

A syntactic approach to tense in complementation and beyond

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This talk

- ▶ Syntactic model of Tense in complementation
- ▶ First steps towards Tense in adverbial clauses
- ▶ Certain conclusions about the position of adverbial clauses based on Tense
- ▶ Broader context:
 - ▶ Teasing apart morphology, syntax, semantics of Tense
 - ▶ Clarifying/defining notions such as “dependent”, “anaphoric” Tense
 - ▶ Syntax as a hub for Tense: derives mismatches and Tense differences in different types of clauses
 - ▶ Differences between finite and non-finite Tense

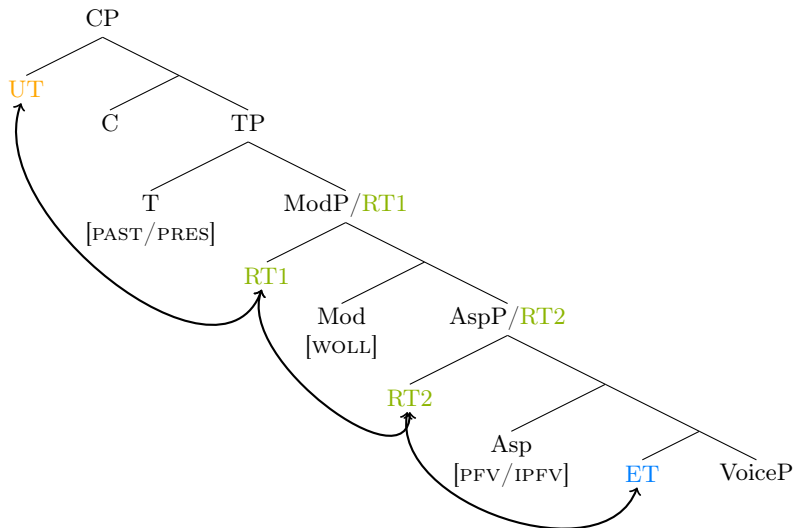
Section 1

Background, Model

A syntactic model of Tense

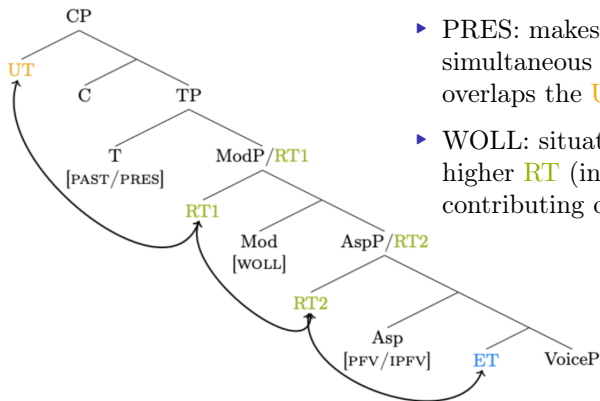
- ▶ Time arguments in syntax (Zagona, 1990; Stowell, 1996, 2007, among others):
 - ▶ Stowell: Zeit phrase [ZPs]
 - ▶ Similar to DP arguments, ZPs can be modified, bound, and/or controlled
- ▶ (Neo-)Reichenbachian system of temporal notions (Reichenbach, 1947; Klein, 1994, 1995):
 - ▶ Utterance Time [UT] (also called Speech Time)
 - ▶ Reference Time [RT] (also called Topic or Assertion Time)
 - ▶ Event Time [ET]
- ▶ Aspect (Klein, 1994, 1995; Demirdache and Uribe-Etxebarria, 2004):
 - ▶ Tense relates a RT to the UT
 - ▶ Aspect relates the ET to a RT or a RT to another RT

Example derivation: Future statement



Tense, future modality

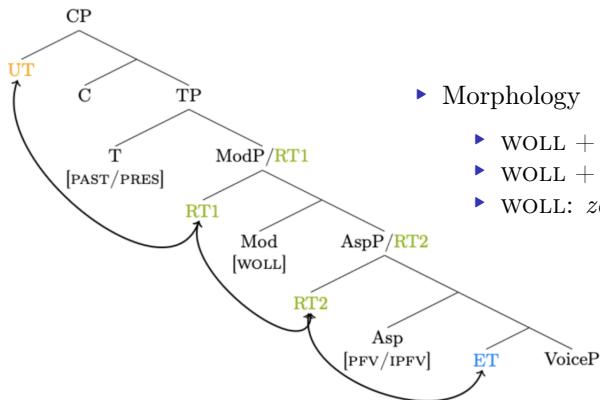
- ▶ **UT** in main clauses (and non-integrated clauses): determined contextually—the time of the statement (cf. unbound pronouns).
- ▶ **PAST**: situates lower time, **RT1**, before higher time, **UT**



- ▶ **PRES**: makes the two time arguments simultaneous (more concretely, the **RT** overlaps the **UT**)
- ▶ **WOLL**: situates the lower **RT** after the higher **RT** (in addition to possibly also contributing other modal flavors)

