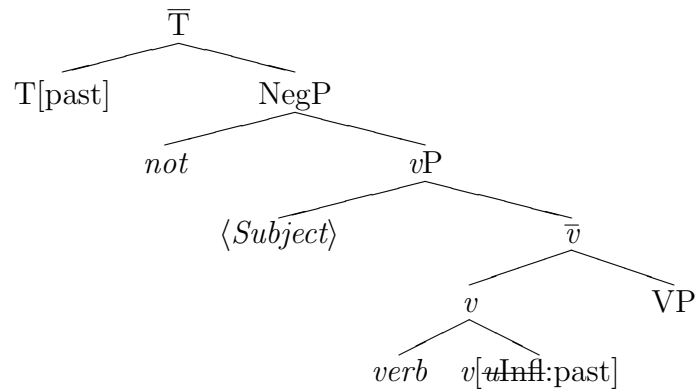
(115) ...*and [ate the honey] he.

5.4 Tense Chains

(116) (T, *v*)

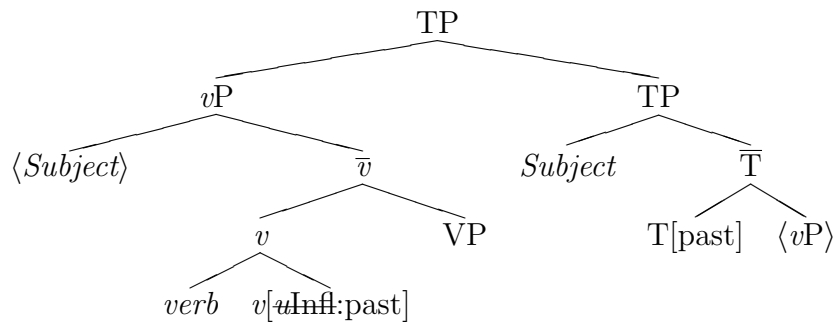
(117) **Pronouncing Tense Rule (PTR)**, in a chain (T[tense], *v*[uInfl:tense]), pronounce the tense features on *v* only if *v* is the head of T's sister.

(118)



(119) I did not understand.

(120)



(121) ... and [love Ishtar] Gilgamesh did.

(122) Enkidu didn't love Ishtar but Gilgamesh did [*vP*].

(123) Gilgamesh hasn't kissed Ishtar.

