Syntax

Pavel Caha

Oct 7, 2024

Studying syntax

- Syntax cares about structure, not strings
- Two consequences:
  - One string can have multiple meanings (ambiguity)
  - Different strings can have the same meaning (language variation)
- Rules of language obey structural – not linear – arrangement

Ambiguity: recap

Nodes and hierarchies

Question Formation in English

Verb Second in German

Verb second cares about hierarchy

Conclusions

Ambiguity

(1) black cab drivers

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a. drivers of black cabs

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a. drivers of black cabs

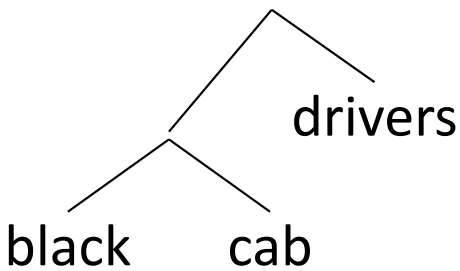
b. cab drivers who are black

Ambiguity

(1) black cab drivers

a. drivers of black cabs

b. cab drivers who are black



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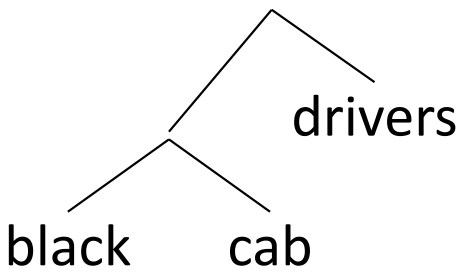
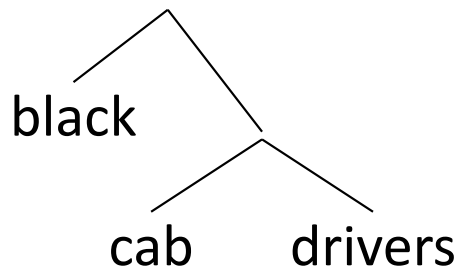


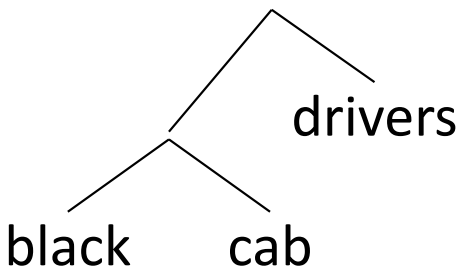


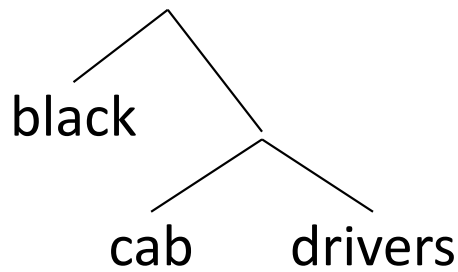
Ambiguity

(2) hit the dog with a hat

a. the dog has a hat on

b. the hat is used to hit the dog





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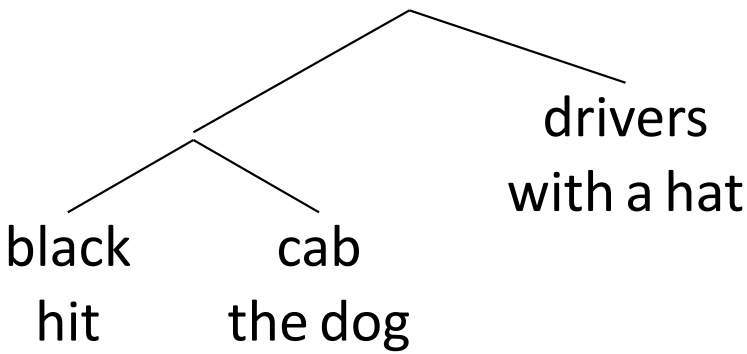

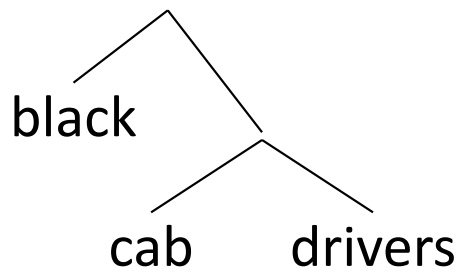

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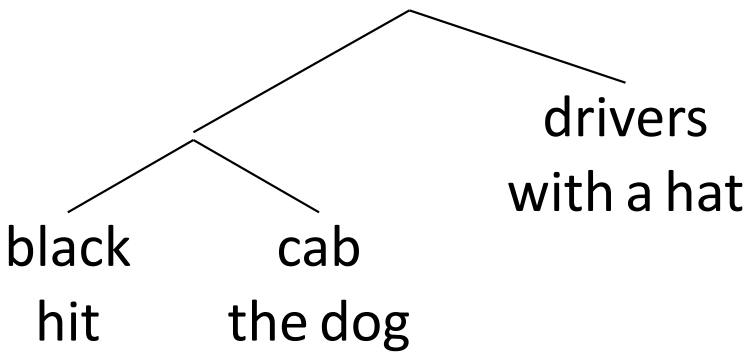

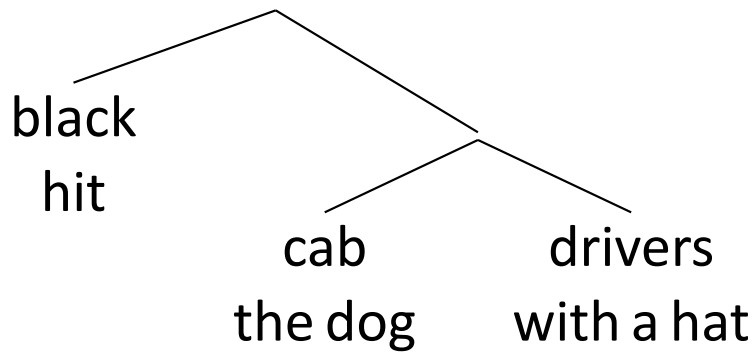

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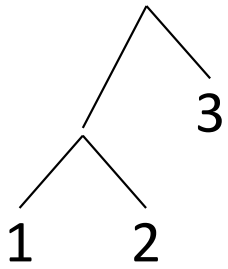
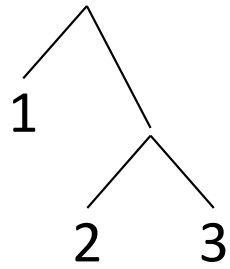
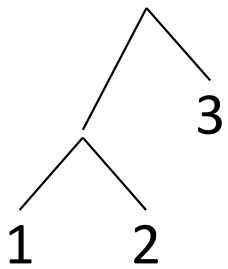
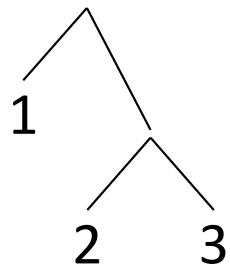




- lines are called edges





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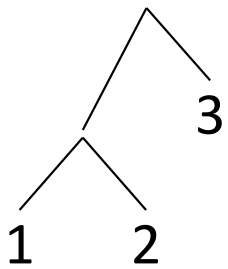

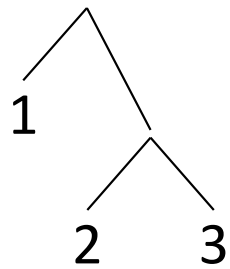

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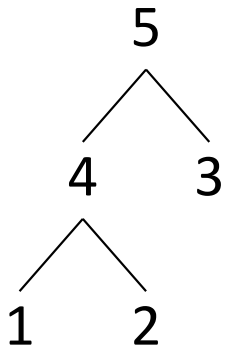

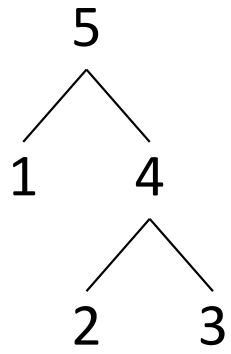

- lines are called edges
- at the end of each edge, there is a node
- 1, 2, 3 are terminal nodes
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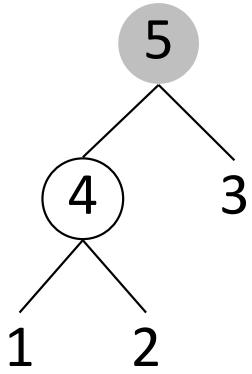
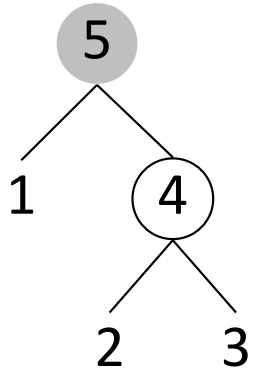
- 4, 5 are non-terminal nodes
  (NTN contains at least one node, at least one edge going down)