Aspect, morphology

- ▶ PERFECTIVE: requires the **ET** to be included in the **RT** (Pancheva and von Stechow, 2004; Todorović, 2015)
- ▶ IMPERFECTIVE and PROGRESSIVE: require the **RT** to be included in the **ET** (other differences are set aside here)

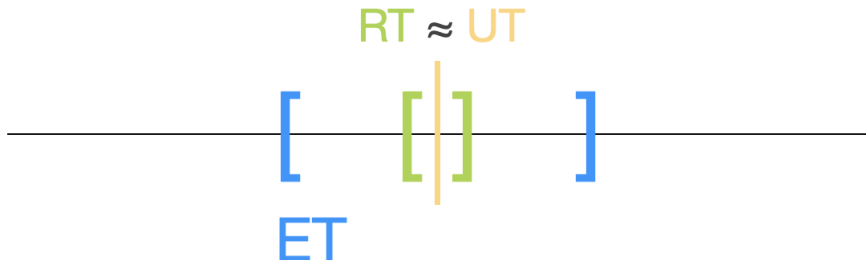


▶ Morphology

- ▶ WOLL + PRES: *will*
- ▶ WOLL + PAST: *would*
- ▶ WOLL: *zero*

Aspect restrictions

- ▶ Perfective/non-Progressive is excluded when the RT interval is too short to include the ET



- (1) a. Nova sings in the kitchen. only habitual
 b. Nova is singing in the kitchen right now. ongoing possible

Section 2

Tense dependencies

Dependent tense

- ▶ All complement clauses are Tense-dependent (finite and non-finite alike).
- ▶ Complement tense is always evaluated in relation to the matrix Tense, not the overall speech time (Abusch, 1988; Ogihara, 1995, 1996, 2007; Stowell, 1996, 2007; Demirdache and Uribe-Etxebarria, 2004).
- ▶ We return to relative and adverbial clauses later, where things are different.

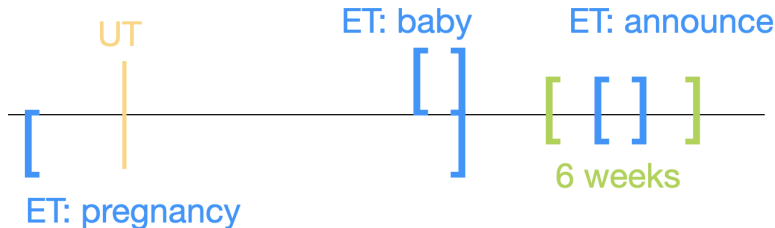
(In)dependent Tense

- ▶ Embedded complement *past*:
 - ▶ not necessarily before the matrix **UT** (PAST is relative)
 - ▶ must be before the matrix **ET** (just being before the matrix **UT** is not necessarily sufficient)

Complement <i>past</i>	Possible
Dependent (relative): after matrix UT	✓
Independent: after matrix PAST	no

Relative/dependent PAST

- (2) Nova is pregnant and her due date is in 5 weeks. She doesn't want to tell people yet, but she **will announce in 6 weeks** that she **was pregnant and had a baby**.



No independent PAST

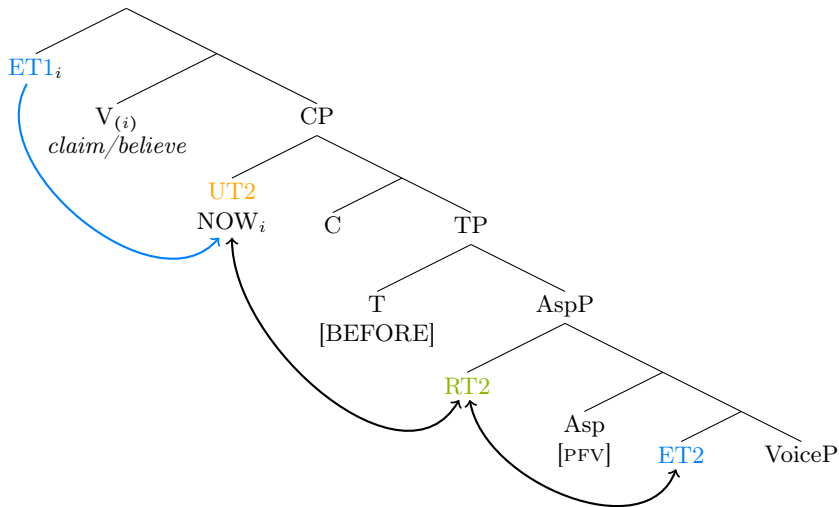
- (3) a. A year ago, Nova claimed that she got married
*yesterday/two years ago.
- b. A year ago, Nova claimed to have gotten married
*yesterday/two years ago.



