

1 Introduction

Outline

1. General aspects of sentence mood determination
 - a. declarative
 - b. y/n-interrogative
 - c. wh-interrogative
 - d. imperative
2. Inflectional morphology
3. Semantics of tense and mood
4. Tense, mood and discourse anchoring
5. Application to embedded clauses

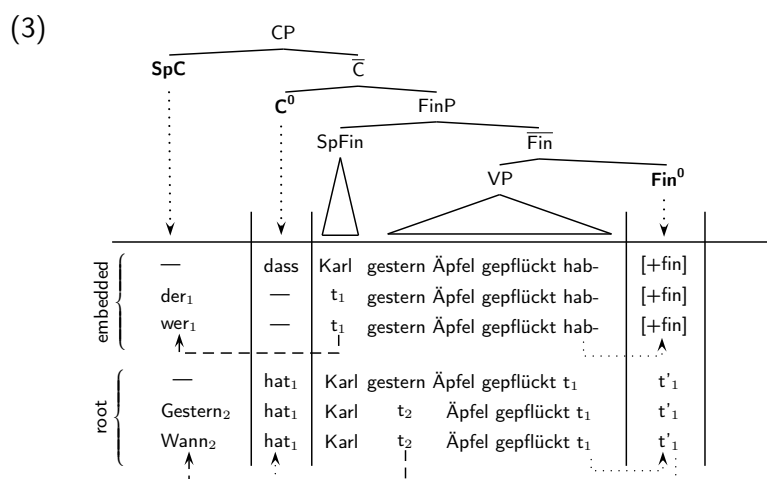
General questions

- (1)
 - a. How does grammar relate to illocutionary force?
 - b. What are the grammatical building blocks of the intentional part of sentence meaning?
 - c. How is the division of labour between inflectional morphology, syntax, semantics and pragmatics to be reconstructed?
 - d. What role does V2 play in the interaction of these grammatical components?
 - e. Is there a weaker function of V2 than 'assertion'?

Basic assumptions

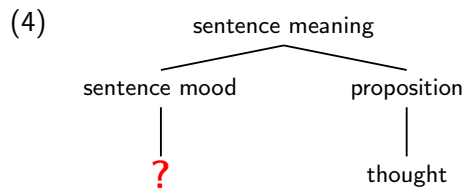
- (2)
 - a. Illocutions belong to the intentional not to the grammatical system.
 - b. Illocutions do not play any role in the syntactic or semantic structure of a clause.
 - c. Sentence mood (a semantic category) is determined compositionally by regular grammatical means.
 - d. Propositional objects need to be anchored in structures of a higher order (matrix or discourse).
 - e. Illocutionary force has to be recovered from these objects in a certain kind of interactional setting – the speech situation.

Canonical finite sentence types in German

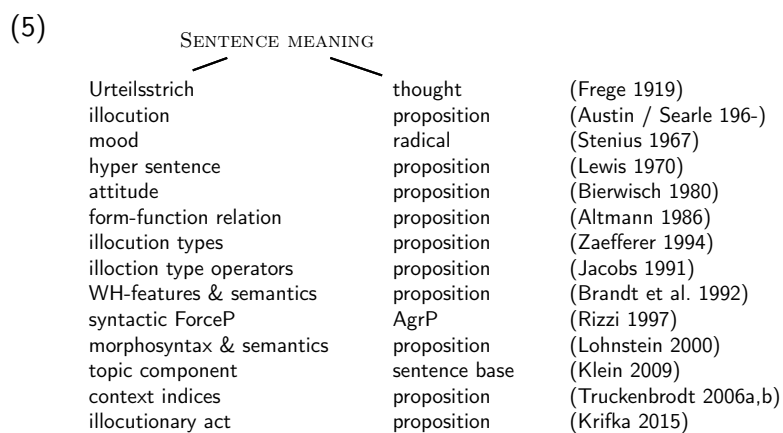


2 Sentence mood

Sentence mood and propositional meaning



Approaches



Widely assumed property of V2

- (6) V2 leads to a kind of (proto-)assertive force.*

*c. f. Hooper/Thompson (1973), Wechsler (1991), Holmberg/Platzack (1995), Gärtner (2001), Meinunger (2004, 2007), Gärtner/Endriss (2005), Julien (2015) and many others

Frege on thought and judgment

- (7) „We expect to hear ‚yes‘ or ‚no‘. The answer ‚yes‘ means the same as an indicative sentence, for in it the thought that was already completely contained in the interrogative sentence is laid down as true. [...]