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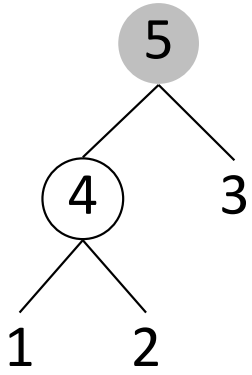

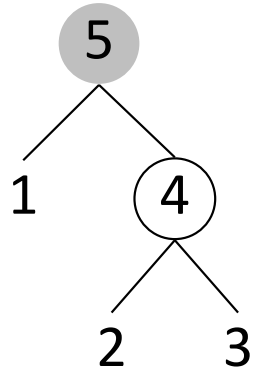

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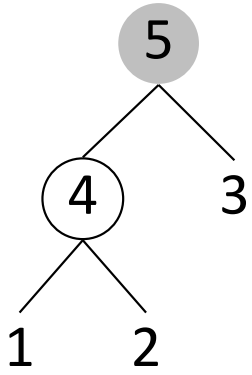

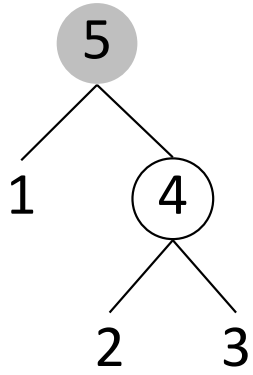

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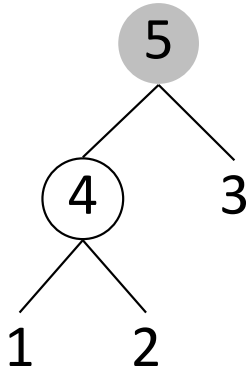

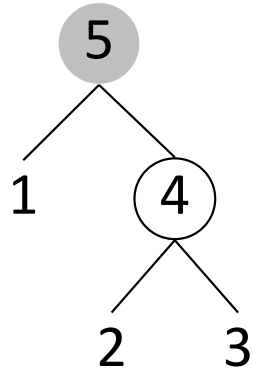

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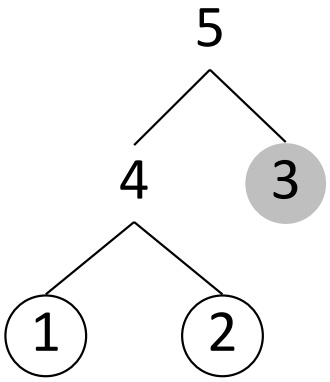
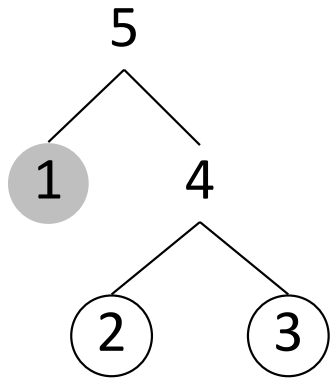
- 4 dominates 1 and 2 in the tree on the left





- in the tree on the left
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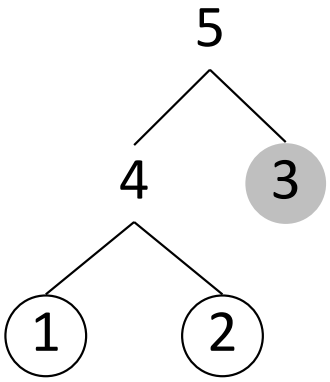

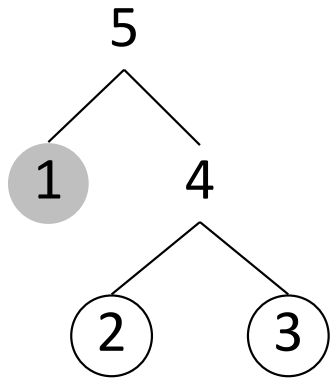

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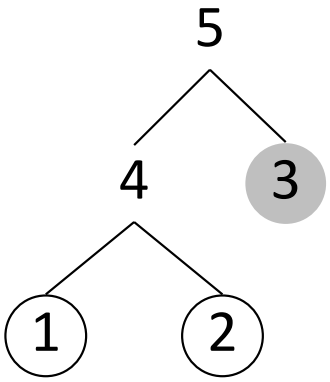

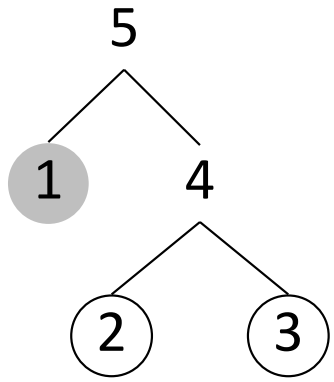

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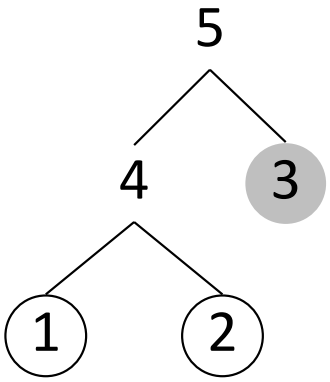

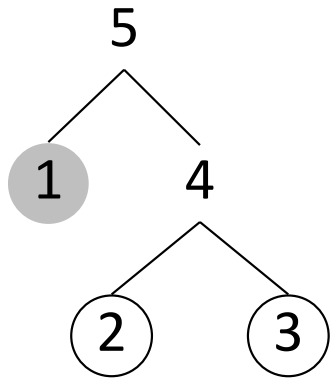

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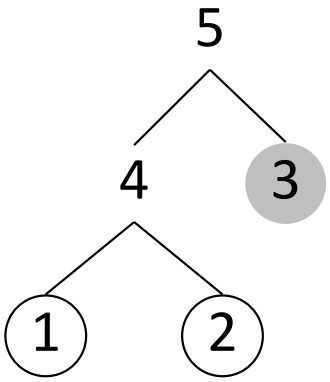

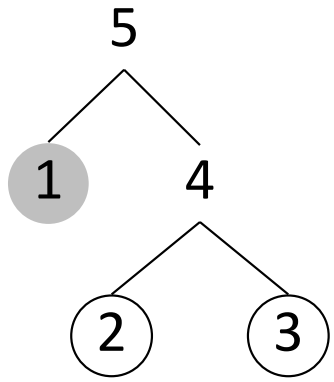

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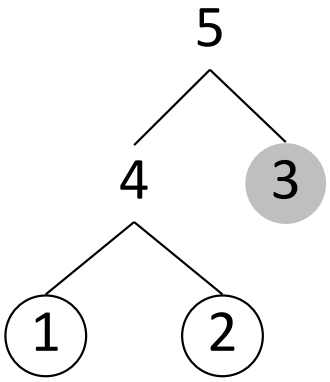

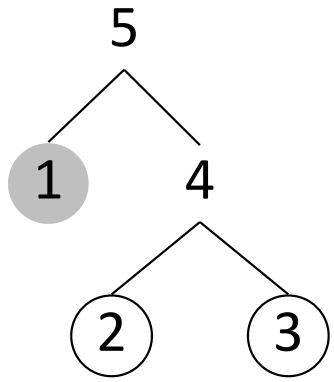

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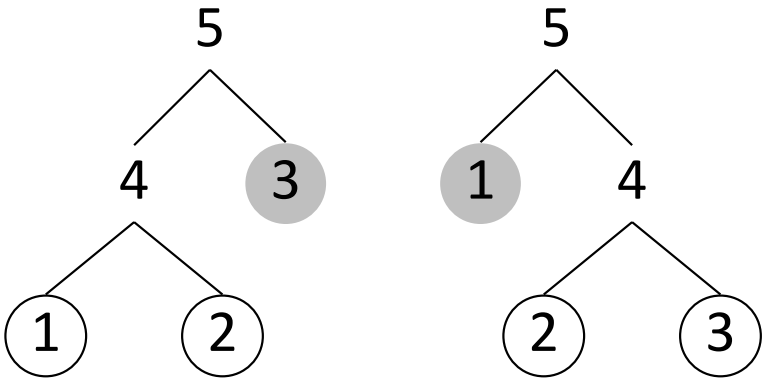
(5) Node X c-commands node Y in a phrase marker iff

a. neither dominates the other, and
b. every (branching) node that dominates X also dominates Y

My point today



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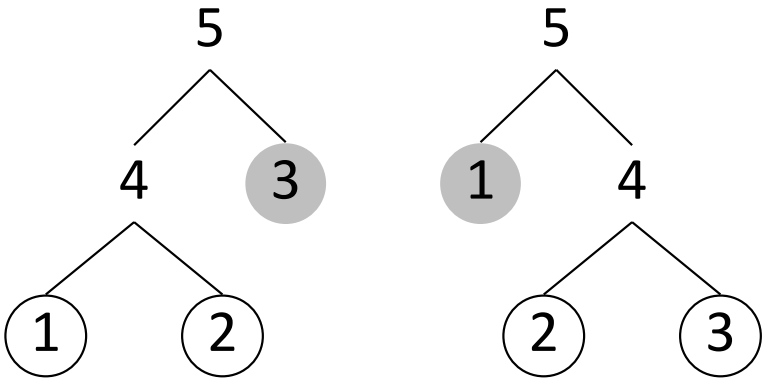

- Languages care about who the highest node is
- We can see that from the way rules work

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Verb Second in German

Verb second cares about hierarchy

Conclusions

Question formation (yes/no questions)

(6) An example

a. The murderer has **broken** the window.