Complement Tense

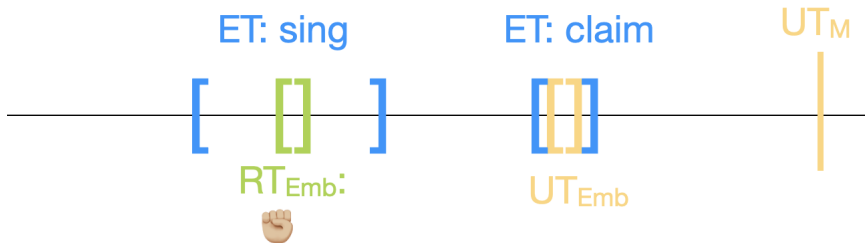
- ▶ A time argument is always related to the most local higher time argument (Stowell, 2007) in a complement clause.
- ▶ The local time argument for the highest embedded time argument is the matrix **ET**.
- ▶ Embedded **UT** can be related to the matrix **ET** extensionally (the actual time) or intensionally (the time that the attitude holder believes it is when they hold a belief or make a claim).
- ▶ Direct binding of **UT** by **ET** (*de re*), or mediated via the intensional verb (*de se*)

Complement structure



Aspect restrictions

- (4) a. Nova claims that Grey sings in the kitchen. only habitual
 ↪ Nova claims that Grey is singing in the kitchen right now. ongoing possible
- b. *Nova claimed that Grey sang in the kitchen when the mailman
 knocked. *ongoing
 ↪ Nova claimed that Grey was singing in the kitchen when the
 mailman knocked. ongoing

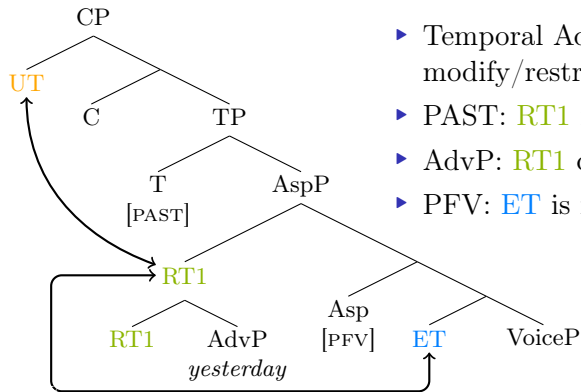


Section 3

Temporal modification

Modifiers

She left yesterday.



- ▶ Temporal AdvPs, PPs, CPs modify/restrict RT
- ▶ PAST: RT1 is before UT
- ▶ AdvP: RT1 coincides with *yesterday*
- ▶ PFV: ET is included in RT1

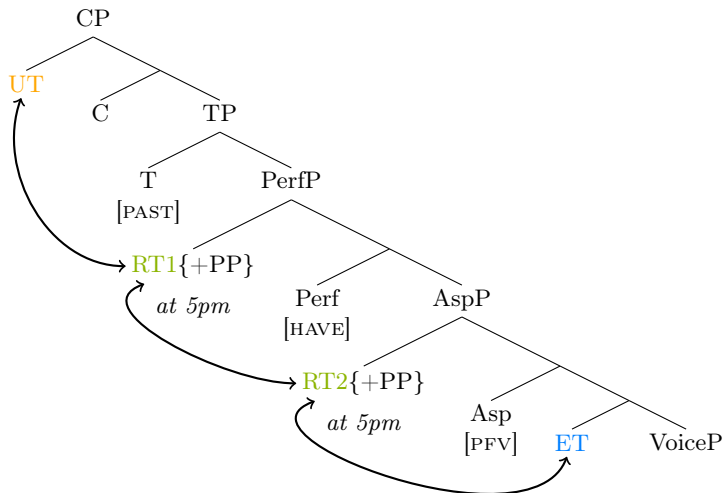
See Demirdache and Uribe-Etxebarria (2004) for a predication structure of temporal modifiers.

Modifier of RT or ET?

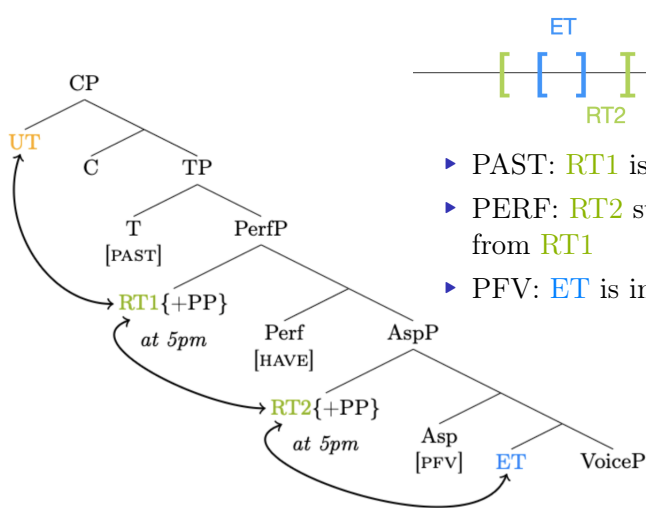
- ▶ Hornstein (1990); Demirdache and Uribe-Etxebarria (2004):
 - ▶ Simple PP/AdvP modifiers can modify RT or ET.
 - ▶ Clausal modifiers can only modify RT.
- ▶ Why is this the case? Is it?