Consequently, we may distinguish:

- | | | |
|---|---|----------|
| the grasping of a thought | – | thinking |
| the recognition of the truth of the thought | – | judging |
| the announcement of the judgment | – | claiming |

By forming a y/n-question the first act is already performed.“

(Frege 1919/1966: 35)

- ↪ A **thought** (proposition) induces a **bipartitioned set** of possible states of affairs.
- ↪ A **judgment** leads to a **reduction** of this bipartitioned set.
- ↪ Uttering a **judgment** is equal to **asserting** something.

Grasping a thought – thinking

(8) a. Did Carl pick apples?

b.

Carl picks apples	Carl doesn't pick apples
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c. y/n-interrogative as an intensional function:

$$\lambda a \lambda i [\text{pick}(i, \text{Carl}, \text{apples}) = (a, \text{Carl}, \text{apples})] =$$

$$= \begin{cases} \lambda i [\text{pick}(i, \text{Carl}, \text{apples})], & \text{Carl picks apples in } a \\ \lambda i [\neg \text{pick}(i, \text{Carl}, \text{apples})], & \text{Carl doesn't pick apples in } a \end{cases}$$

(a = current world)

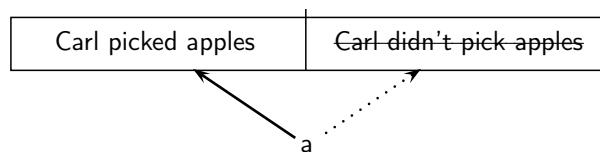
(c. f. Groenendijk 1982)

The recognition of truth – judging

(9) a. Carl picked apples.

b. p = that Carl picked apples.

c. extensionalization:



d. judgment: application of an intensional function to the current world:

$$\text{Judgment}(p) = \lambda i [p = \text{pick}(i, \text{Carl}, \text{apples}) \ \& \ p(a) = \text{true}]$$

The announcement of the judgment – asserting

1. Karl hat Äpfel gepflückt.

Carl has apples picked

,Carl picked apples.'

↪ The judgment is ASSERTED – it is anchored in the discourse situation.

$$\text{Assert}(p) = \text{Judge}(p) + \text{discourse anchoring}$$

2. dass Karl Äpfel gepflückt hat.

that Carl apples picked has

,that Carl picked apples'

↪ The judgment is NOT ASSERTED – the judgment is anchored in the grammatical context.

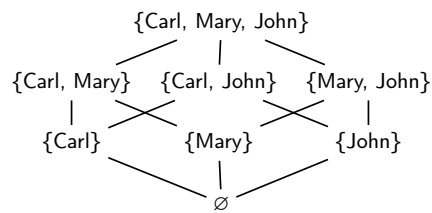
Differenciated bipartition – asking again

(10) a. Who picked apples?

b. $\llbracket \text{who} \rrbracket = \{\text{Carl}, \text{Mary John}\}$ $\llbracket \text{who picked apples} \rrbracket =$

$$= \llbracket \text{who} \rrbracket \times \{\lambda x [\text{pick}(x, \text{apples})], \lambda x [\neg \text{pick}(x, \text{apples})]\}$$

c. Space of possible answers:



(c. f. Hamblin 1976, Groenendijk 1982)

direct vs. indirect questions

(11) a. Wer hat Äpfel gepflückt?

Who has apples picked

‘Who picked apples?’

↪ The question is POSED – it is anchored in the discourse situation.

b. (Mir ist egal,) wer Äpfel gepflückt hat.

(It’s the same for me) who apples picked has

‘It’s the same for me who picked apples.’

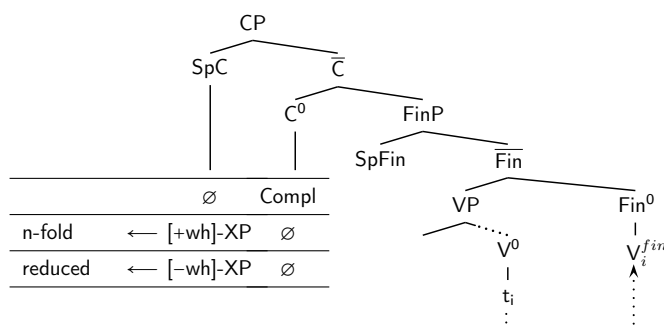
↪ The question is NOT POSED – it is anchored in the grammatical context.