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Question formation in English: how are they derived?

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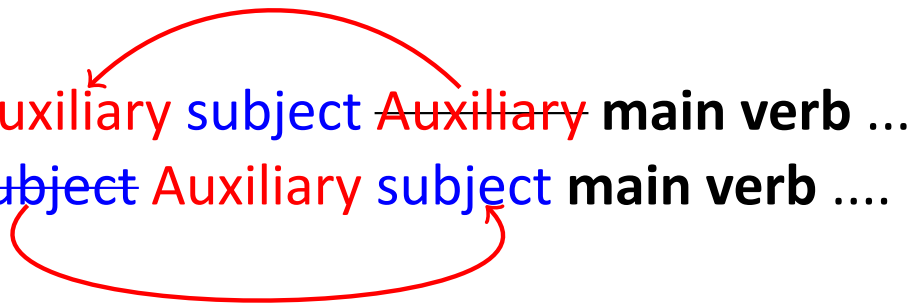

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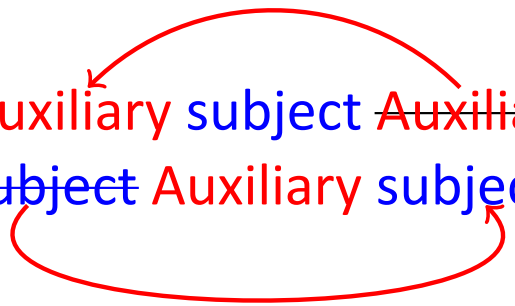

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(11) a. These new shops definitely are doing well.

Question formation in English: how are they derived?

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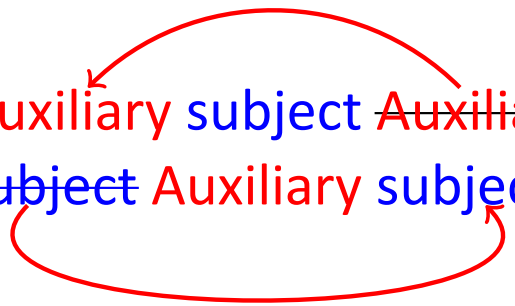

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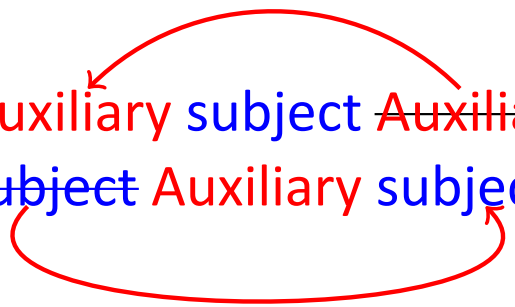

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c. *Definitely are these new shops doing well.

What happens when there are multiple auxiliaries

(12) a. The man who is tall is happy.

What happens when there are multiple auxiliaries

(12) a. The man who is tall is happy.

b. The man who [is] tall [is] happy.

What happens when there are multiple auxiliaries

(12)
a. The man who is tall is happy.
b. The man who [is] tall [is] happy.
c. *[Is] The man who — tall [is] happy?

What happens when there are multiple auxiliaries

(12)

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c. * [Is] The man who — tall [is] happy?

d. [Is] The man who [is] tall — happy?

What happens when there are multiple auxiliaries

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(13) The moving element is closest *in terms of structural distance*

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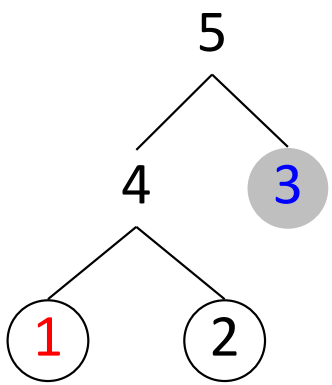
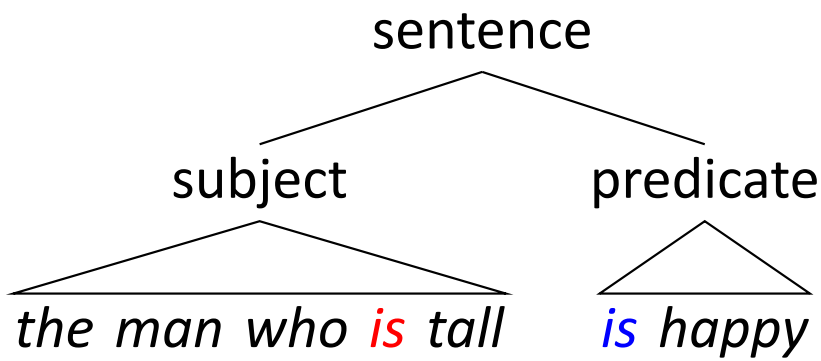
(14)