- (5) Maddi had left school at 5 p.m.
[Demirdache and Uribe-Etxebarria (2004): 157, (21)]
- (6) John had left the office when Sam walked in at 3 p.m.
[Demirdache and Uribe-Etxebarria (2004): 165, (37)]

Modification is always of RT

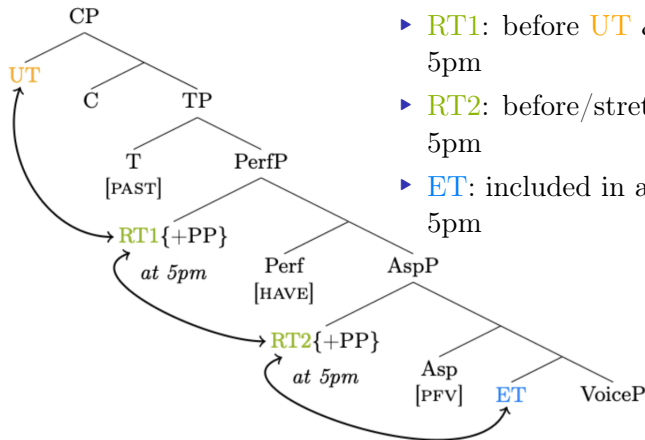
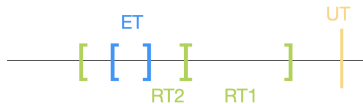


Ambiguous modification



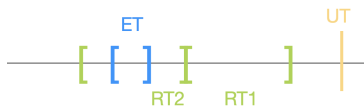
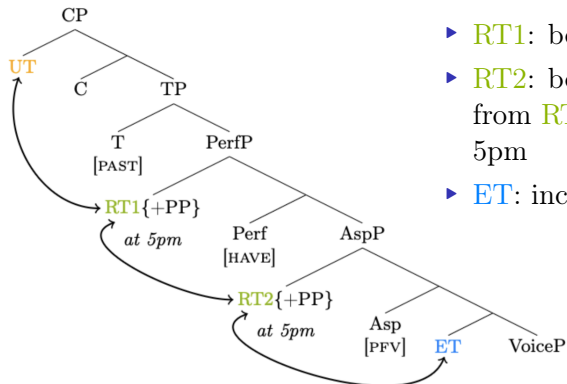
- ▶ PAST: RT1 is before UT
- ▶ PERF: RT2 stretches back from RT1
- ▶ PFV: ET is included in RT2

Modification: PP modifies RT1



- ▶ **RT1**: before **UT** & coincides with 5pm
- ▶ **RT2**: before/stretches back from 5pm
- ▶ **ET**: included in an interval before 5pm

Modification: PP modifies RT2



- ▶ RT1: before UT
- ▶ RT2: before/stretches back from RT1 & coincides with 5pm
- ▶ ET: included in 5pm

Temporal clauses: relativization

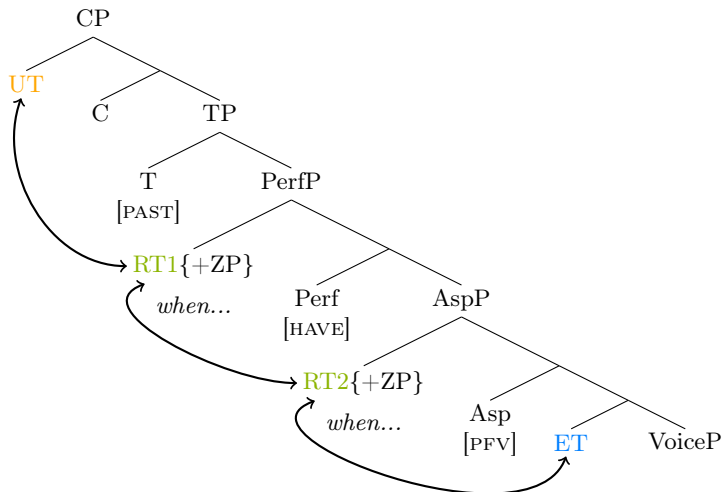
- ▶ Demirdache and Uribe-Etxebarria (2004): Temporal clauses are ZPs where the **RT** is relativized.
- (7) Nova was reading when the mailman knocked at 10am.
↔ Nova was reading at the time of the mailman's knocking, which was at 10am.
- ▶ Since Demirdache and Uribe-Etxebarria (2004) do not distinguish between Perfective/Imperfective in their structures, **RT** and **ET** are typically identical for them.
 - ▶ If we add Aspect, it seems that it is the **ET** that is relativized.

When clauses: Aspect matters

- ▶ Once Aspect is taken into consideration (both in the matrix and embedded clauses), we also find that the configurations are ambiguous.