How are syntax and semantics connected to each other?

Sentence Mood Theory – embedded clauses

(12)

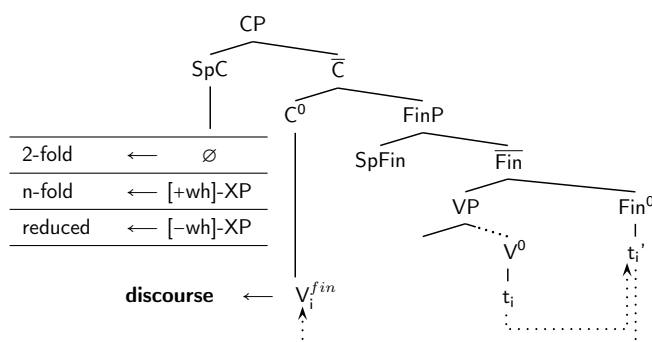
Lohnstein (2000, 2015)



Sentence Mood Theory – root clauses

(13)

Lohnstein (2000, 2015)



3 Discourse management

What does it mean to introduce a propositional object into the discourse?

Pragmatics: Discourse management

(14) (Simple) Model of a context structure

A	TABLE	B
DC_A	S	DC_B
Common Ground cg		Projected Set ps

(Farkas/Bruce 2010: 89)

Pragmatics: Discourse management

(15) V2 declarative root clause:

- a. Karl hat Äpfel gepflückt.
Carl has apples picked
,Carl picked apples.'

b.

A	TABLE	B
p	Carl has picked apples	DC_B
Common Ground cg		Projected Set ps $s \cup \{p\}$

Pragmatics: Discourse management

(16) Y/N-interrogative:

- a. Hat Karl Äpfel gepflückt.
has carl apples picked
,Did Carl pick apples?'

b.

A	TABLE			B
p		Carl has picked apples		DC _B
		Carl hasn't picked apples		
Common Ground cg		Projected Set ps s ∪ {p} ∨ s ∪ {¬p}		

Pragmatics: Discourse management

(17) Wh-interrogative:

- a. Wer hat Äpfel gepflückt.
Who has apples picked
,Who picked apples?'

b.

A	TABLE		B
$\exists x[p(x)]$		Carl has picked apples	DC_B
		Mary has picked apples	
		John has picked apples	
		Carl und Mary have picked apples	
		Carl und John have picked apples	
		...	
Common Ground cg		Projected Set ps	
		$s \cup \{p_1\} \vee s \cup \{p_2\} \vee$	
		$s \cup \{p_3\} \vee \dots$	

How is the relation between V2 and discourse realized by grammatical means?

4 Tense and mood

Inflection: Agr, Tense, Mood

- (18) a. finite root clauses: [+tense, +mood, +Agr]
- [+Agr] is used for subject licensing.
 - [+tense] is a three place relation between a proposition, the time of event, and the time of utterance.
 - [+mood] is a three place relation between a proposition, the situation of event, and the situation of speech.

Inflection: Tense, Mood, Agr

(19)

Strong and weak present tense and mood

	Ind 1 (weak)	Ind 1 (strong)	Subj 1 (weak)	Subj 1 (strong)
1 Sg	lach – e	geb – e	lache – e	geb – e
2 Sg	lach – s – t	gib – s – t	lache – e – s – t	geb – e – s – t
3 Sg	lach – t	gib – t	lache – e	geb – e
1 Pl	lach – e – n	geb – e – n	lache – e – n	geb – e – n
2 Pl	lach – t	geb – t	lache – e – t	geb – e – t
3 Pl	lach – e – n	geb – e – n	lache – e – n	geb – e – n

Strong and weak past tense and mood

	Ind 2 (weak)	Ind 2 (strong)	Subj 2 (weak)	Subj 2 (strong)
1 Sg	lach – t – e	gab	lache – t – e	gäb – e
2 Sg	lach – t – e – s – t	gab – s – t	lache – t – e – s – t	gäb – e – s – t
3 Sg	lach – t – e	gab	lache – t – e	gäb – e
1 Pl	lach – t – e – n	gab – e – n	lache – t – e – n	gäb – e – n
2 Pl	lach – t – e – t	gab – t	lache – t – e – t	gäb – e – t
3 Pl	lach – t – e – n	gab – e – n	lache – t – e – n	gäb – e – n

