Introduction to Minimalist Syntax IV
Summary of Session 1

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Question 1

(1) What levels of adequacies did Chomsky define?

a. Explanatory Adequacy
b. Observational Adequacy
c. Evaluative Adequacy
d. Descriptive Adequacy

Question 2

(2) What are important properties of the language faculty?

a. communication
b. recursiveness
c. social interaction
d. generativity
e. learnabilty

Question 3

(3) To which levels is the syntactic structure mapped to?

a. PF
b. Lexicon
c. LF
d. XP

Question 4

(4) Which of these statements is true?

a. A morphosyntactic feature cannot be interpreted semantically.
b. A morphosyntactic feature can trigger a syntactic operation, e.g. Merge.
c. A morphosyntactic feature is an abstract representation of a morphosyntactic property.
d. A morphosyntactic feature does not matter in the syntactic structure.

Question 5

(5) What are binary features?

a. features without a value
b. features with at least one value
c. features that regulate binary branching
d. features with the value +/–

Question 3

(6) Which of these are phi-features?

a. case
b. number
c. person
d. tense
e. gender

Question 7

(7) What is Merge?

a. creation of recursive structures
b. a syntactic operation that combines two syntactic elements
c. the domination of one node over the other
d. the labeling of a phrase

Question 8

(8) What does the Uniformity of Theta-Assignment Hypothesis (UTAH) say?

a. All theta-roles are assigned at the same time.
b. In embedded clauses, all arguments are themes.
c. Every theta-role is assigned in a unique position.
d. One argument can only receive one theta-role.

Question 9

(9) What is the function of the little vP?

a. introduce the agent
b. introduce the theme
c. assist the big VP
d. provide a higher position for the lexical verb

Introduction to Minimalist Syntax IV
Tense and agreement in the TP

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Sentences are headed

TP

- In our theory of constituents, phrases, and projections, sentences should also be phrases and have a head.
- There are many pieces of empirical evidence supporting the assumption of a **T(ense)-projection** above vP, among them:
  - modals in English
  - independent tense markers
- Today, we look at those pieces of evidence.

Modals

- Sentences can contain **auxiliary** verbs in addition to the main verb.
- One class of these Aux are **modals**, which precede the main verb.

(1) a. Abdul **must/can/should/will/may** meet Michael.
b. *Abdul meet **may** Michael.

Modals

- Constituency tests show that the modal is outside the constituent formed by the verb and the object (2).
- Modals are in complementary distribution with each other, i.e. only one modal per clause is allowed (in most dialects of English) (3).

(2) a. What Abdul **may** do is [seek Michael].
b. . . . and [seek Michael] Abdul **may**.

(3) a. *Abdul **must should** seek Michael.
b. *Abdul **might can** seek Michael.

Modals

- Modals also inflect for tense (4).

present	past
may	might
can	could
shall	should
will	would
must	

Modals

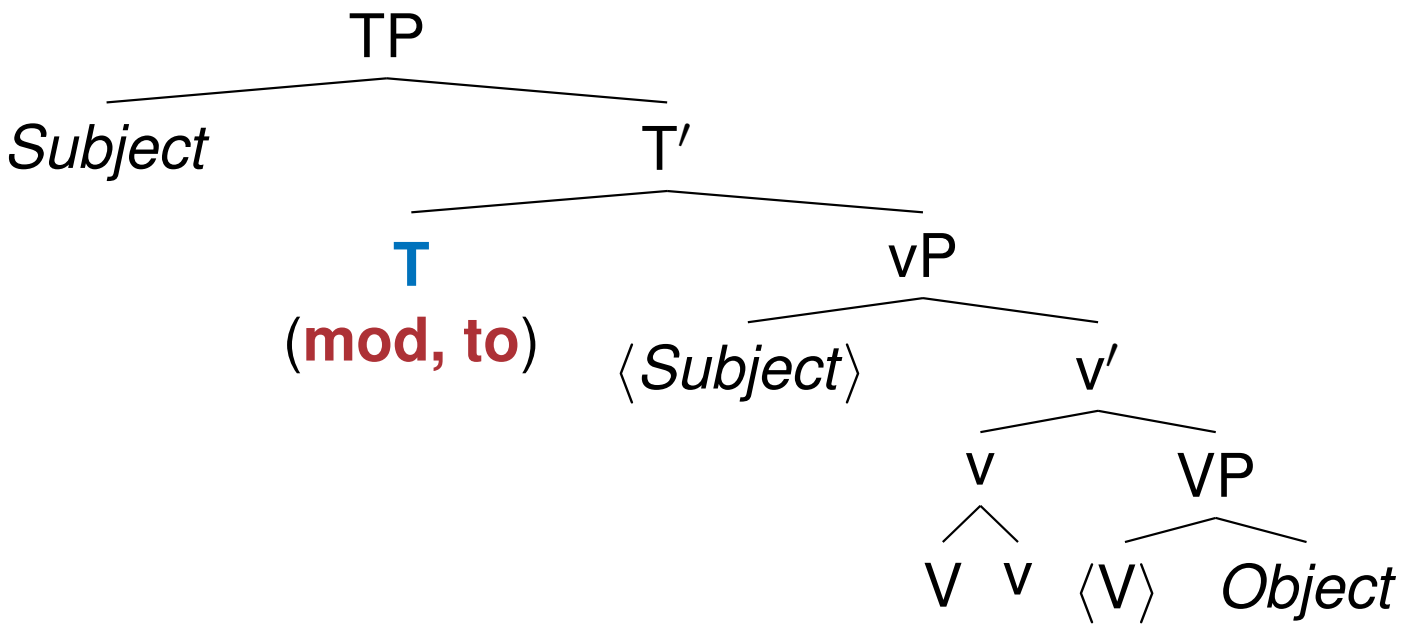
- It therefore makes sense to assume that the projection hosting the modal is T (for tense).
- This also correctly predicts that if the sentence contains a modal, the main verb is not inflected for tense.

(4) *Abdul **might** loved Michael.

Modals

- This suggests the following structure, with T as an additional functional category (with no θ-relations to arguments

(5)



(6) **Hierarchy of Projections**
T ⟩ *v* ⟩ V

Cross-linguistic evidence

- T appears outside the VP, so that languages that do not mark tense on the verb but consistently with a separate element are expected.
- This seems to be the case in some Mabia languages, but also in certain creole languages, Mauritian Creole in (7) and Sranan (Suriname) in (8).

(7) Adam **fe** tun (fenna).
Adam HEST.PST work.PFV yesterday
'Adam worked yesterday.' (Likpakpaanl)

(8) a. mo mahze
I eat
'I eat'

b. mo **ti** mahze
I PAST eat
'I ate'

(9) a. mi waka
I walk
'I walk (habitually)'

b. mi **ben** e waka
I PAST PROG walk
'I was walking'

Tense (agreement)

Tense agreement

- Modals, *to*, and independent tense morphemes are T heads.
- But how can T be realized on elements that are not T heads, i.e. verbs and other auxiliaries (e.g. *have, be*)?
- This can be done via **tense agreement**: Both T and the verb carry a tense feature and the tense features need to agree with each other.

(10)
a. T[past] . . . V+*v*[past]
b. T[present] . . . V+*v*[present]
c. *T[past] . . . V+*v*[present]
d. *T[present] . . . V+*v*[past]

Tense agreement

- This is comparable to the Checking requirement assumed for c-selectional features.
- C-selectional features can be checked under sisterhood and have to be deleted during the derivation because they are uninterpretable.
- It is very similar for tense features – the difference is that they do not need to be checked under sisterhood, c-command is enough.
- The operation that checks features under c-command is called **Agree**.

Tense agreement

- Tense features can be assumed to have the values [past] and [present].
- It is assumed that these values play a crucial role for Agree: Features receive a value under agreement from another feature and once they are valued, they can be deleted.
- For T, we assume that T carries a **valued** tense feature with either [past] or [present].
- The tense feature of the verb is initially **unvalued** and receives a value from T by Agree.
- This valuation then leads to checking and deleting the feature.