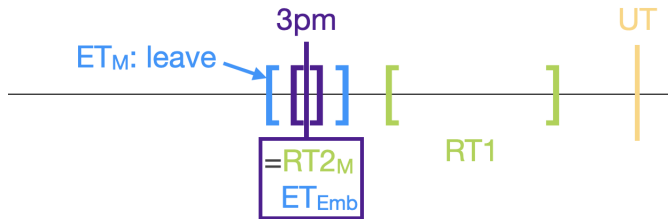
- (8) John **had left** the office when Sam **walked** in at 3 p.m.
only (?) J's leaving before S's walking in
- (9) John **had been leaving** the office when Sam **walked** in at 3 p.m..
leaving and walking in can overlap
- (10) John **had left** the office when Sam **was reading**.
leaving and walking in can overlap

When clauses are no different



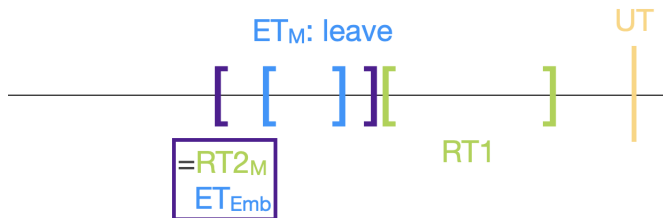
When clause structure

- (11) John **had left** the office when Sam **walked** in at 3 pm.
 $\hookrightarrow ET_{emb}$ (walk-in) = $RT2_{matrix}$ very short; cannot include ET_{matrix} (leaving); *non-progressive
- (12) John **had been leaving** the office when Sam **walked** in at 3 pm.
 $\hookrightarrow ET_{emb}$ (walk-in) = $RT2_{matrix}$ very short; can be included in ET_{matrix} (leaving); progressive



When clause structure

- (13) John **had left** the office when Sam **was reading**. $\hookrightarrow ET_{emb}$
 (reading) = $RT2_{matrix}$ longer interval; can include ET_{matrix}
 (leaving); OK non-progressive



Section 4

Non-complement clauses

Tense (in)dependencies as evidence for structure

- ▶ If PAST in an adverbial clause can be understood as after the UT, then it is evaluated in relation to the matrix RT/ET.
- ↪ The adverbial clause must be in the scope of matrix RT/ET.
- ▶ If PAST in an adverbial clause must be understood as before the UT, then it is evaluated in relation to UT.
- ↪ The adverbial clause must be outside the scope of matrix RT/ET.
- ▶ Note: SOT contexts do not allow us to distinguish between dependent and independent tense; they are therefore ignored here in favor of the two other (in)dependence tests.

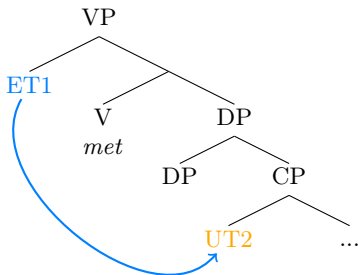
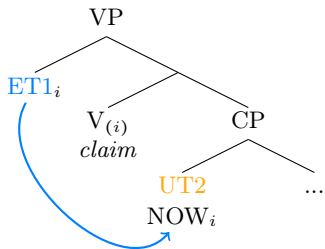
(In)dependent Tense

<i>past</i>	Complement	Relative	because
Dependent: after matrix UT	✓	✓	no
Independent: after matrix PAST	no dependent	✓ dependent or inde- pendent	✓ independent?

Relative clauses

- (14)
- A year ago, Nova **claimed** that she **got** married
*yesterday/two years ago.
 - A year ago, Nova **met** a teacher who **got** married
yesterday/two years ago.
 - In a week, Nova **will** only invite the friends who
congratulated her on her birthday two days before.

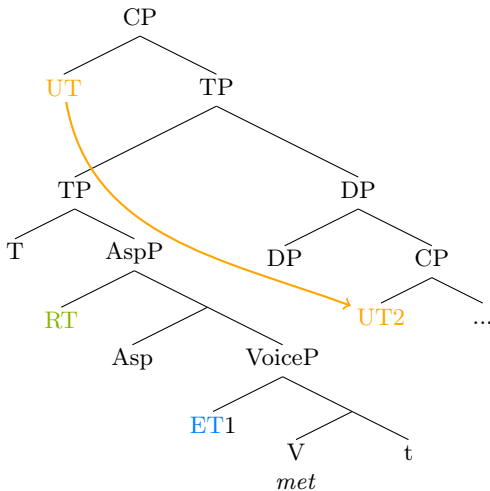
Dependent Tense



Relative clause/DP dislocation

- ▶ Relative clauses or the DPs they modify (Fox and Nissenbaum, 1999) can move overtly or covertly to a higher position.
- ▶ Embedded **UT** is outside the scope of the matrix **ET/RT** (as well as the matrix verb)
- ▶ Correlation with obligatory *de re* construals of the content of the relative clause in such cases (Abusch, 1988; Ogihara, 1996)
- ▶ Dislocation is optional—relative clauses can also be construed *de dicto* (Abusch, 1988; Stowell, 2007), in which case no dislocation would take place and the embedded Tense is ordered with respect to the matrix **ET**.