(c. f. Bredel/Lohnstein 2001)

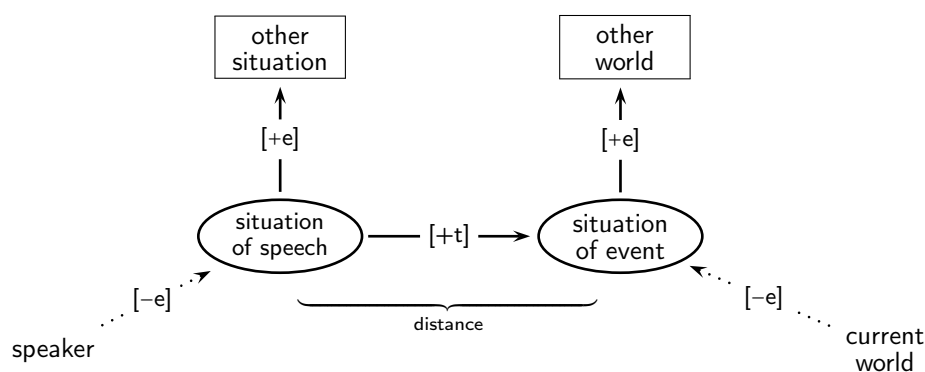
Functions of the inflectional markers

- (20) a. [–e, –t]: speaker commitment (simple present)
 b. [+e, –t]: no speaker commitment (subjunctive 1)
 c. [–e, +t]: current world (simple past)
 d. [+e, +t]: other (counterfactual) world (subjunctive 2)

(c. f. Bredel/Lohnstein 2001)

Inflection: Tense and Mood

(21)

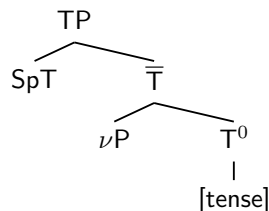


(c. f. Thieroff 1994, Bredel/Lohnstein 2001)

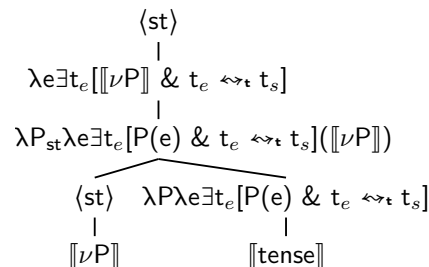
Semantics: Tense

- (22) a. Tense specifies a relation between a time (of speech) t_s and a time of event t_e : $t_e \leftrightarrow_t t_s$ ($\leftrightarrow_t \in \{<, =, >\}$).

b. Syntax:



Semantics:



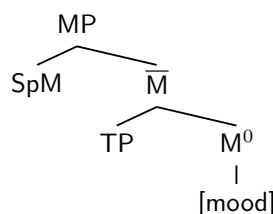
$[[\nu P]]$: properties of event: $\lambda e [\text{Agent}(\text{Carl})(e) \& \text{pick}(\text{apples})(e)]$

$[[tense]]$: function mapping properties of events onto properties of temporally specified events

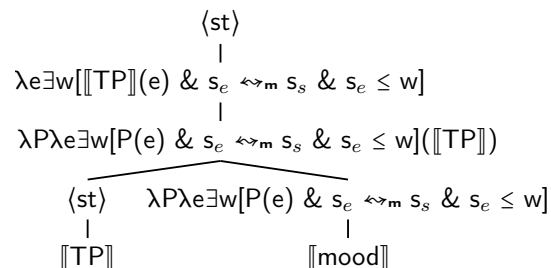
Semantics: Verbal mood

- (23) a. Verbal mood specifies a relation between situation s_s ($\neq$ situation of speech) and a situation of event s_e : $s_e \leftrightarrow_m s_s$.

b. Syntax:



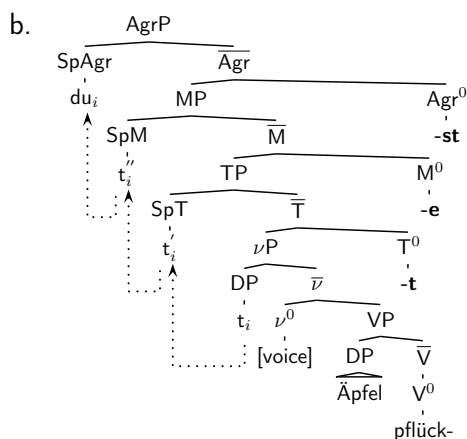
Semantics:



$[[mood]]$: function mapping temporally specified properties of events onto temporally and situationally related properties of events

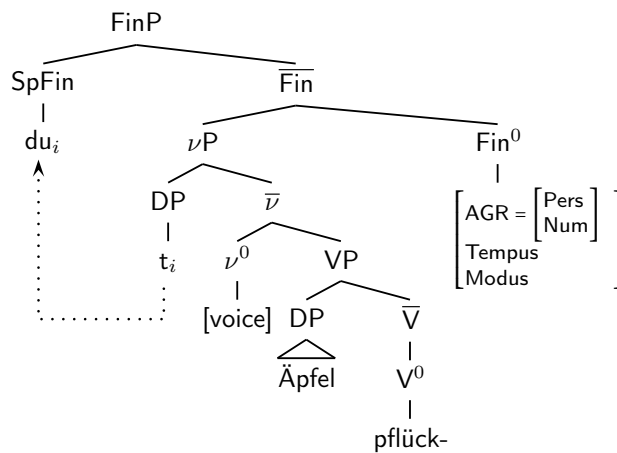
Syntax: Finite construction

- (24) a. (wenn) du Äpfel pflück-t-e-st ...
(if) you apples pick-SUBJ2 ...



Syntax: Finite construction – contracted

(25)

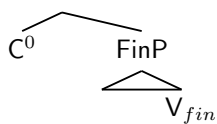
**C-System****The (V2-)problem**

- (26) *Karl Äpfel gepflückt hat
 Carl apples picked has

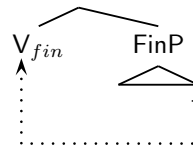
- Hat_i Karl Äpfel gepflückt t_i?
 Has Carl apples picked
- dass Karl Äpfel gepflückt hat
 that Carl apples picked has
- (Mir ist egal,) wer_j t_j Äpfel gepflückt hat
 (It's the same for me) who apples picked has
- (Das ist der Mann,) der_j t_j Äpfel gepflückt hat
 That is the man who apples picked has.

Structure building operations

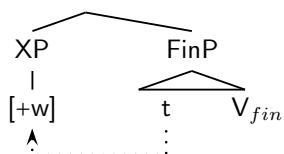
- (27) a. external MERGE:



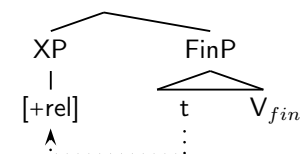
- b. internal MERGE:



- c. internal MERGE:



- d. internal MERGE:



Discourse structure and C-system

(28) Rizzi (1997:283) about the C-system:

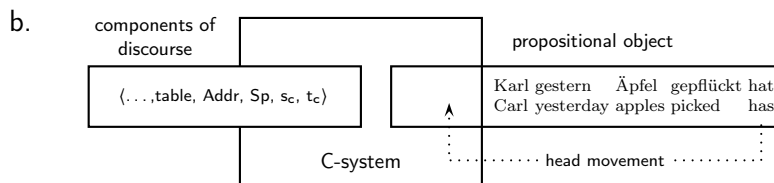
We can think of the complementizer system as the interface between a propositional content (expressed by the IP) and the superordinate structure (a higher clause or, possibly, the articulation of discourse, if we consider a root clause). As such, we expect the C system to express at least two kinds of information, one facing the outside and the other facing the inside.

C-system as interface – root clauses

(29) a. Discourse context:

$\langle \text{Sp, Addr, } t_c, s_c, \dots \rangle$

$s_c = \text{Sp}$ says p to the Addr at time t_c in situation s_c



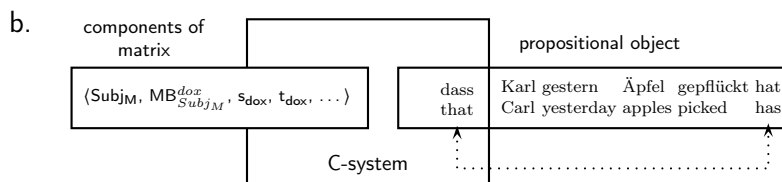
C-system as interface – embedded clauses

(30) a. Grammatical context:

Matrix predicate: (for instance: 'believe')

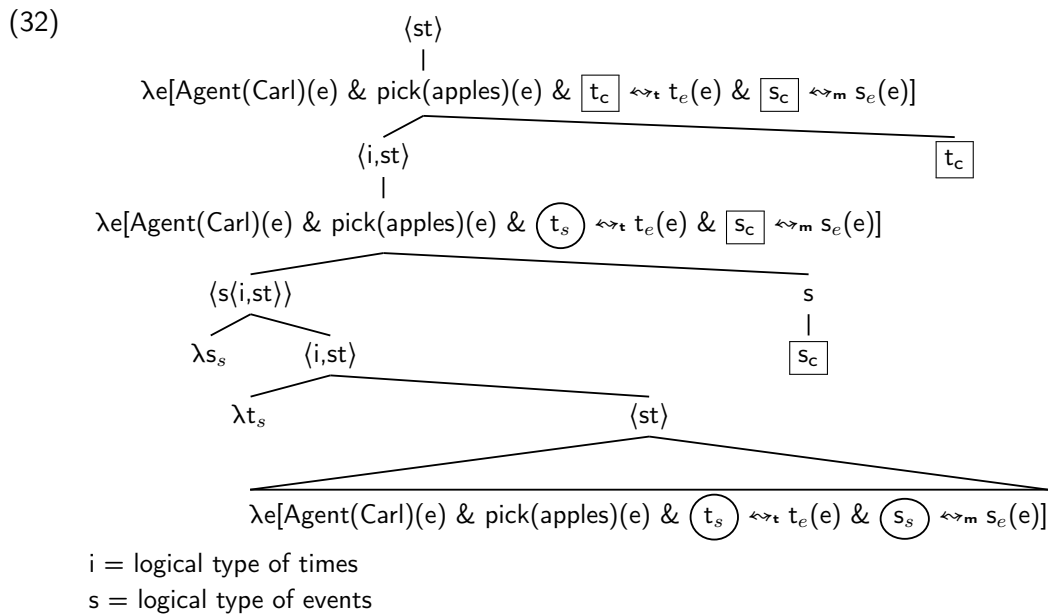
$\langle \text{Subj}_M, \text{MB}_{\text{Subj}_M}^{\text{dox}}, s_{\text{dox}}, t_{\text{dox}}, \dots \rangle$

$s_{\text{dox}} = \text{Subj}_M$ believes p at time t_{dox} in situation s_{dox}



(31) Hypothesis 1: Fronting of finiteness – V2 – occurs for reasons of scope.

The tense and mood variables t_s and s_s have to be transported into the C-system in order to bind components in a structure of higher order.

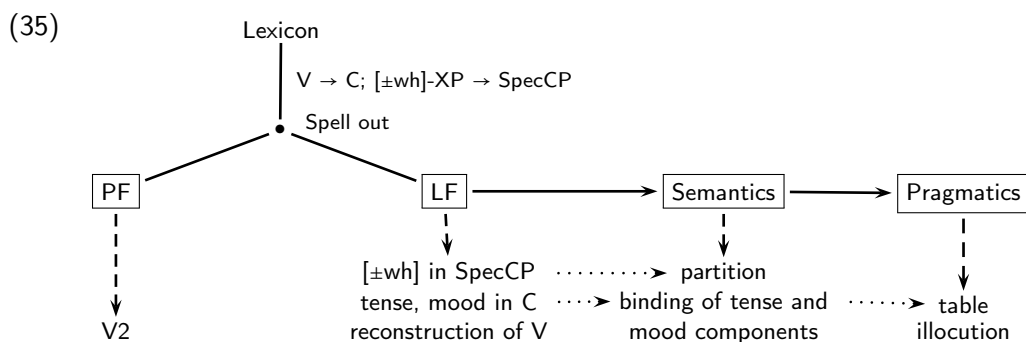
Semantics: Binding of context variables**(33) Hypothesis 2:**

Binding of the tense and mood variables (through 'fronting of finiteness') to the speech situation puts the propositional object (created through $[\pm\text{wh}]$ -movement to SpecCP) in the discourse situation (on the table).

In this interactional setting it unfolds its illocutionary force.

- (34) Speaker A: Karl hat Äpfel gepflückt.
 Carl has apples picked
 'Carl picked apples.'