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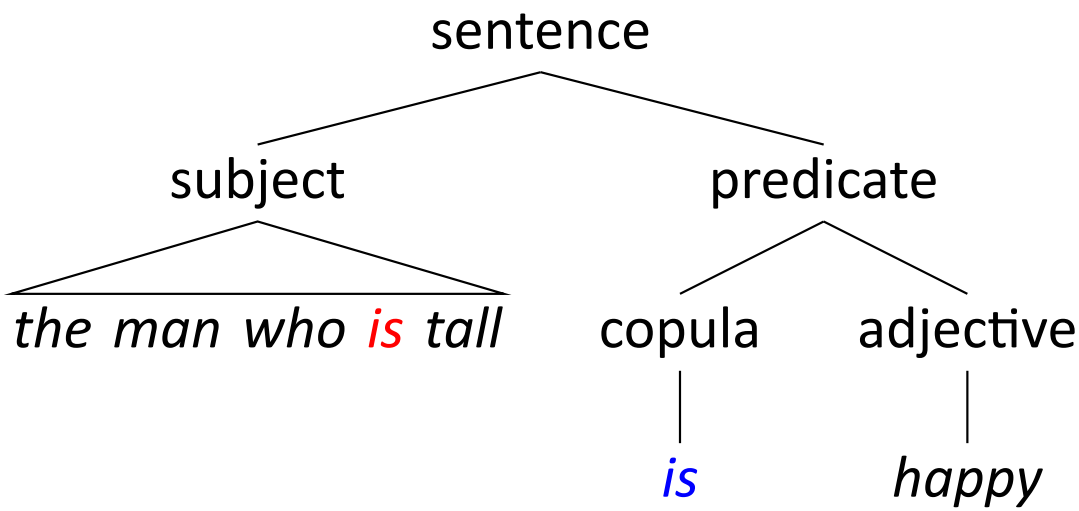
subject
predicate
the man who is tall
is happy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subject
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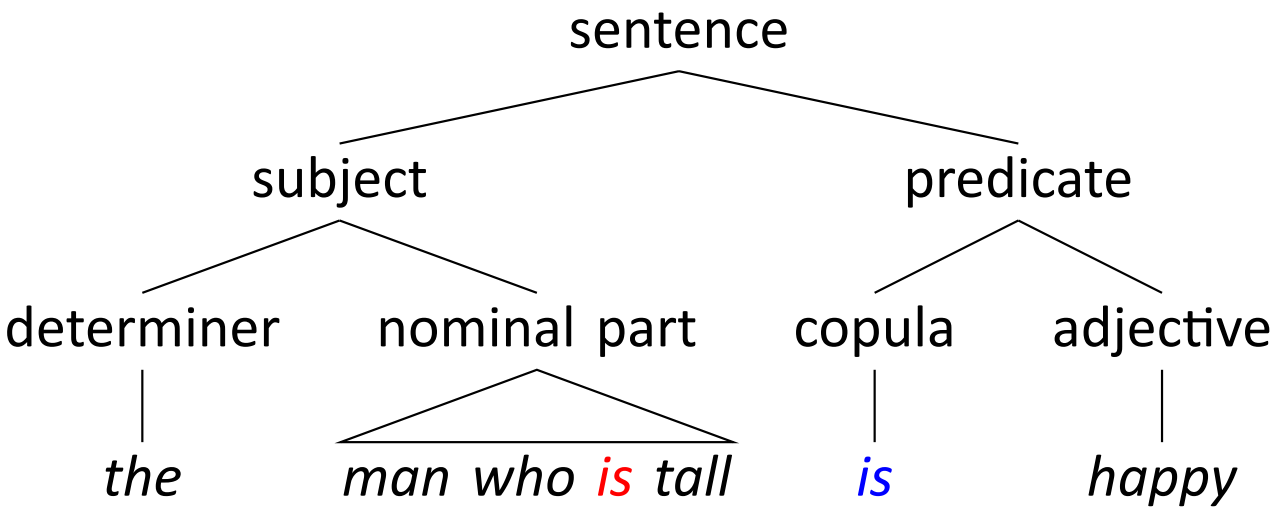
the man who is tall
copula
adjective
is
happy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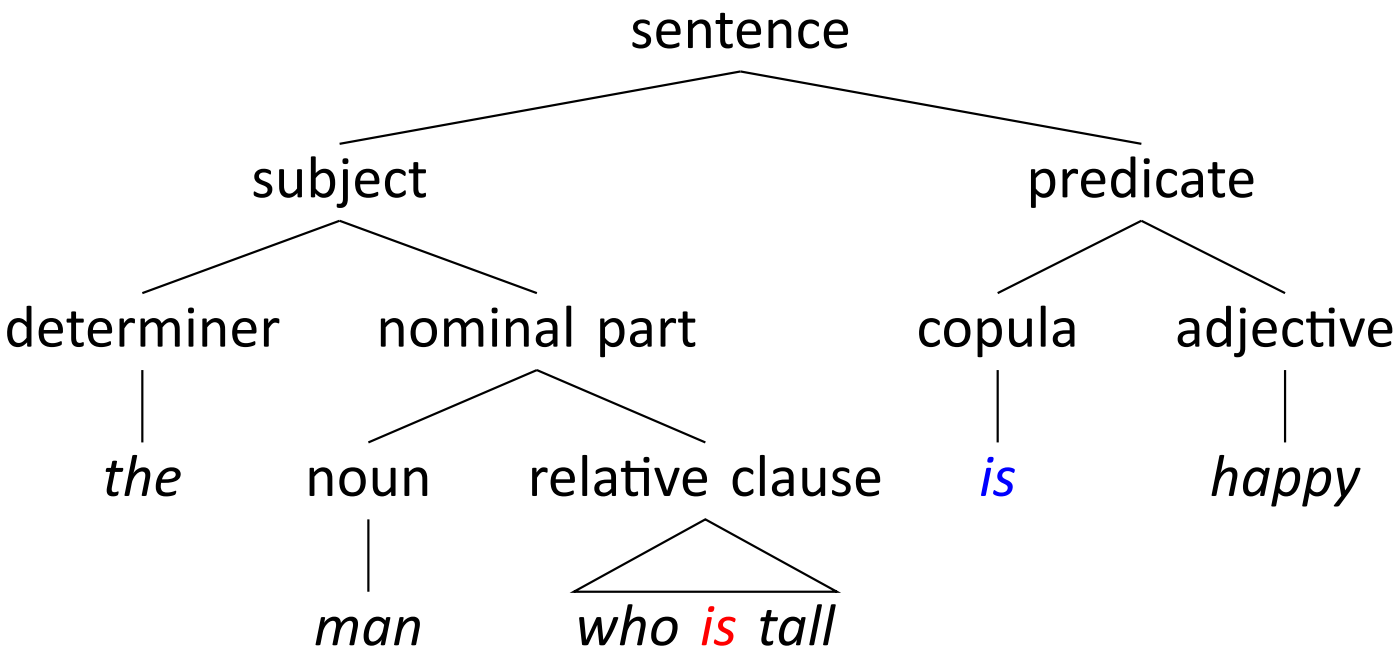
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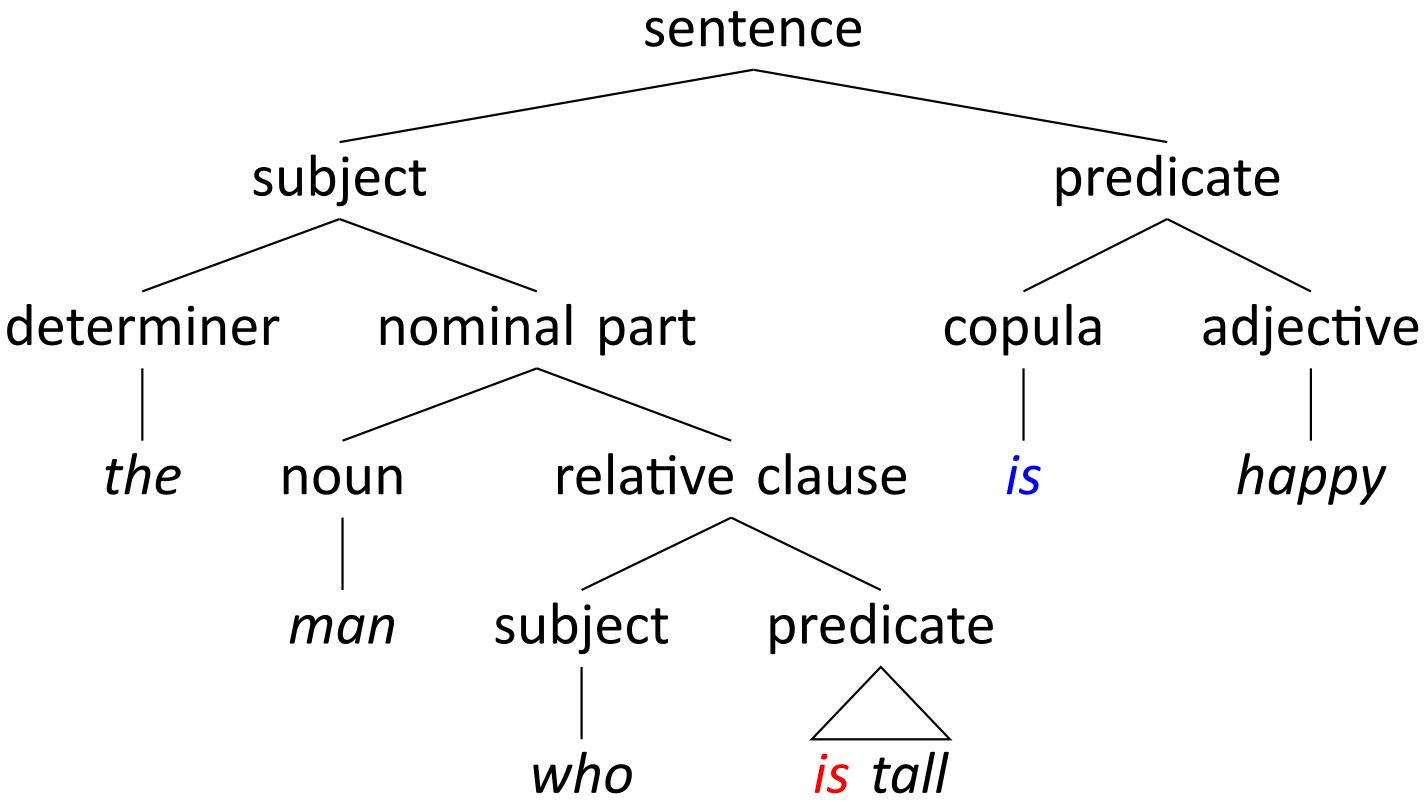
the
noun
relative clause
is
happy
man
who is tall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predicate
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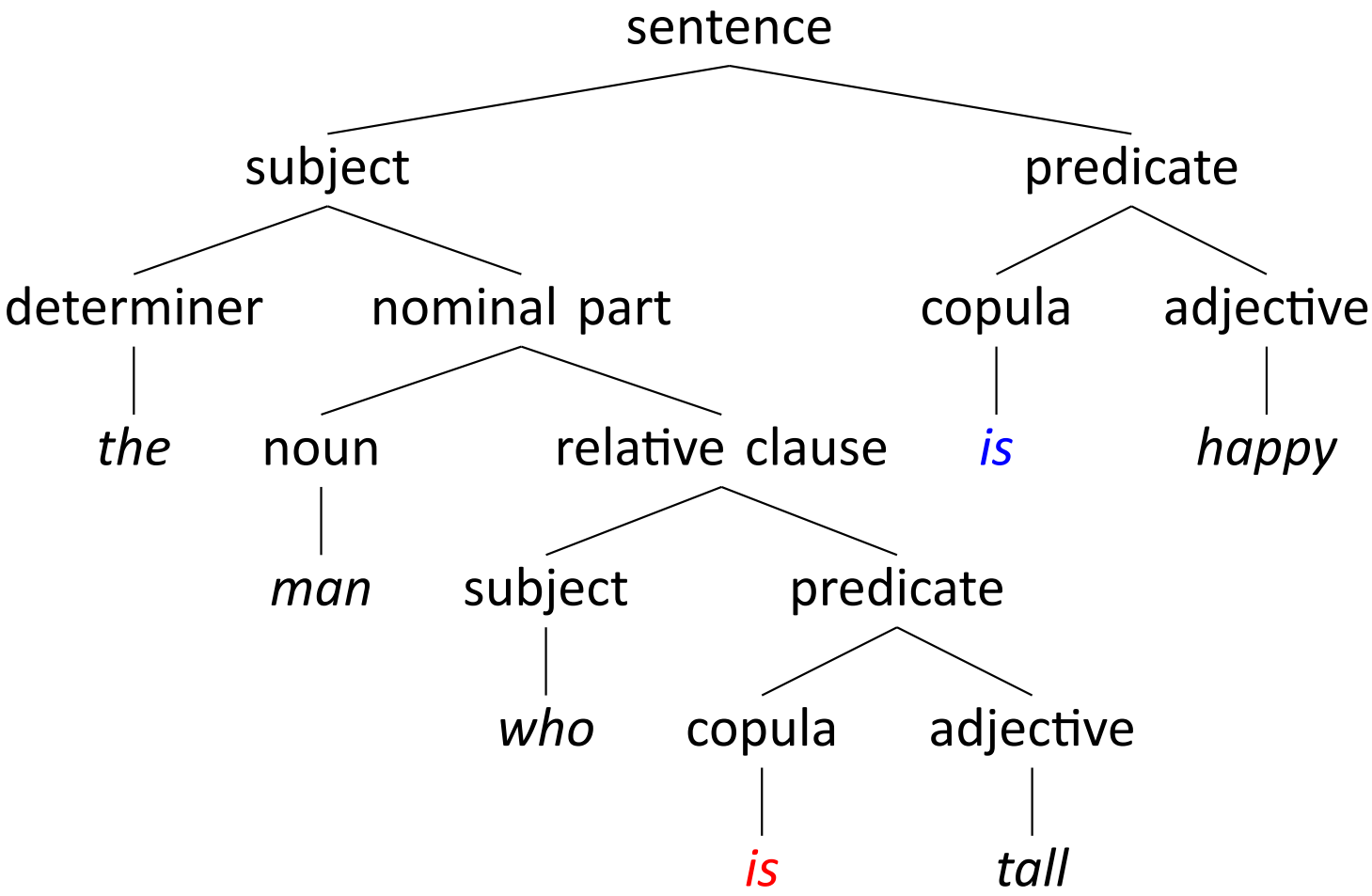
is tall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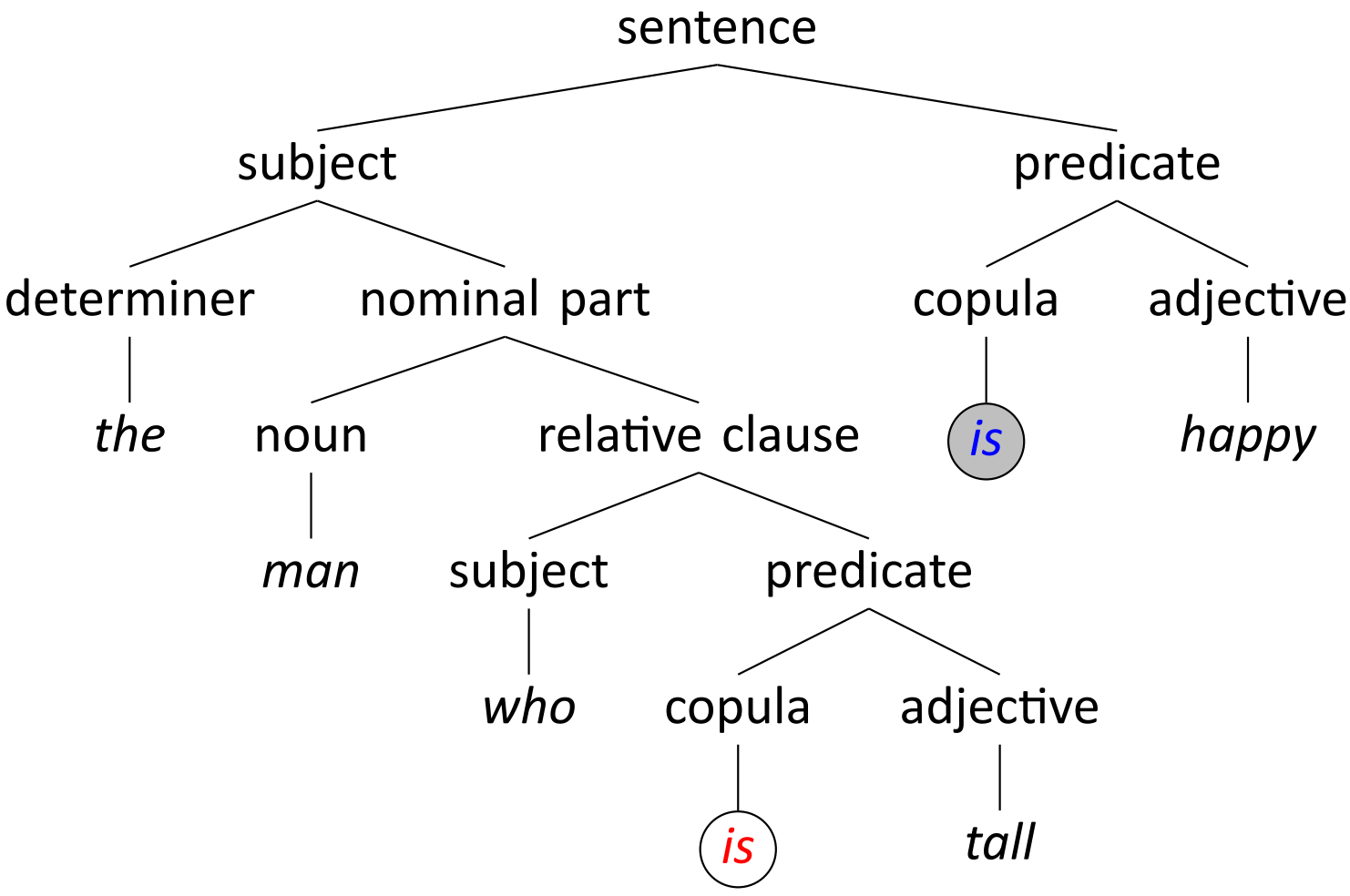
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Ambiguity: recap