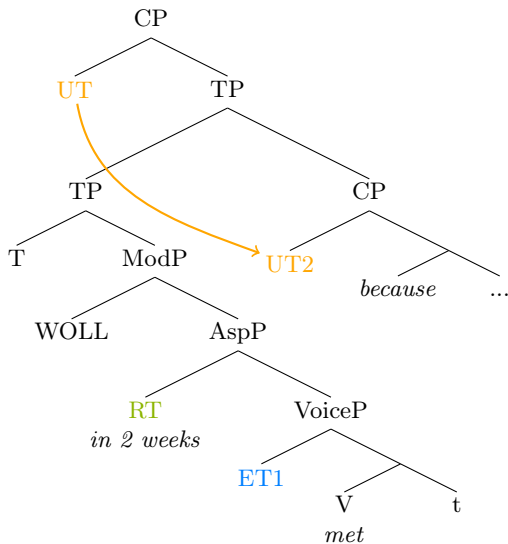
Independent Tense



Because clauses

- (15) Nova and Grey are planning to secretly get married in a week. I found out and wanted them to tell people, which they refused. But they promised me yesterday that they will/would tell their family after their honeymoon in two weeks **that they eloped and got married a week before**.
- (16) *Nova and Grey are planning to secretly get married tomorrow. I found out and wanted them to tell people, which they refused. But they promised me that they will/would tell their family in two weeks **because they were on their honeymoon before that**.
- (17) *Nova is pregnant and her due date is in 5 weeks. She doesn't want to see her family while she is pregnant. But she said that in 6 weeks, she would invite them again, **because she had her baby by then**.

Because clauses: absolute PAST



Is there more to the syntax?

- ▶ *past* under *past*: **embedded PAST** understood as after **matrix PAST** (but still before **UT**).
- ▶ Judgments are not entirely clear; relative ranking: e. is better than d.; d. is better than c.; c. is perhaps not as * as b.

- (18)
- a. Three months ago, Nova **got** a flu shot from a doctor who **went** to Africa last week.
 - b. *Three months ago, Nova **announced** that she **went** to Africa last week.
 - c. ??Three months ago, Nova **got** a malaria shot since/because she **went** to Africa last week.
 - d. ?Nova **got** a malaria shot three months ago since/because she **went** to Africa last week.
 - e. Since/because she **went** to Africa last week, Nova **got** a malaria shot three months ago.

Height of adverbial clauses

- ▶ Adverbial clauses differ regarding their degree of integration into the matrix clause.
- ▶ Central vs. peripheral adverbial clauses (Haegeman, 2012; Endo and Haegeman, 2019)
- ▶ Clauses attach at different heights in the structure.
 - ▶ Peripheral: *whereas, although*
 - ▶ Central: *before, after* clauses
 - ▶ Ambiguous: *since, while*
- ▶ Tense can be seen as a further diagnostic for that, that confirms the distinction.
 - ▶ Peripheral: e.g., CP; outside the scope of all RTs
 - ▶ Central: modify RTs, or may be in the scope of RT (*because*)

Peripheral

- (19)
- Nova got married a year ago, whereas Grey got married two years ago/yesterday.
 - Nova wrote her vows 3 years ago, although she only got married last year.
 - While Grey cooked the main course, Nova made desert.
ambiguous
 - Nova had morning sickness three years ago while she only got pregnant last year. only concessive *while*
 - Nova cleaned the house last week since Grey visited yesterday. only rational *since*

Section 5

Broader context

The many notions of Tense

- ▶ $tense_M$, $TENSE_{Sy}$, $TENSE_{Se}$
- ▶ Syntactic TENSE:
 - ▶ Value (e.g., PRES, PAST) in a syntactic head such as T
 - ▶ T may also be involved in case assignment
 - ▶ Subject agreement, and the morphology of the next lower verbal element
- ▶ Semantic TENSE: the feature in T is interpreted as
 - ▶ a BEFORE/AFTER/WITHIN relation
 - ▶ an operator
 - ▶ a pronoun
- ▶ Morphological *tense*: overt marking on a verbal element, typically as a *tense morpheme*

Mismatches

- ▶ Tense is pronounced, but not interpreted
 - ▶ Sequence of tense [SOT]: the embedded PAST/*past* does not trigger a BEFORE relation of the embedded event with respect to the matrix event
 - ▶ Semantically vacuous ('fake') PAST/*past* in counterfactual conditionals or wishes

(20) Nova said that she was pregnant.