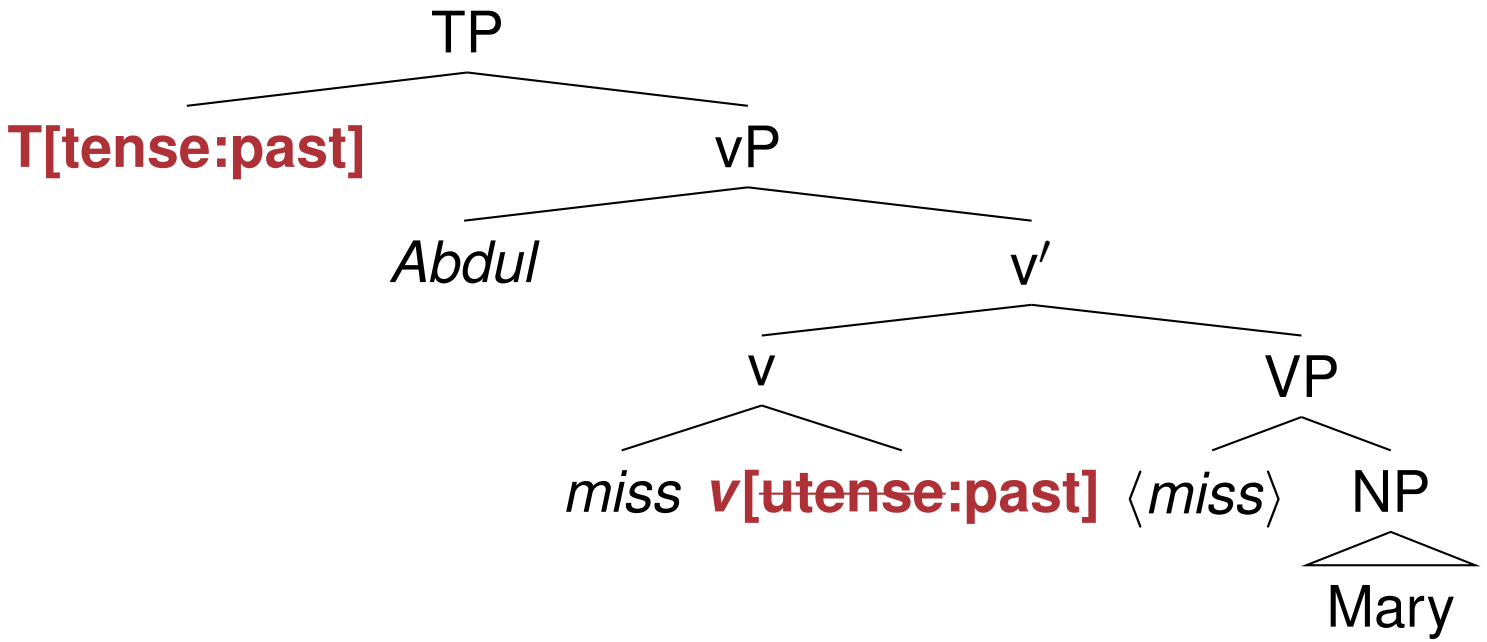
Tense agreement

(11) T[tense:past] . . . *v*[utense:] → T[tense:past] . . . *v*[~~utense:~~ past]

(12) **Agree**
In a configuration X[F:val] . . . Y[uF:] where . . . represents c-command, then F checks and values uF, resulting in: X[F:val] . . . Y[~~uF:~~ val]

Tense agreement

(13)



- In a first step, the vP is constructed and V raises to v (concretely: V is adjoined to v).
- In the second step, T is merged and since the necessary c-command configuration for Agree is given, T agrees with [utense] of v and values it, so that the feature can be deleted.
- Given the appropriate morphological rule, the valued feature then causes the spell out of the past tense form of the verb (i.e. *miss* + past → *missed*).

Aspect (agreement)

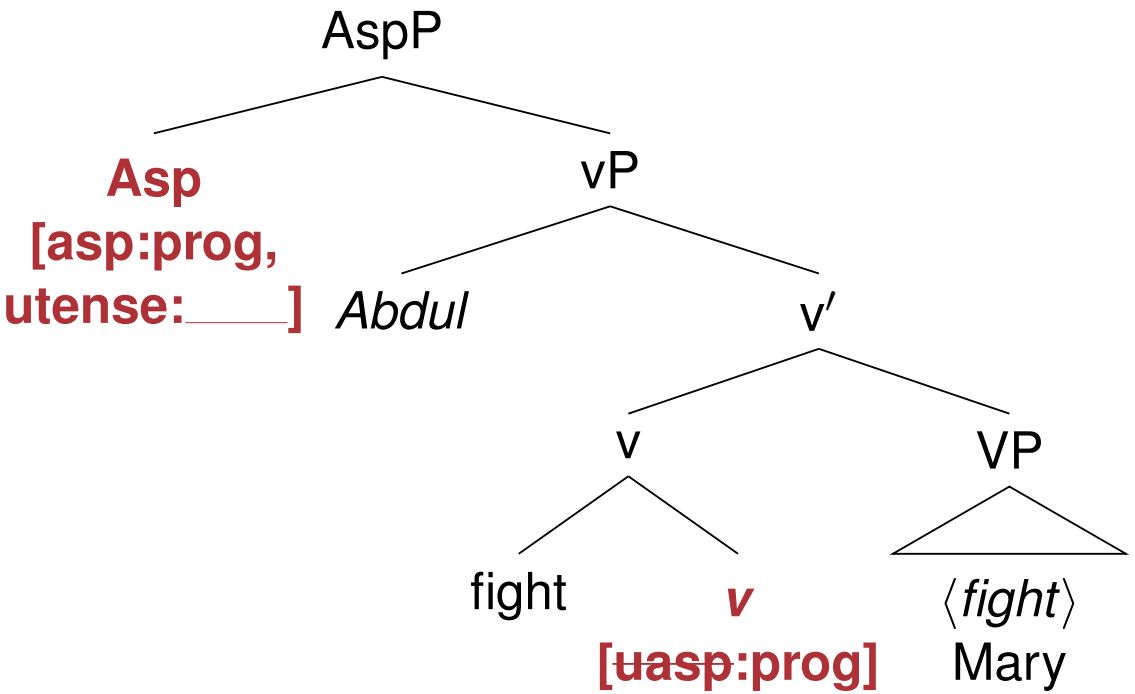
Progressive auxiliary

- Aside from tense, many languages mark aspect. In English, progessive forms are marked by an auxiliary + a gerund.
- A standard assumption in minimalism for the structure of aspect is to assume another projection above the vP: Asp.
- Asp is a head that could e.g. host the progressive auxiliary in English.
- In order to get the right morphology, we can use again Agree, but this time in an asp(ect) feature.
- Like with tense, morphology spells out the progressive feature as a gerund:
  Asp:prog $\rightarrow$ BE, *Asp:perf* $\rightarrow \emptyset$,
  fight + prog $\rightarrow$ *fighting*, *fight* + $\neg$[1] prog $\rightarrow$ *fight*

[1] This is the logical sign for negation, meaning “not progressive”.

Progressive auxiliary

(14)