Nodes and hierarchies

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Verb Second in German

Verb second cares about hierarchy

Conclusions

Recall that German has an SOV order in subordinate clauses

(15) SVO vs. SOV

a. (Hans says that) the dog **eats** the bone

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a. (Hans says that) the dog **eats** the bone

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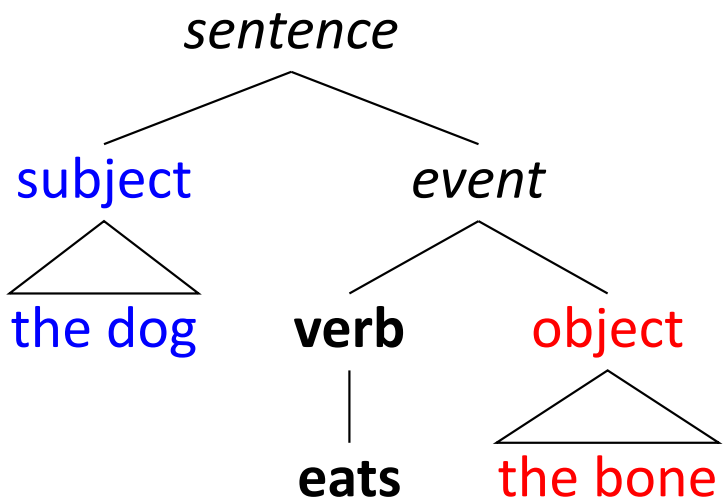