- (21) a. If Mary knew the answer, she would be the only one.
[Iatridou, 2000: 244, (47b)]
- b. I wish I had/*have a car (at present).
[Iatridou, 2000: 239, (25a,b)]

Mismatches

- ▶ Tense is interpreted, but not pronounced
 - ▶ PRES in English (and many other languages); syntactically behaves like PAST in all the activities T engages in (Case, agreement); also shows an effect in semantics
 - ▶ Tense in infinitives: some involve an obligatory forward-shifted interpretation, but do not allow overt Future elements

- (22)
- Nova decided yesterday [to leave (today/tomorrow/*a week ago)].
 - *Nova decided to have left.
 - *Nova decided to will leave.

No overt Tense (despite finiteness)

- (23)
- a. *Apofasise* *oti* *tha* *agorasi* *to* *vivlio*.
 decided.PST.3SG that FUT buy.PFV.3SG DET book
 ‘She decided that she will buy the book.’
- b. *Apofasise* *na* *agorasi* *to* *vivlio*
 decided.PST.3SG NA buy.PFV.3SG DET book
 ‘She decided to buy the book.’
- c. **Apofasise* *na* *tha* *agorasi* *to* *vivlio*
 decided.PST.3SG NA FUT buy.PFV.3SG DET book
 ‘She decided to buy the book.’ [Ioannis Katochoritis, p.c.]

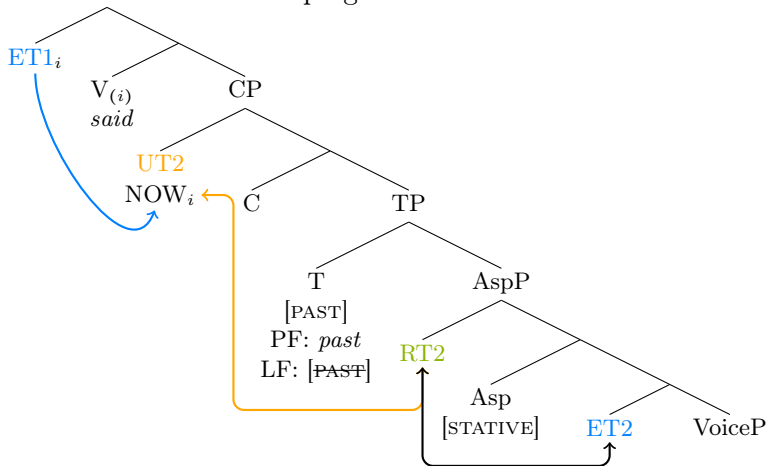
Conclusion

- ▶ In the model here, the syntactic TENSE components are not determined by semantics.
- ▶ Syntax computes structure based on independent syntactic properties.
- ▶ But nonetheless there is an interaction—different syntactic structures feed differently into the semantic computation of TENSE.
- ▶ Syntax is responsible for:
 - ▶ the general Tense dependency in complement clauses
 - ▶ size and height differences of different types of (complement as well as adverbial) clauses (which may also impose constraints on the availability of elements such as operators, *de se* TENSE, embedded UT, and/or WOLL)
 - ▶ PF–LF mismatches

Illustration: SOT

(24) Nova said that she was pregnant.

SOT



Conclusion

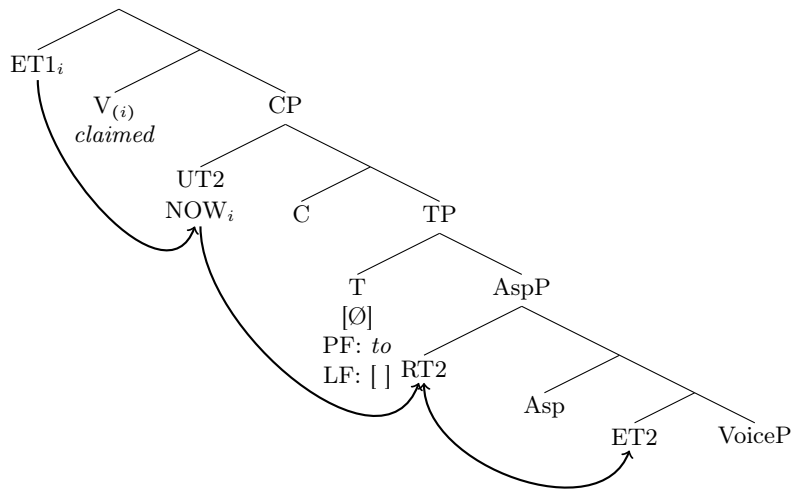
- ▶ By carefully separating the notions *tense*/TENSE/TENSE, and by considering the different components of Tense, in particular also the syntactic structure, many things fall into place and a consistent system of the temporal properties of different clause types can be formulated.

Thank you!