(15) **Hierarchy of Projections**

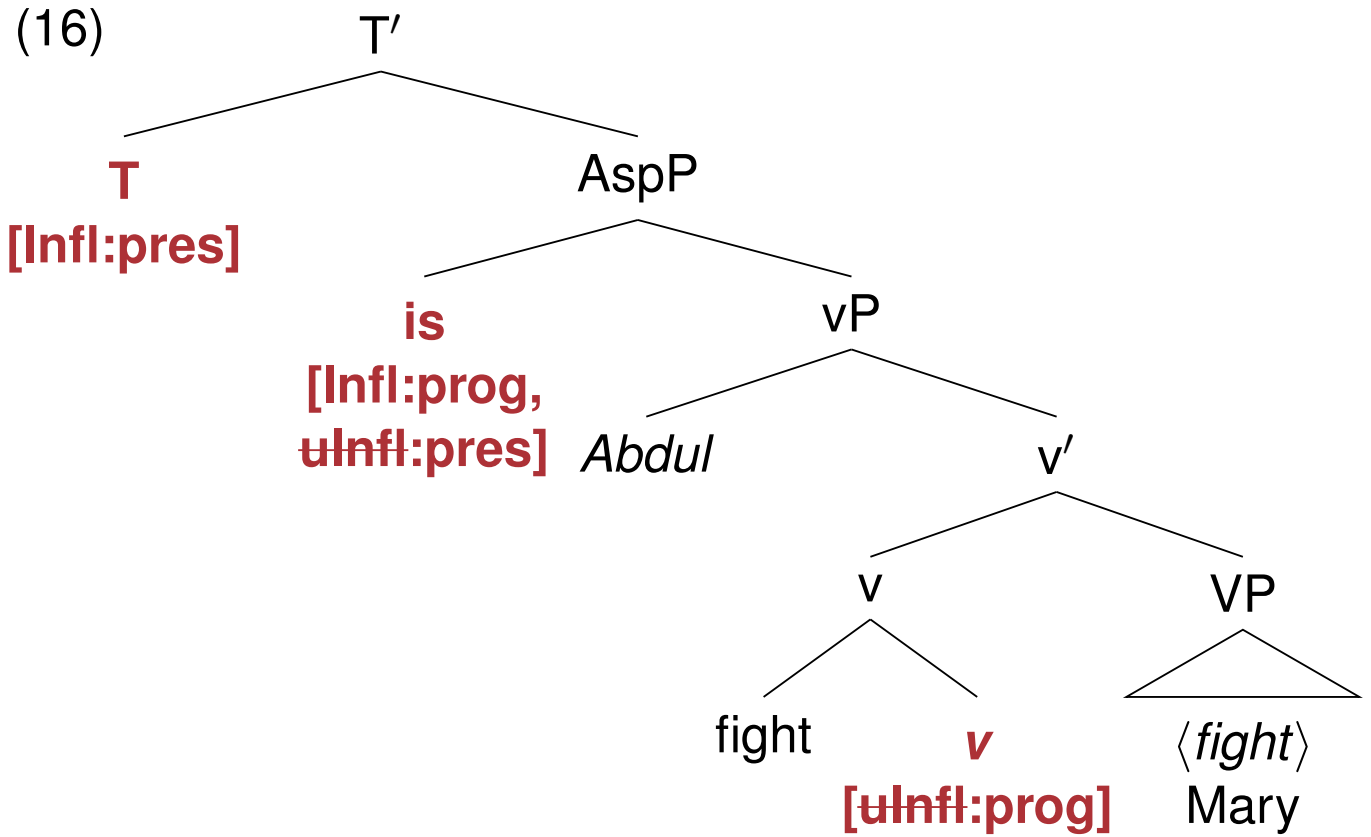
T ⟩ Asp ⟩ *v* ⟩ V

Aspect and Tense combined

- In English progressive forms, the tense is not pronounced on the verb, but on the progressive auxiliary. In perfective (and habitual) forms, tense is pronounced on the verb.
- This raises the question if the v has an aspect or a tense feature.
- Adger solves this problem in English by assuming a more general feature that subsumes tense and aspect: Infl.
- The value of Infl can be [past], [present], [prog], [perf], ...
- Now we can have multiple Infl-Agree operations.

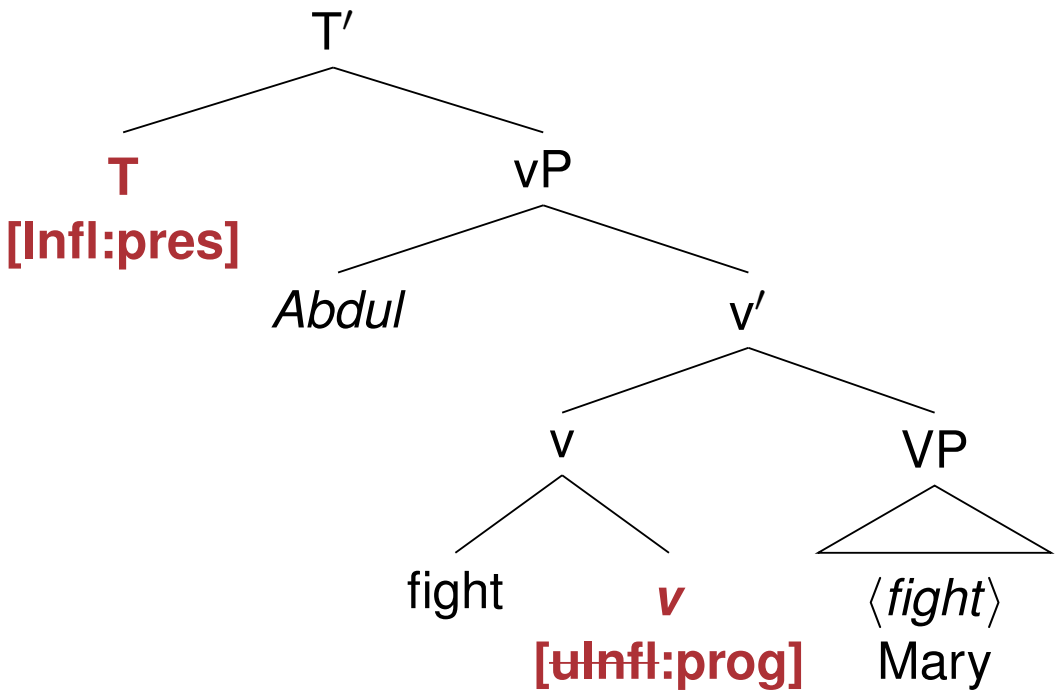
Infl-Agree

(16)



Infl and tense

(17)



(18) **Hierarchy of Projections**
T ⟩ (Asp) ⟩ *v* ⟩ V

Aspect and Tense in West African languages

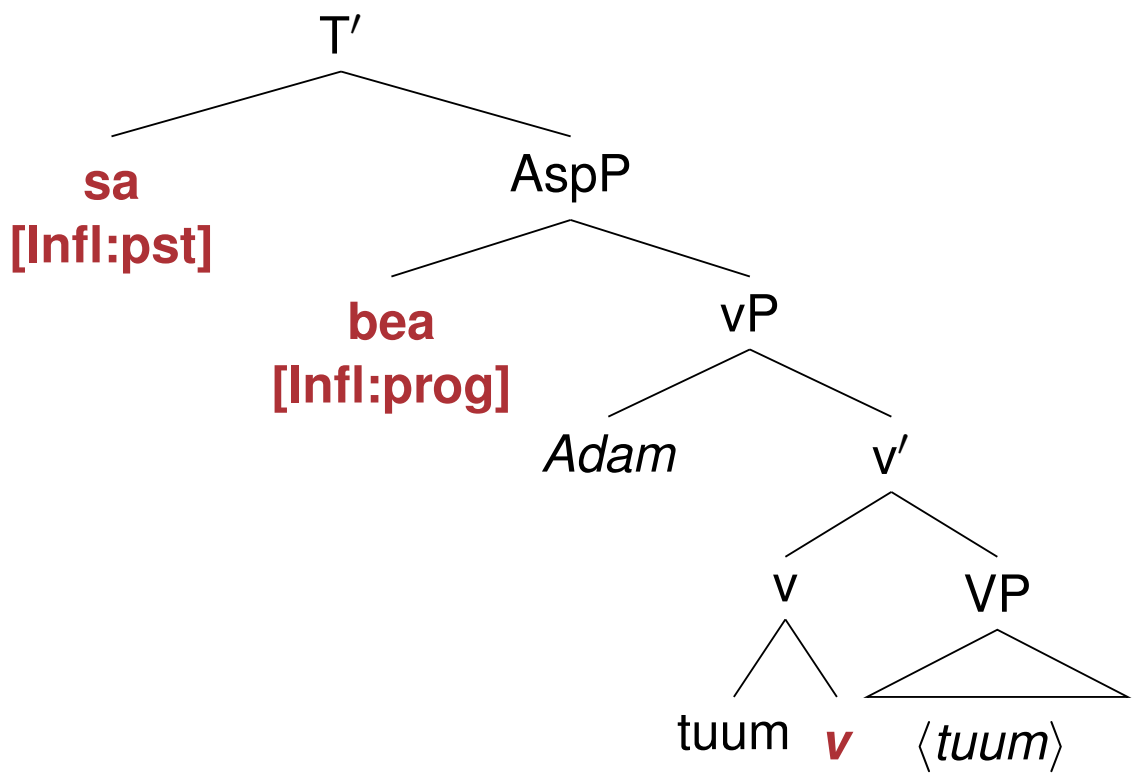
- The morphology of tense and aspect differs between languages.
- In some Mabia languages, like Kusaal (19), tense and aspect can be independent preverbal markers.
- Then, we don't need agreement between the heads.