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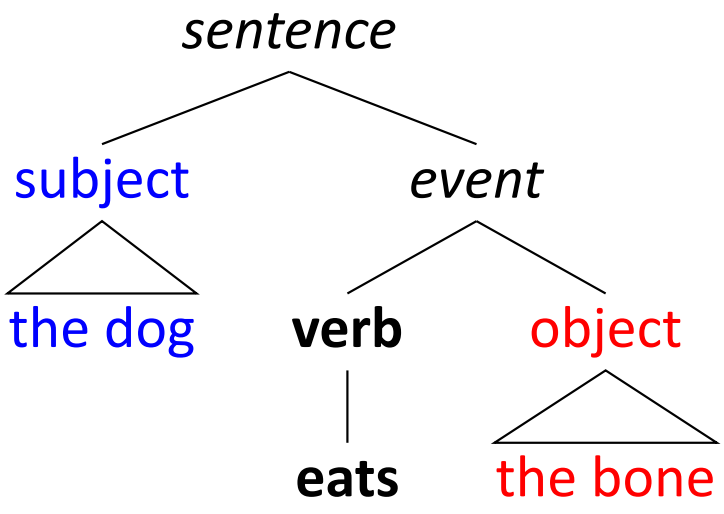

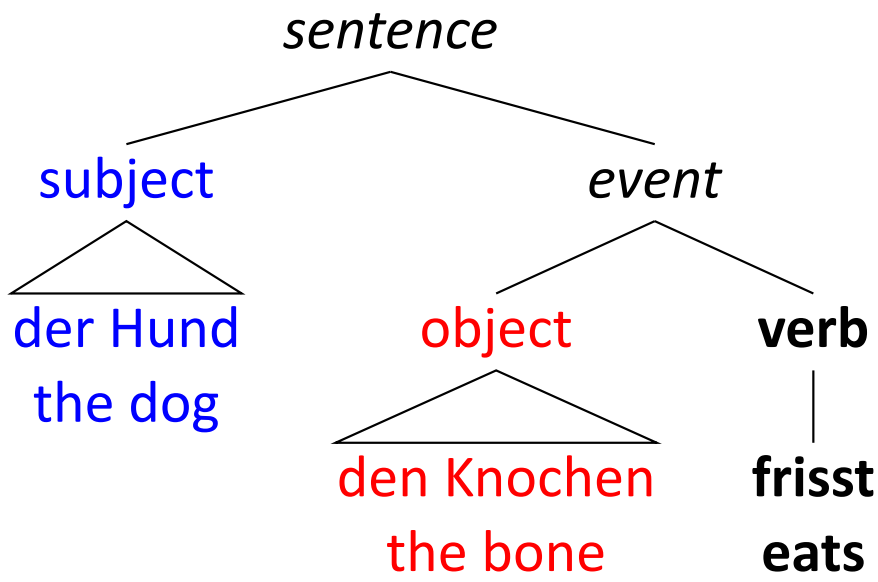

(16) Hans sagt...

a. ... dass der Hund den Knochen **frisst**.
... that the dog the.ACC bone.ACC eats
‘(Hans says) that the dog eats the bone.’

(16) Hans sagt...

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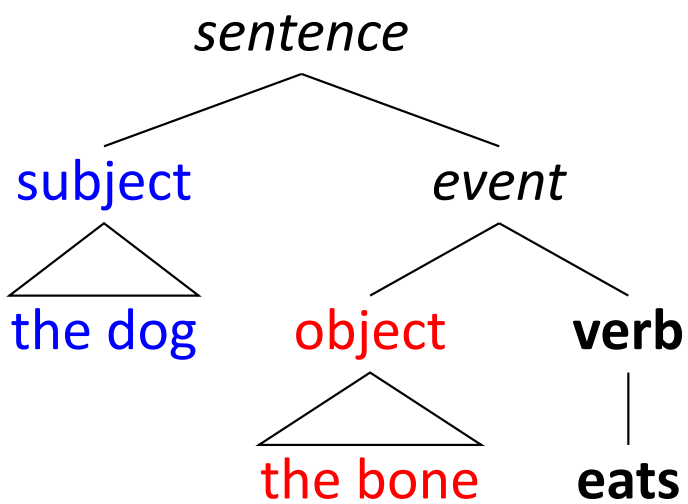

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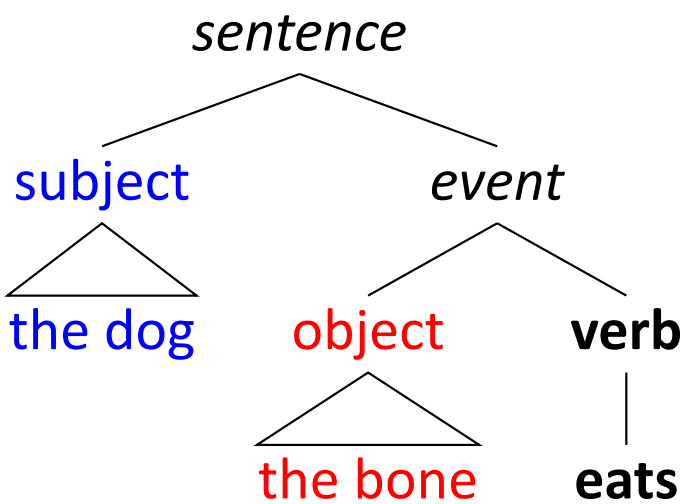

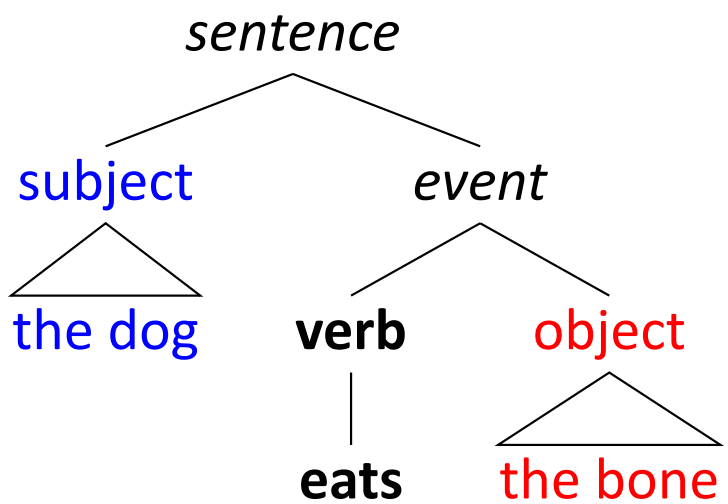

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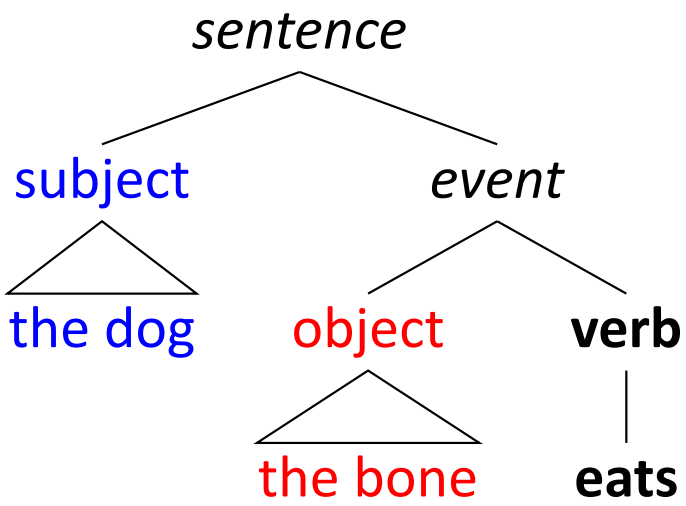

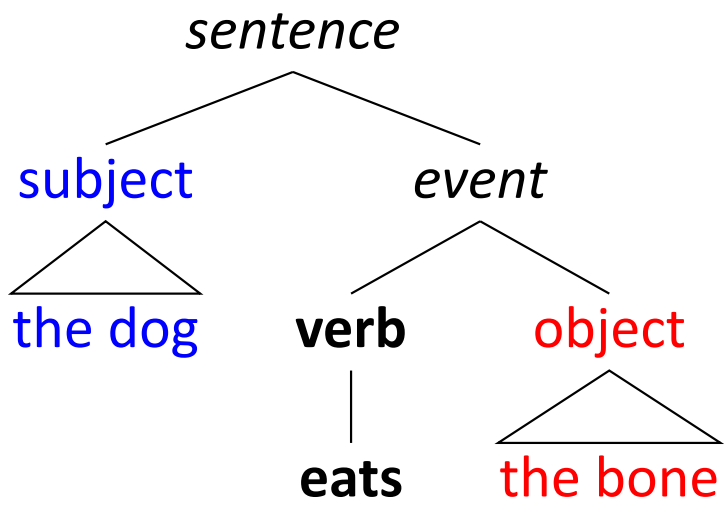

- But this can't be the right analysis.