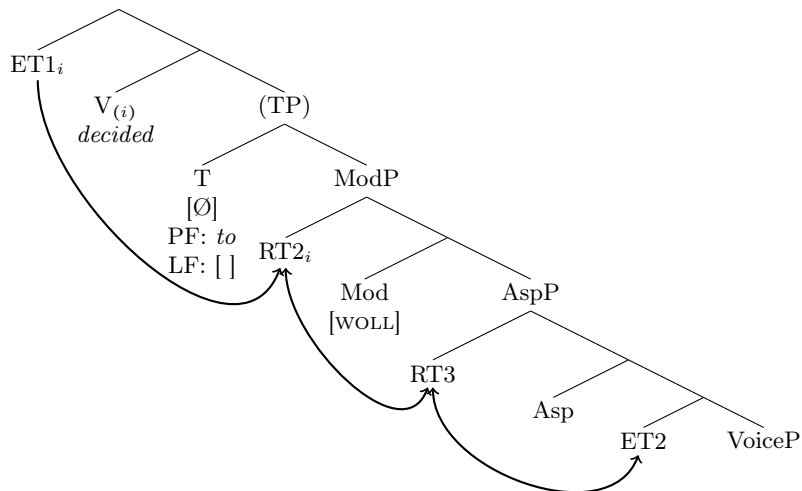
Section 6

Appendix: Infinitives

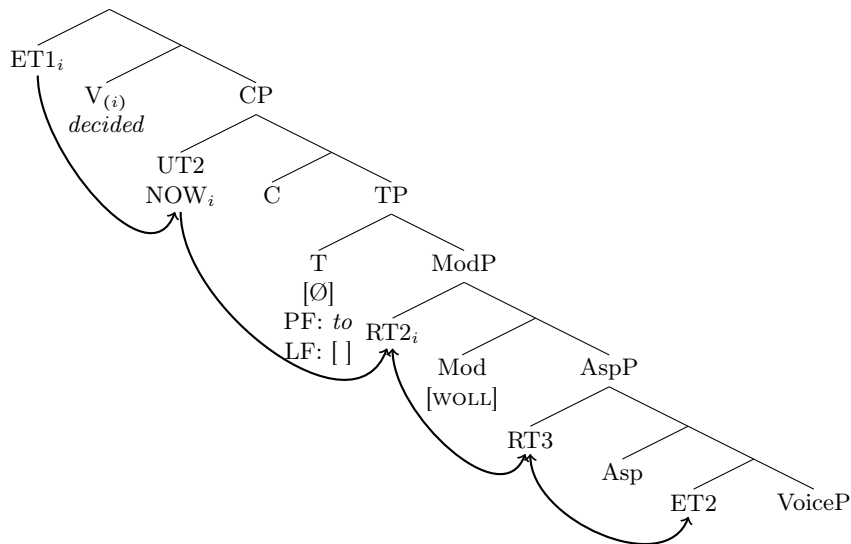
Non-finite Proposition complements



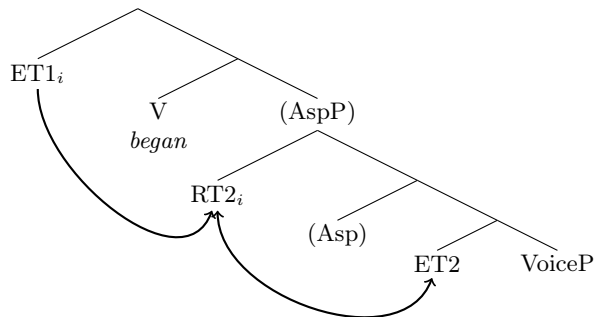
Non-finite Situation complements #1



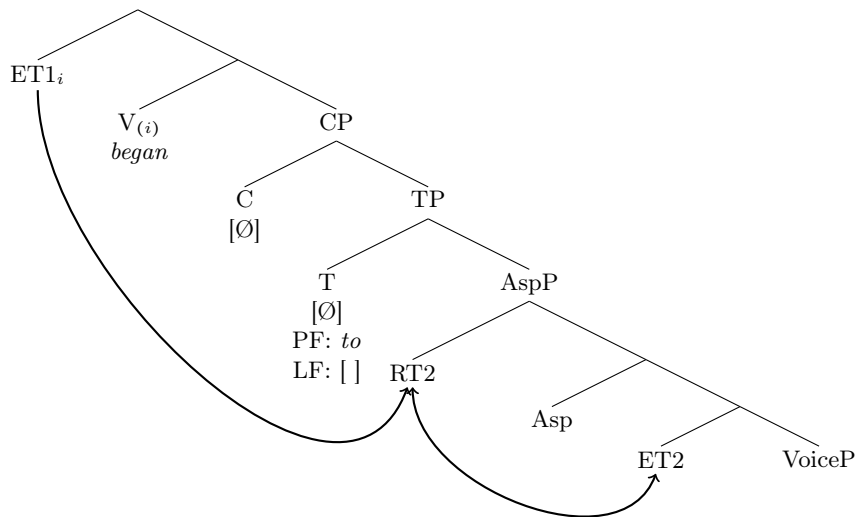
Non-finite Situation complements #2



Non-finite Event complements #1



Non-finite Event complements #2



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