(19) a. Adam **sa** **bea** tuum soa.
Adam PST PROG work yesterday
'Adam was working yesterday.'

b. Adam **sa** **tuum** soa.
Adam PST work yesterday
'Adam worked yesterday.' (Kusaal)

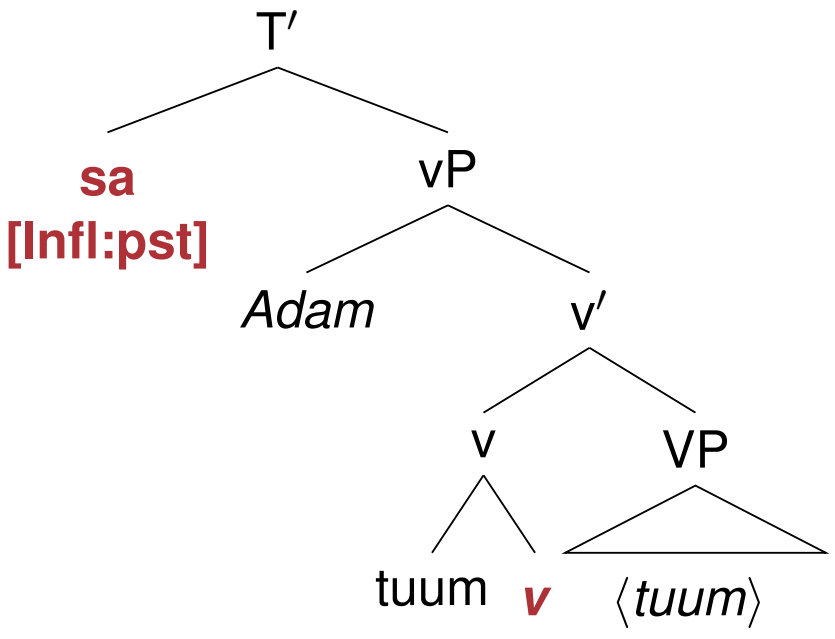
No Infl-Agree

(20)



No Infl-Agree

(21)



No separate TAM markers

- Some Mabia languages don't have a separate aspect marker, but mark aspect on the verb, e.g. in Dagbani.

(22) a. Adam tum-∅-ya.
Adam work-PFV-YA
'Adam worked'.

b. Adam tum-**d**-a.
Adam work-IPFV-A
'Adam is working.'

Structure?

Negation

Negation

- Another element that occurs between T and v is **negation**.
- Two types of negation need to be distinguished.
- Sentential negation denies the truth of a non-negated statement (23).
- Constituent negation states that the sentence is true of something which is not the negated constituent (24).

(23) a. I have**n't** left yet.
b. **It is not true** that I have left yet.

(24) a. I was sitting **not** under the tree (but under the bush).
b. I was eating **not** a peach (but an apple).

Negation

- For our discussion, only sentential negation is important, so when only a constituent negation reading is possible, the sentences are marked ungrammatical.
- In a sentence with a modal and a full selection of auxiliaries, negation always follows the modal.

(25)
a. Abdul might **not** have been reading the textbook.
b. *Abdul might have **not** been reading the textbook.
c. *Abdul might have been **not** reading the textbook.

Negation

- If only perfect and progressive auxiliary are present, negation follows the perfect Aux.

(26) a. Abdul has **not** been reading the textbook.
b. *Abdul has been **not** reading the textbook.

- If only the progressive aux is present, negation follows it.

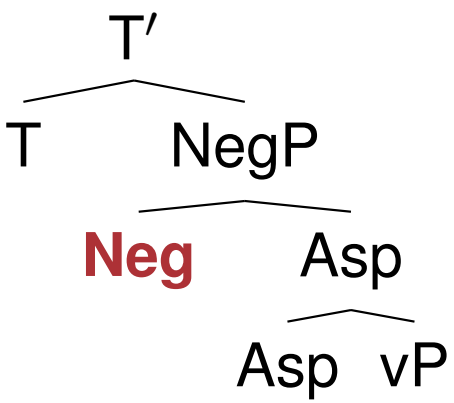
(27) Abdul is **not** reading the textbook.

- What is the generalization about negation in English?

Negation

- In a sentence with a full complement of auxiliaries, negation follows the modal.
- The modal is in T, thus negation needs to be merged before T.
- Negation precedes the progressive auxiliary in Asp, so it must be merged after Asp.
- Assuming negation is a head leads to the following structure:

(28)



Negation

- Incorporated into the hierarchy of projections:

(29) **Hierarchy of Projections**:
T ⟩ (Neg) ⟩ (Asp) ⟩ v ⟩ V

Aux/V-to-T

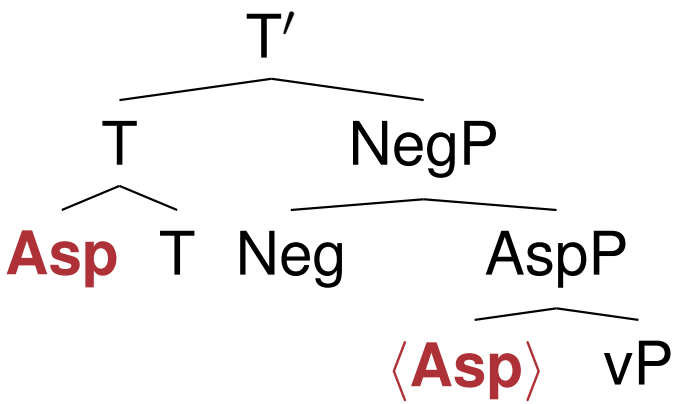
Aux-to-T

- If we assume the Hierarchy of Projections is fixed, then the only way to generate a sentence without modal but with an auxiliary preceding the negation is to assume **movement**.
- This holds for the perfect auxiliary, as well as the progressive auxiliary if it is the only one present.
- Thus, the highest auxiliary in English moves to T.

Aux-to-T

(30) Abdul **is** not ⟨**is**⟩ reading the textbook

(31)

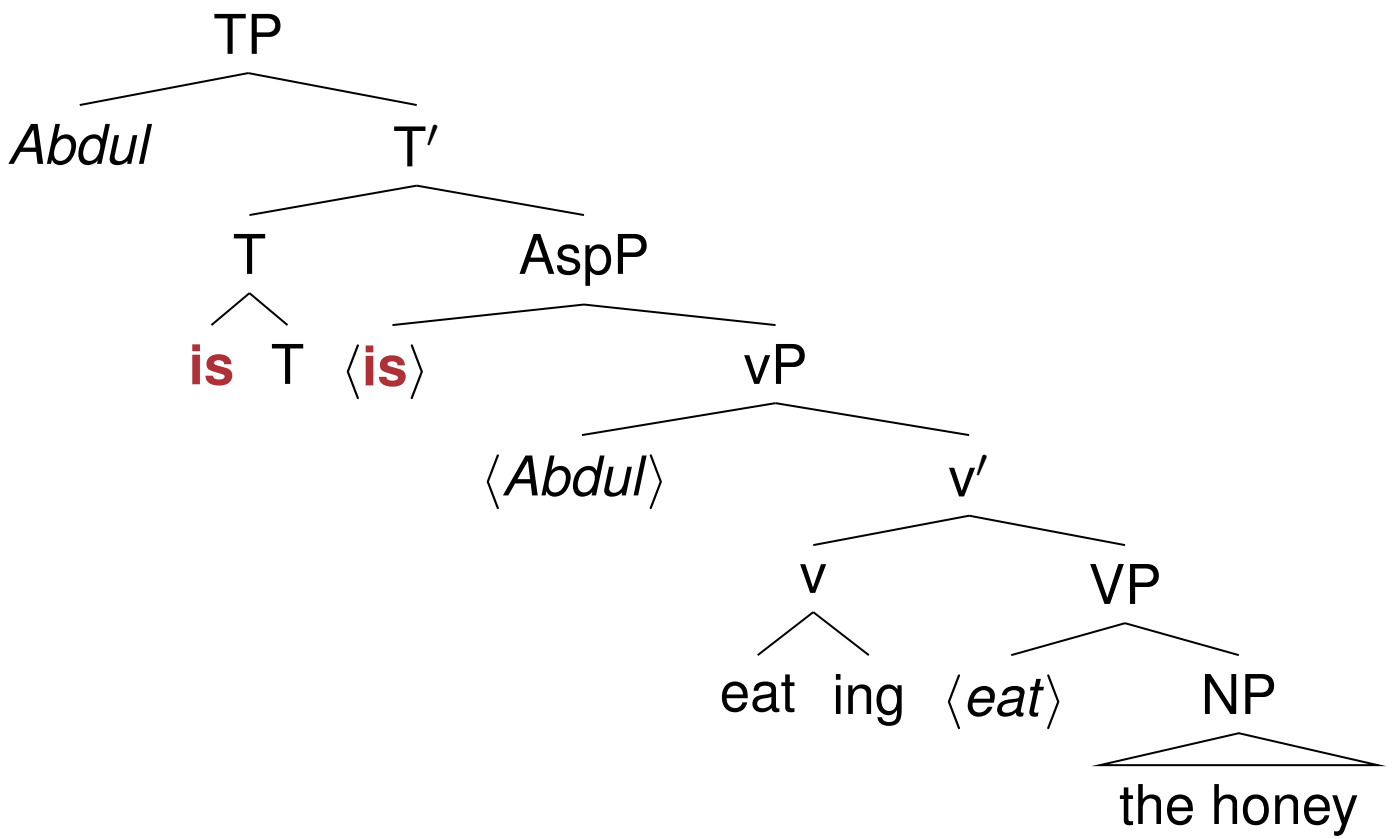


Aux-to-T

- To keep our structures uniform and because it would be really difficult to argue that movement of the auxiliary depends on the presence of negation, we assume that the auxiliary moves in every case.