Verb second

(17) a. Der Patient **mag** den Doktor.
The patient likes the doctor

Verb second

(17) a. Der Patient **mag** den Doktor.
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b. 'Perhaps the patient **likes** the doctor.'

Verb second

(17)
a. Der Patient **mag** den Doktor.
The patient likes the doctor
b. ‘Perhaps the patient **likes** the doctor.’
c. Vielleicht **mag** Der Patient den Doktor.
Perhaps likes the patient the doctor

Verb second

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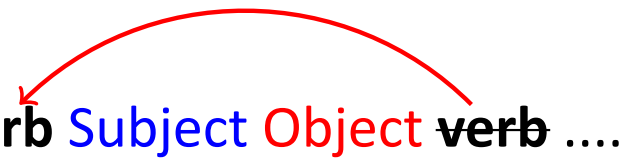
(18) Verb second:



Discourse linking (topic, focus)

(19) a. Topic: the question under discussion (previously mentioned information)

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b. Focus: The answer to that question (new information)

Discourse linking (topic, focus)

(19) a. Topic: the question under discussion (previously mentioned information)

b. Focus: The answer to that question (new information)

(20) a. Co napsal Shakespeare?
What wrote Shakespeare
'What did Shakespeare write?

b. Shakespeare napsal HAMLETA.
Shakespeare wrote Hamlet.

(21) a. Kdo napsal Hamleta?
Who wrote Hamlet

b. Hamleta napsal SHAKESPEARE.
hamlet.ACC wrote Shakespeare

Discourse linking (topic, focus)

(22) Neutral word order (everything is new)

a. What's the news in the world?

b. It is snowing in the Alps.

Discourse linking (topic, focus)

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a. What's the news in the world?

b. It is snowing in the Alps.

(23) Contrastive topic

a. Is it snowing in Krkonoše? (introducing topic)

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b. No, it's not snowing in Krkonoše.
(Krkonoše is the topic, you can't stress it)

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(23) Contrastive topic

a. Is it snowing in Krkonoše? (introducing topic)

b. No, it's not snowing in Krkonoše.
(Krkonoše is the topic, you can't stress it)

c. ... but IN THE ALPS, it is snowing.
(Alps = contrastive topic, it has stress, it is first)

Back to German

(24) The verb second property

a. Es **schneit** auf der Alb.
it snows on the Alb
'It is snowing in the Swabain Jura.'

Back to German

(24) The verb second property

a. Es **schneit** auf der Alb.
it snows on the Alb
'It is snowing in the Swabain Jura.'

b. Auf der Alb **schneit** es.
on the Alb snows it
'In the Swabian Jura, it is snowing.'

The verb moves

(25) Verb second:

Supporting evidence

(26) Verb movement leads to verb splitting

a. ..., dass Hans das Kind **ab-holt**.
... that Hans the.ACC child.ACC up-picks
'..., that Hans picks up the child.'

Supporting evidence

(26) Verb movement leads to verb splitting

a. ..., dass Hans das Kind **ab-holt**.
... that Hans the.ACC child.ACC up-picks
'..., that Hans picks up the child.'

b. Hans **holt** das Kind **ab**.
Hans picks the.ACC child.ACC up
'Hans picks up the child.'

Supporting evidence

(26) Verb movement leads to verb splitting

a. ..., dass Hans das Kind **ab-holt**.
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(27) Verb second:

- Second place phenomena will be important (Czech has clitic second)

(28) a.

Petr	chce	navštívit	Karla
Petr	wants	to.visit	Karel

- Second place phenomena will be important (Czech has clitic second)

(28)

a.	Petr	chce	navštívit	Karla
	Petr	wants	to.visit	Karel
b.	Petra	ho	nechce	navštívit
	Petra	him	neg.wants	to.visit

- Second place phenomena will be important (Czech has clitic second)

(28) a. Petr chce navštívit Karla
Petr wants to.visit Karel

b. Petra ho nechce navštívit
Petra him neg.wants to.visit

(29) a. Všichni budou mít příležitost zeptat se
Everyone will have the.chance to.ask SE

- Second place phenomena will be important (Czech has clitic second)

(28)
a.	Petr	chce	navštívit	Karla
	Petr	wants	to.visit	Karel
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(29)
a.	Všichni	budou	mít	příležitost	zeptat	se
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b.	Všichni	se	budou	mít	příležitost	zeptat
	Everyone	SE	will	have	the.chance	to.ask

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a.	Všichni	budou	mít	příležitost	zeptat	se
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Ambiguity: recap

Nodes and hierarchies

Question Formation in English

Verb Second in German

Verb second cares about hierarchy

Conclusions

Multiple verbs

(30) a. ... because the dog **has eaten** the bone

Multiple verbs

(30) a. ... because the dog **has eaten** the bone

b. ... weil der Hund den Knochen **gefressen hat**.
... because the dog the.ACC bone.ACC eaten has
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Multiple verbs

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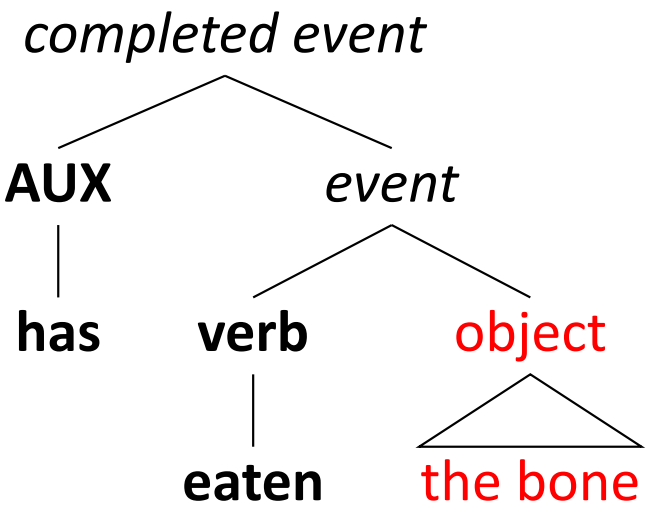

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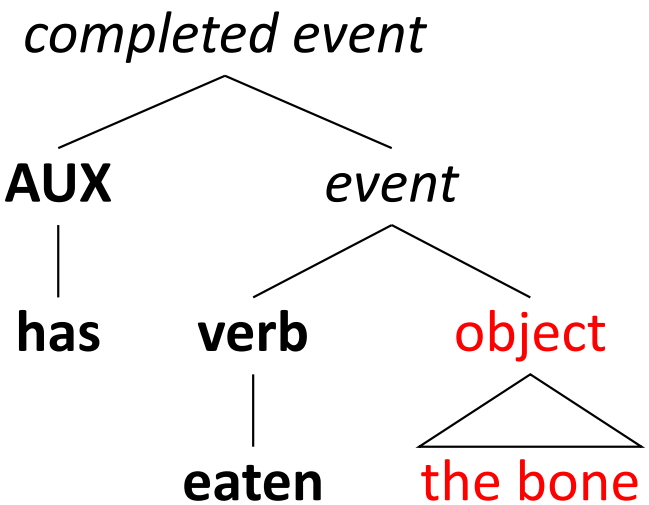