A	TABLE	B
p	p = Carl has picked apples	DC_B
Common Ground cg		Projected Set ps
		$s \cup \{p\} \vee s \cup \{\neg p\}$

Summing up

Application: Embedded V2 in German

- (36) a. verba dicendi et putandi:
 sagen, behaupten, erzählen, berichten, bestätigen, ...
 say, claim, tell, report, confirm, ...
 glauben, hoffen, meinen, finden, ...
 believe, hope, think, find, ...
- b. preference predicates:
 besser/lieber sein, vorziehen, ...
 be better, prefer, ...
- c. evidential verbs:
 erfahren, erkennen, ...
 experience, recognize, ...
- (37) a. factive or negative predicates:
 bedauern, herausfinden, entsetzt sein, vergessen, verhindern, ...
 regret, find out, be appalled, forget, prevent, ...
- b. volitional predicates:
 befehlen, auffordern, bitten, wollen, verlangen, ...
 order, request, beg, want, demand, ...

(c. f. Reis (1997), Romberg (1999), Meinunger (2004))

Application: embedded V2-clauses

- (38) Assume several principles of (pragmatic) interpretation:
- Propositions on the table must be disputable.
 $\neg$ excludes factive and volitional predicates
 - Variants of Moore's paradox (c. f. Moore 1899):
 $\#$ It is raining, but I don't believe that it is raining.
 $\neg$ excludes negated predicates
 - Do not assert what is already presupposed.
 $\neg$ excludes factive predicates
 - ...
 - Take into consideration the properties of subjunctive verbal mood, which appears to open further interpretational conditions.

Application: embedded VE-clauses (eVE)

- (39) V2-ind – VE-ind:
- Peter glaubt, dass Karl Äpfel gepflückt hat.
 Peter believes that Carl apples picked has
 'Peter believes, that Carl picked apples.'
 -

A	TABLE	B
p	$p = \text{glauben}(\text{Peter}, \text{pflücken}(\text{Karl}, \text{Äpfel}))$	DC_B
Common Ground cg		Projected Set ps $s \cup \{p\}$

Application: embedded V2-clauses (eV2)

- (40) V2-ind – V2-ind:
- Peter glaubt, Karl hat Äpfel gepflückt.
 Peter believes Carl has apples picked
 'Peter believes, that Carl picked apples.'

b.

A	TABLE	B
$p \wedge q$	$p = \text{glauben}(\text{Peter}, q)$ $q = \text{pflücken}(\text{Karl}, \text{Äpfel})$	DC_B
Common Ground cg		Projected Set ps $s \cup \{p\} \cup \{q\}$

For a double access reading c. f. Meinunger (2004)

Application: embedded V2-clauses (eV2)

(41) V2-ind – V2-subj1:

- a. Peter glaubt, Karl habe Äpfel gepflückt.
 Peter believes Carl has-SUBJ1 apples picked
 ‚Peter believes, that Carl picked apples.‘

b.

A	TABLE	B
p	$p = \text{glauben}(\text{Peter}, q)$ $q = \text{pflücken}(\text{Karl}, \text{Äpfel})$	DC_B
Common Ground cg		Projected Set ps $s \cup \{p\} \cup \{q\}$

Application: embedded V2-clauses (eV2)

(42) V2-subj1 – V2-subj1:

- a. Peter glaube, Karl habe Äpfel gepflückt.
 Peter believesSUBJ1 Carl has-SUBJ1 apples picked
 ‚Peter believes, that Carl has picked apples.‘

b.

A	TABLE	B
	$p = \text{glauben}(\text{Peter}, q)$ $q = \text{pflücken}(\text{Karl}, \text{Äpfel})$	DC_B
Common Ground cg		Projected Set ps $s \cup \{p\} \cup \{q\}$

The theory

(43) The proposed theory

- accounts for the difference between root and embedded clauses in terms of sentence moods (discourse situation vs. grammatical context),
- derives sentence moods in a compositional fashion,
- leads to standard analyses for questions and declaratives in formal semantics,
- makes crucial use of inflectional morphology, syntactic movement and lexical properties,
- relates V2 systematically to tense and mood features together with context components,
- deals with illocutions in the pragmatic component,
- proposes a weaker function to V2 than ‚assertion‘, namely ‚reference to the discourse situation‘.

Conclusion

- (44) V2 serves the purpose of anchoring a propositional object (partition) within the current discourse situation by semantically binding tense and mood variables to discourse components.

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