(32) Abdul is eating the honey

(33)



Aux-to-T

- Thus, T can check its inflectional features either with the auxiliary, which causes movement, or with v, which does not lead to movement.

(34) a. *Abdul took **not** the broom.
b. Abdul did**n't** take the broom.

- We can account for T checking its inflectional feature with either *v* or Aux if Agree looks for the **closest 'goal'** under c-command.
- However, so far we cannot account for why Aux moves to T and the verb does not.

Aux-to-T

- We need to include a mechanism in our system that can derive this, i.e. a mechanism that addresses the properties that motivate movement.
- This is done via **Feature Strength**: In addition to their interpretability, features differ in their strength, with a strong feature always triggering movement, and a weak feature not triggering movement.
- The strong feature can either be the higher or the lower one in a checking relation.

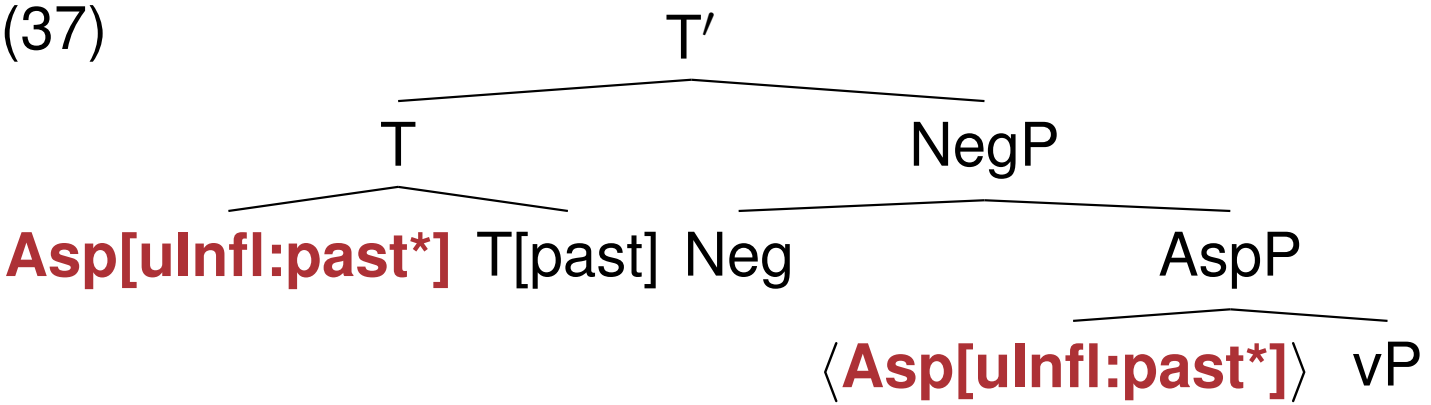
(35) a. X[uF*] ... Y[F] → X[~~uF*~~] Y[F] ... ⟨Y[F]⟩
b. X[F] ... Y[uF*] → X[F] Y[~~uF*~~] ... ⟨Y[uF*]⟩

- We assume that [uInfl:] on auxiliaries is strong and weak on V.

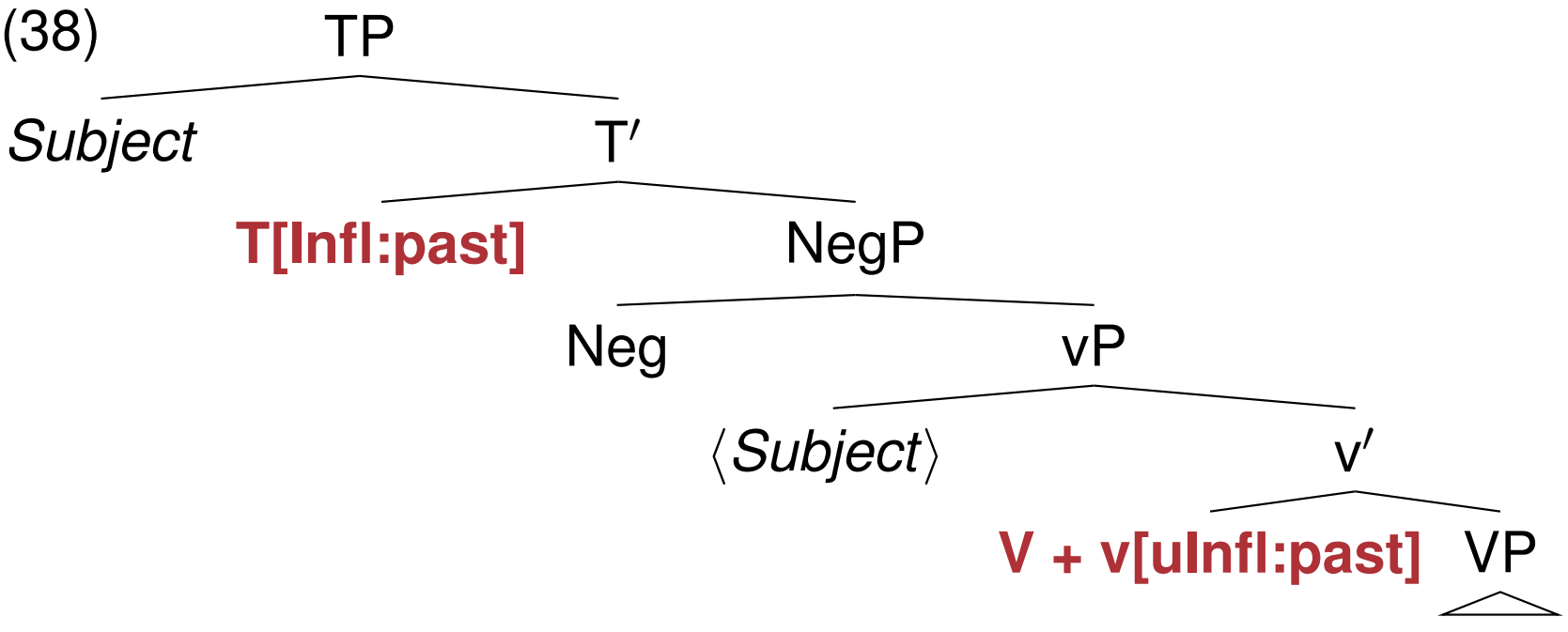
(36) a. v[uInfl:____]
b. Asp[uInfl*:____]

Aux-to-T

(37)


T′
T
NegP
Asp[uInfl:past*]
T[past]
Neg
AspP
⟨Asp[uInfl:past*]⟩
vP

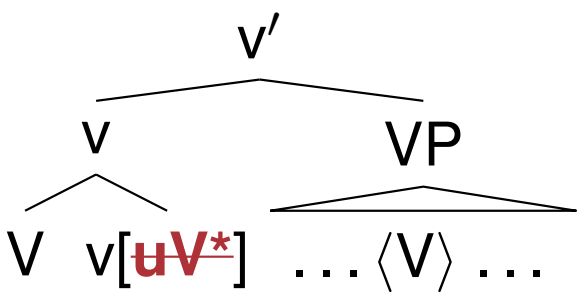
(38)


TP
Subject
T′
T[Infl:past]
NegP
Neg
vP
⟨Subject⟩
v′
V + v[uInfl:past]
VP
...

V-to-*v*

- Movement of V to *v* can be captured by a similar mechanism.
- *v* carries a strong [uV*] feature that is not satisfied by merging *v* with VP, which is due to the Hierarchy of Projections, but only by moving V to *v*.