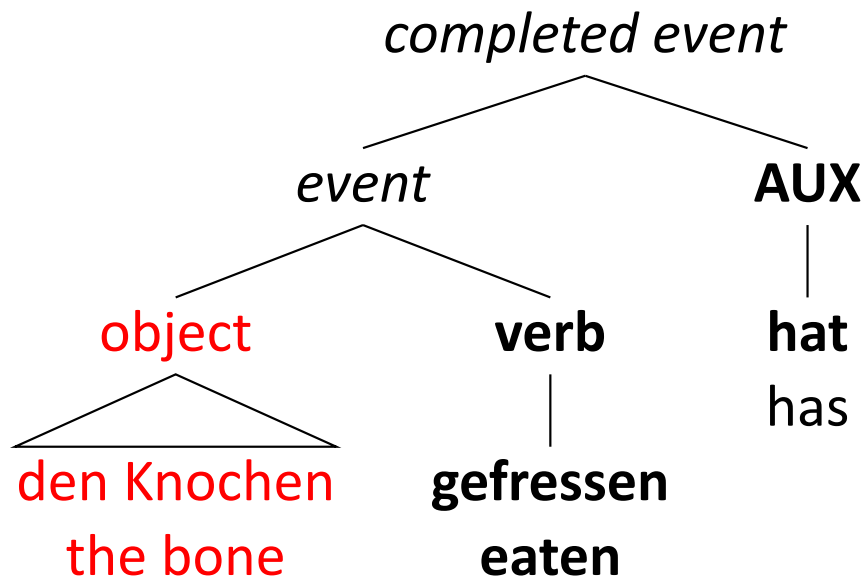

Multiple verbs

(31) a. ... because the dog **has eaten** the bone

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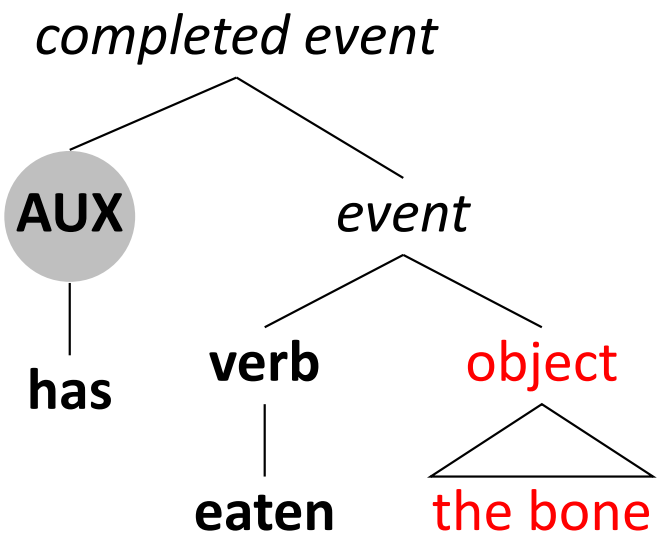

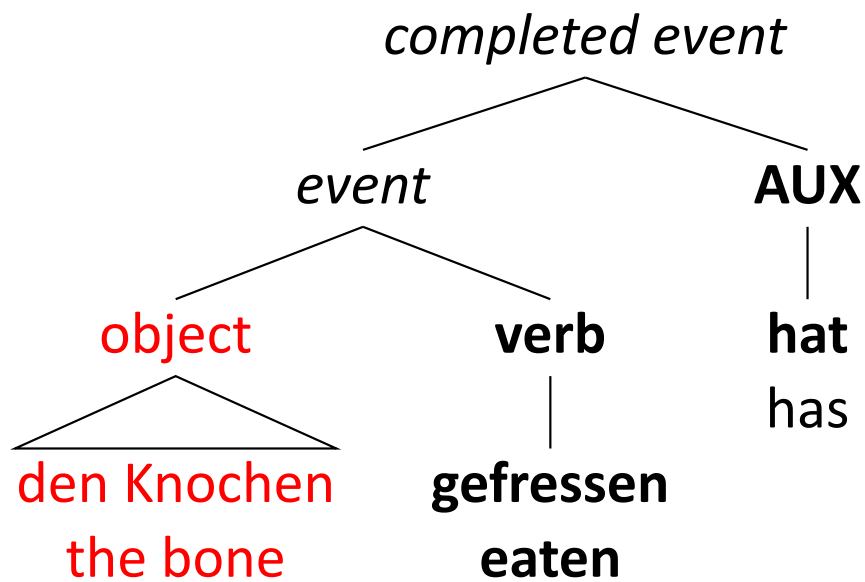

Multiple verbs

(32) a. ... because the dog **has eaten** the bone

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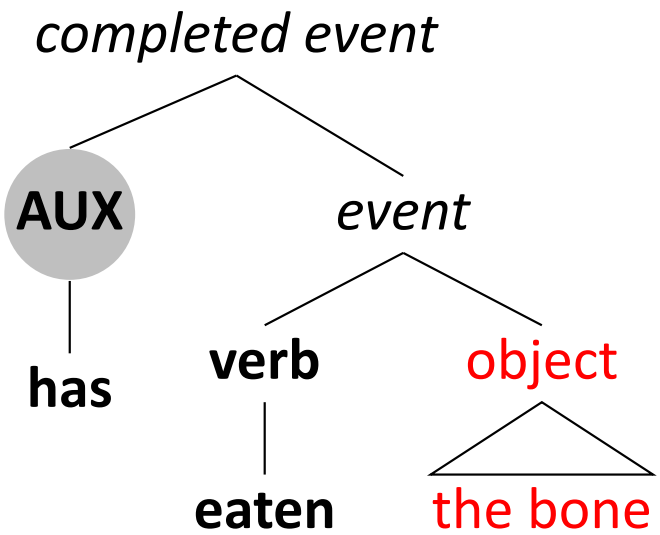
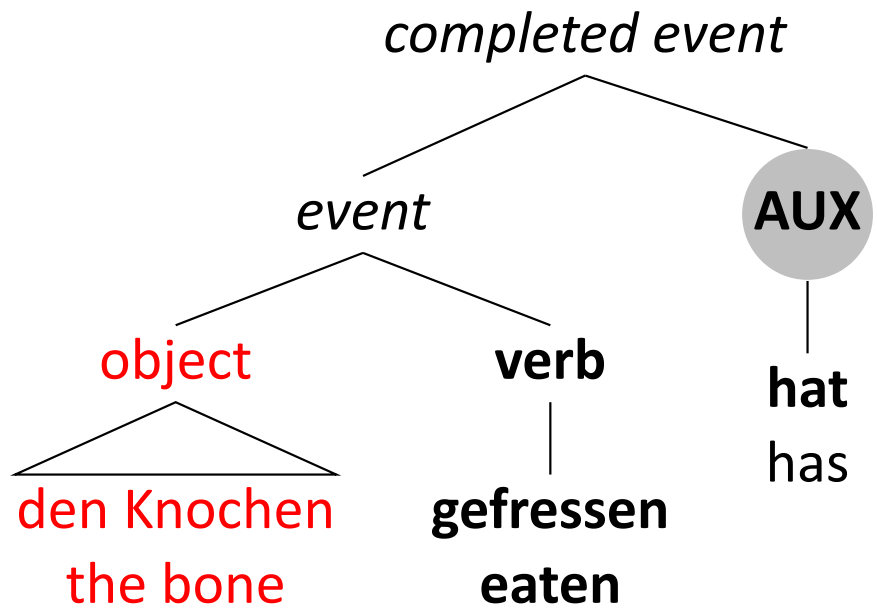
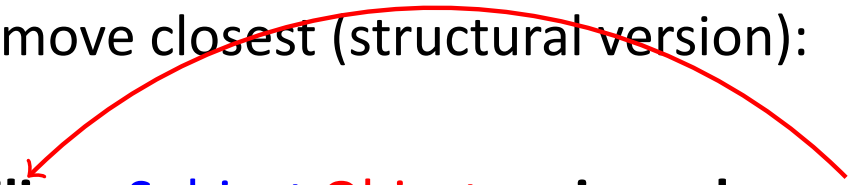




Multiple verbs

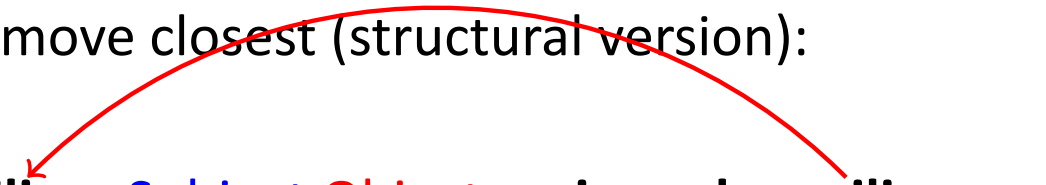
(33) Verb second as move closest (structural version):



TOPIC **auxiliary** Subject Object **main verb** ~~**auxiliary**~~ ....

Multiple verbs

(33) Verb second as move closest (structural version):



(34) Verb second as move closest (linear version):

Multiple verbs

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... because the dog the.ACC bone.ACC eaten has
'..., because the dog has eaten the bone.'

Multiple verbs

(35) a. ... weil der Hund den Knochen **gefressen hat**.
... because the dog the.ACC bone.ACC eaten has
'..., because the dog has eaten the bone.'

b. der Hund **hat** den Knochen **gefressen**.
the dog has the.ACC bone.ACC eaten
'..., because the dog has eaten the bone.

Ambiguity: recap

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Verb Second in German

Verb second cares about hierarchy

Conclusions

conclusions

- Two rules

conclusions

- Two rules
  - Question formation in English

conclusions

- Two rules
  - Question formation in English
  - Verb second in German

conclusions

- Two rules
  - Question formation in English
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- The observations
  - Verb movement in English targets the main-clause auxiliary

conclusions

- Two rules
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conclusions

- Two rules
  - Question formation in English
  - Verb second in German
- The observations
  - Verb movement in English targets the main-clause auxiliary
  - Verb movement in German targets the structurally highest verb
- These two rules are dependent on structure, not on linear order