(39)



Do-support

- Main verbs in English never move to T ([uInfl:] of v is weak).
- However, this wrongly predicts (40), with the grammatical counterpart in (41).
- But also note that we can separate T and V by adverbs, so negation seems to be special.

(40) a. *Abdul not read the book
b. *Dabuo not cooked the rice

(41) a. Abdul **did** not read the book
b. Dabuo **did** not cook the rice

(42) a. Abdul has never read a book.
b. Abdul never read a book.

Do-support

- ***Do*-support** is a very puzzling property of English.
- Basically, *do*-insertion happens when agreement between tense and main verb fails.
- Several concrete analysis have been proposed, all with certain problems.
- It does not happen with auxiliaries, (43): It only occurs if no element has moved to T (and verbs don't move).
- Tense on the verb cannot be spelled out anymore, (44).
- As a last resort, *do* gets inserted to spell-out the tense feature.

(43) a. *Abdul **did**n't have eaten the honey.
b. *Abdul **do**n't have eaten the honey.

(44) a. *Abdul **did**n't ate the honey.
b. *Abdul **do**n't ate the honey.

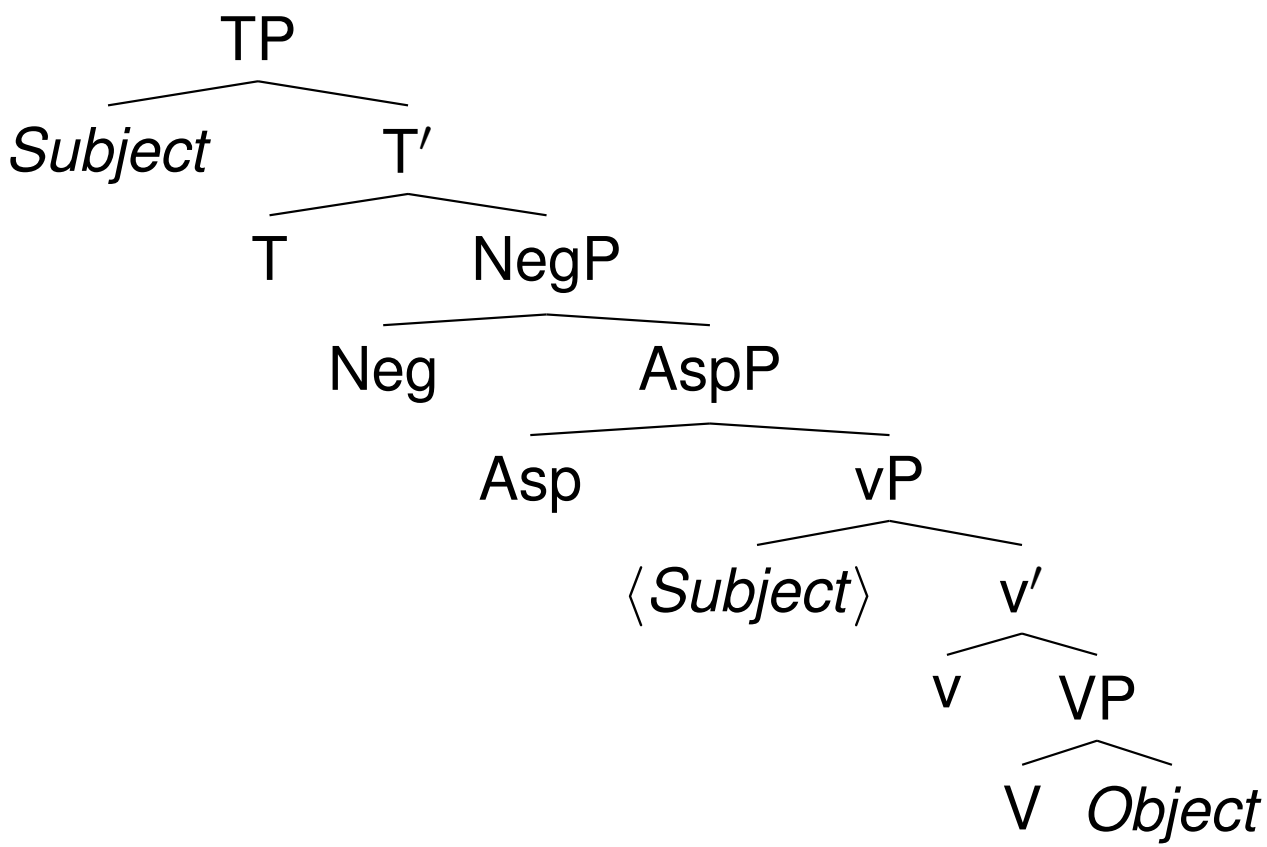
Summary

Summary

- The existence of modals, infinite to, and independent tense particles, suggested that we need another projection on top of vP.
- For this projection, the TP. For Aspect we have the projection AspP.
- Furthermore, we discussed tense and aspect marking and how the tense/aspect information gets from T onto the verb.
- For this, we introduced the operation **Agree**.

Summary

(45)



Summary

- In English, only auxiliaries move to T.
- In other languages, like French, the main verb can move to T (if no auxiliary is present).
- We modeled this via **Feature Strength**, with strong features marked * triggering movement.
- For movement, it does not matter which feature in an agreement relation is marked *, it can be the higher or the lower one.
- Feature strength can be seen as parameter along which languages can vary.

Summary

- English has the curious property of do-support:
  - if no auxiliary is present
  - and if negation intervenes between T and v
  - then an inflected form of do is inserted in T

Typology of Infl

7 Typology of Infl

Strong and weak Infl

- In our theory with strong or weak [Infl] on both v and Asp, we have four logical possibilities. Which are they?

(46) a.
b.
c.
d.

Descriptive adequacy

- We defined a good linguistic theory, if it reaches **Descriptive Adequacy** and if it obeys (**Ockham's Razor**). What do the two concepts mean again?
- Let's look at whether or not our theory of weak and strong [Infl] is descriptively adequate.
- One combination is already filled by English. In which cell of the

(47)

	v[Infl*]	v[Infl]
Asp[Infl*]		
Asp[Infl]		

French

- Look at the French data in (48). What can you observe with respect to the position of negation? Ignore the *ne*.

(48)
a. Jean **n'a** **pas** aimé Marie
John has not loved Marie
'John didn't love Mary'

b. Jean **n'aime** **pas** Marie
John loves not Marie
'John doesn't love Mary.'

French: V-to-T, Aux-to-T

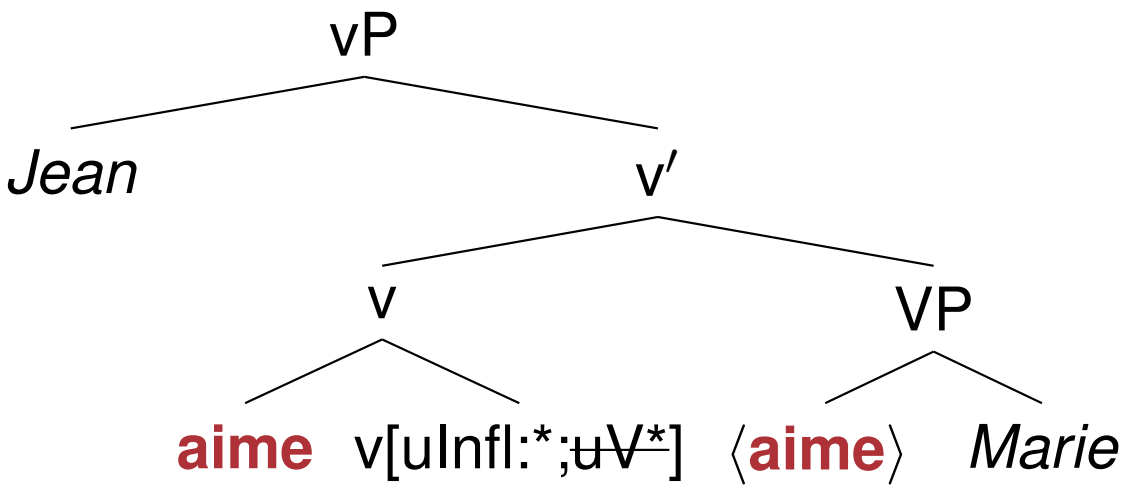
- We can account for that by assuming that [uInfl:] is strong on both auxiliaries and main verbs in French.
- In which cell does French belong?
- Consequently, main verbs in French move twice: first they move to v due to its [uV*].

(49)

	v[Infl*]	v[Infl]
Asp[Infl*]		English
Asp[Infl]		

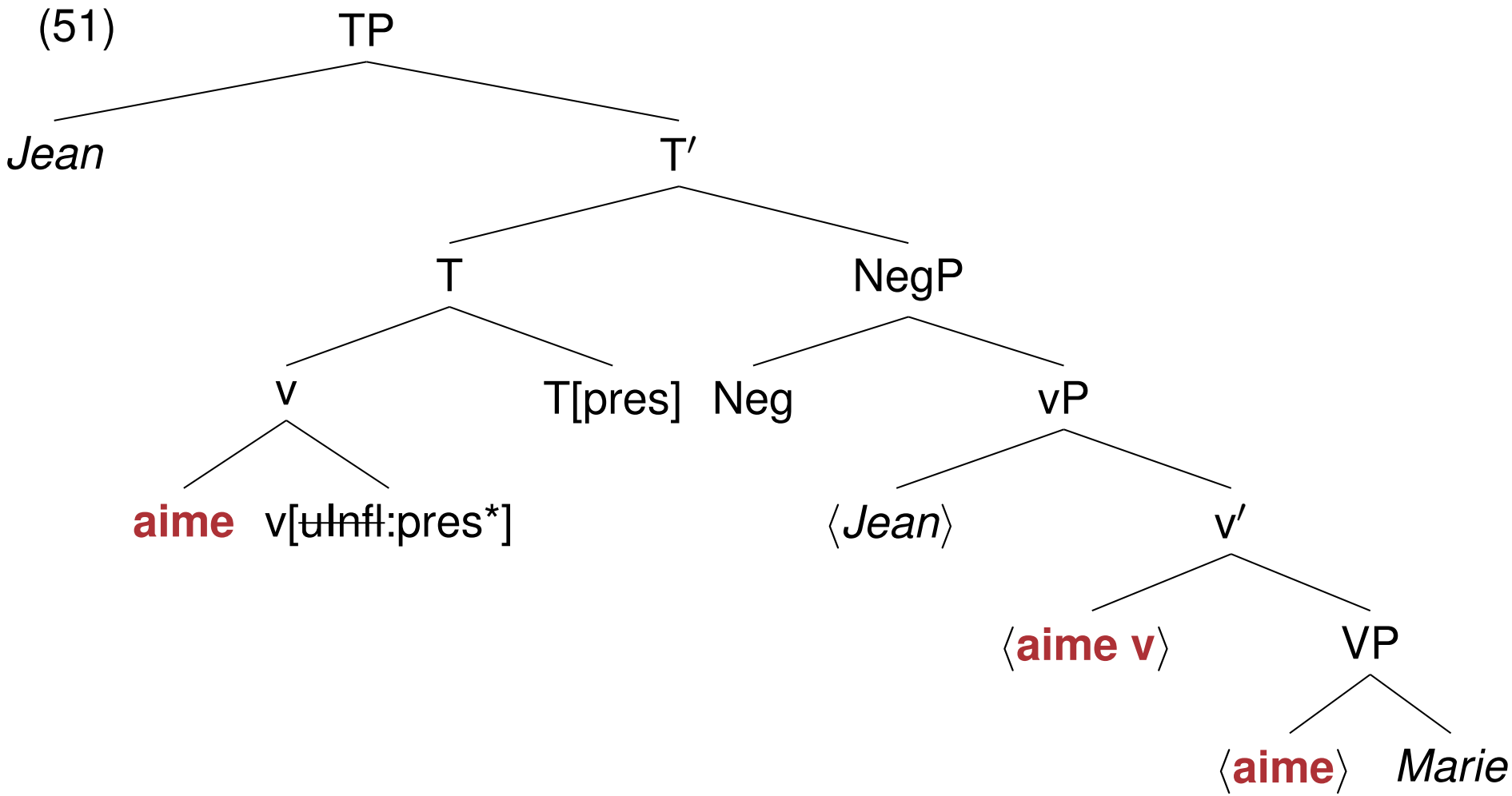
French: V-to-T, Aux-to-T

(50)



French: V-to-T, Aux-to-T

(51)



Swedish

- What can we observe in Swedish with respect to the position of the negation?

(52)
a. . . . om hon **inte** **har** köpt bok-en
whether she not has bought book-the
'. . . whether she hasn't bought the book'

b. . . . om hon **inte** **köpt** bok-en
whether she not bought book-the
'. . . whether she didn't buy the book'

Swedish: V-in-situ, Aux-in-situ

- We can easily account for this in the present system.
- In which cell does Swedish belong?

(53)

	v[Infl*]	v[Infl]
Asp[Infl*]	French	English
Asp[Infl]		

- Note that Adger also predicts a language in which V moves to T but Aux doesn't; however, it seems like there is no language like that.

What about your languages?

We need a language, where the imperfective is marked separately from the verb.

Introduction to Minimalist Syntax IV
The structure of nominal phrases (Ch.7)

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Intro

In this part ...

- we look into the structure of nominal phrases.
- We will find evidence that not the noun is the head of a nominal phrase, but the determiner.
- Hence, we have NPs and not DPs

The category D

Internal structure of NPs

- That we need more internal structure for noun phrases is obvious.
- Looking at the distribution of elements occurring together with the noun we can determine which elements behave similarly.
- Several different elements can occur in the position of the definite article and they all have to precede the noun (1).
- In the plural, there are some different possibilities (2).

(1) a. **The** letter
b. **A/this/that/some/every/each** letter
c. *letter **the/a/this/that/some/every/each**

(2) **The/these/those/some** letters

Internal structure of NPs

- Words with the same distribution of **the** are called **determiners**.
- We assume they carry the category feature [D].
- In addition to (1) and (2), plural nominals in English, and singular nouns in many languages can appear without a determiner (3) and (4).

(3) **letters** (are on the table)

(4) Te da mɛ la **yiri**.
1PL PST build.PFV FOC house
'We built / are building **a house**.' (Dagaare)

- These data suggest the existence of a **null determiner**.
- English has a null indefinite plural determiner but not a singular one. Many languages around the world, like Dagaare, have null indefinite determiners also in the singular.

Types

- Traditionally, the different types of Ds are split into subcategories.
- **The** is the **definite article**: it signals uniqueness of a thing in a certain context (*the house* means “the unique house we are talking about right now”)
- **A** is the **indefinite article**.
- There are also **proximal demonstratives this** and **these** and **distal demonstratives that** and **those**.
- Finally, there are **quantifiers** like **all**, **each** and **every**. In many languages, there is only one word meaning “all” and “every”. Other quantifiers are **all**, **both**, **most**, and **many**.

Complex Ns

- Note two more facts about Ds: first, they not only combine with Ns but can also combine with very complex phrasal constituents (5).
- Second, other languages have Ds following their nouns, for example Likpakpaanl (6).

(5) a. **The** [expensive and illegal bottles of Absinthe] are to be smuggled from Hungary
b. **The** [ones] are to be smuggled from Hungary

(6) N daa [m-mɔpuun manman] **gbaan** la.
1SG buy NC-flower red DEF FOC
'I bought the red flower.' (Likpakpaanl)

Ds as heads

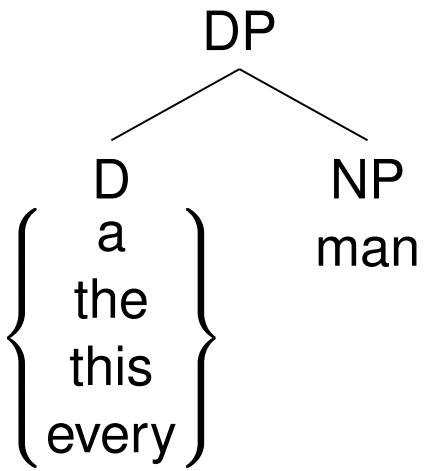
Observations

1. There seems to be a selectional restriction between D and N in terms of number.
2. Ds may occur on either side of their related N, so the order D N seems to be just a question of linearization.
3. Ds combine with complex constituents.
4. Their semantics is related to familiarity, quantification and proximity rather than θ-role assignment.
5. Ds, in English, occur in complementary distribution.

Complementary distribution I

(7)
a. the man
b. a man
c. this man
d. every letter
e. *the a man
f. *this the man
g. *the every letter

(8)



Complementary distribution II

- We capture the complementary distribution of functional categories via the Hierarchy of Projection.
- The Hierarchy states that functional projections are ordered with respect to one another and that each slot can only be occupied by one element (i.e. modals and *to* are in complementary distribution because both are T elements).

(9) **Hierarchy of Projections**:

a. **Clausal**:
T ⟩ (Neg) ⟩ (Asp) ⟩ *v* ⟩ V

b. **Nominal**:
D ⟩ N

Complementary distribution III

- Note that this requires that whenever there is an N, there is a D.
- All other elements (V, v, T, etc.) must then select for D, not for N.
- Draw a tree for (10).

(10) Paul burned the letters to Peter.

Null Ds

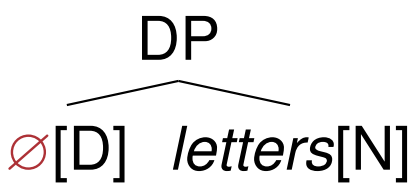
- We already saw that plural nouns in English don't need to be accompanied by a determined.
- Analysing them simply as Ns would be problematic, since selectional requirements are stated in terms of [D] features.
- This must be true for plurals as well since they can occur with determiners.

(11) a. I wrote letters.
b. We ate jellyfish.
c. I wrote **the** letters.

Null Ds

- From this it follows, that bare plural nouns are DPs as well, containing a covert D.
- We assume (12) for English bare plurals.

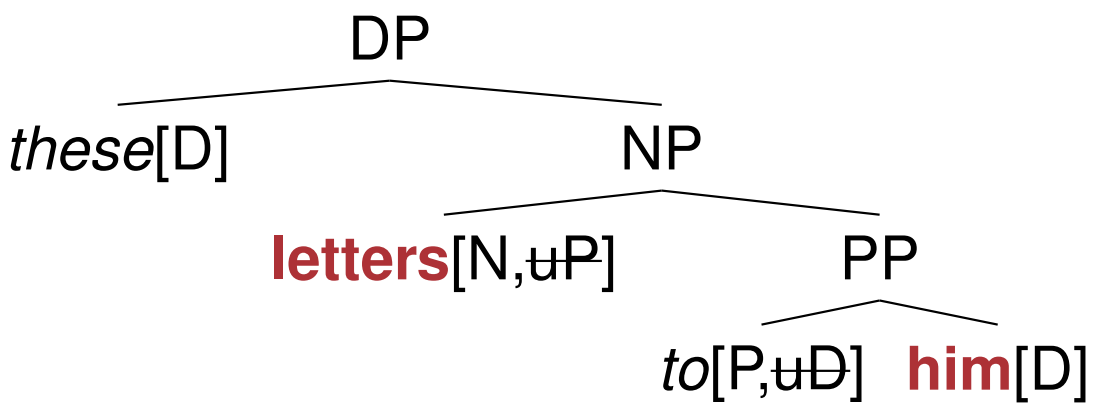
(12)



Pronouns

- We incorporate pronouns into out system by simply treating them as Ds.
- Pronouns in the tree can be selected and can receive a θ-role so they are phrasal.

(13)



Spell-out and features

Features of D

- In our system, null Ds are not really empty, they just don't have a phonology.
- From a different point of view, the spell-out of a particular feature bundle lacks any phonological value.

(14) a. *man arrived
b. Men arrived

- In both instances in (14), a D must be generated, otherwise verbs and v couldn't select for DPs.
- However, only plural D can receive a null spell-out.

Features of D

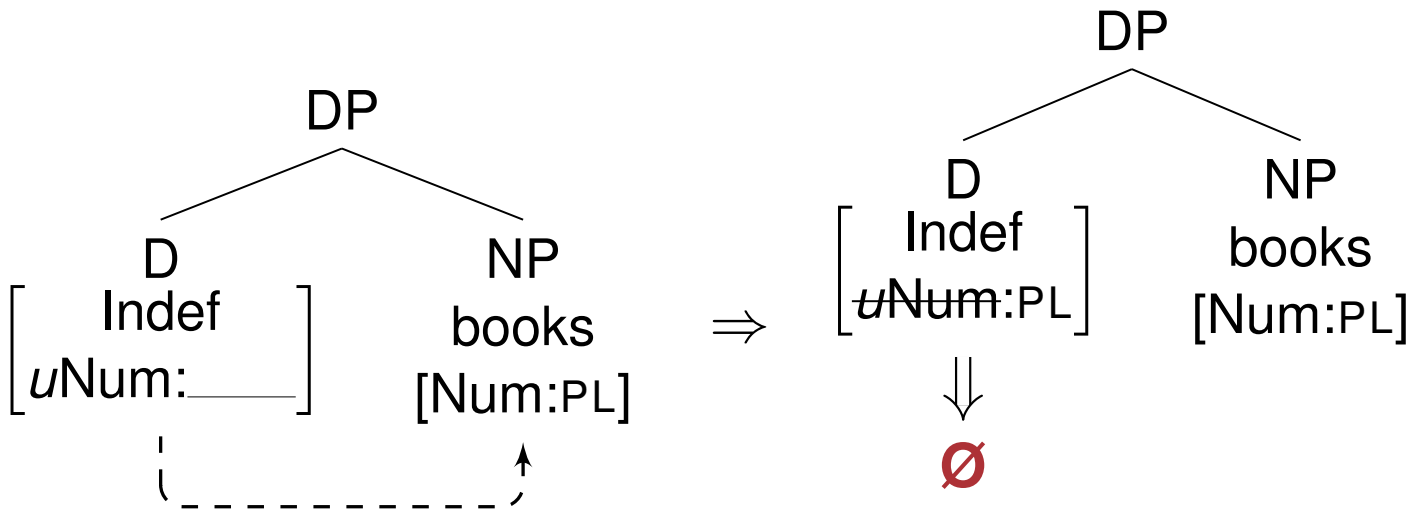
- This can be handled via agree: D carries the features in (15) and agrees with the N.
- A plural D is then spelled out as ∅ while a singular D is spelled out as **a**.

(15) D[indef,uNum:]

(16) a. D[indef,~~uNum:~~sing] man[sing]
b. D[indef,~~uNum:~~pl] men[pl]

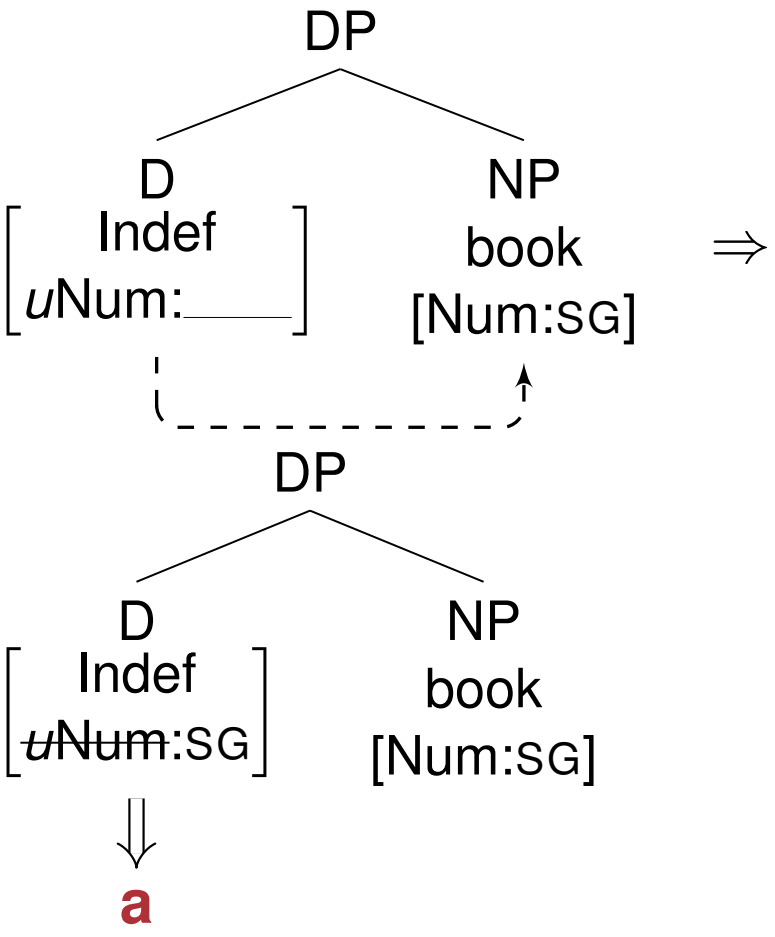
Features of D

(17)



Features of D

(18)



Introduction to Minimalist Syntax IV
Subjects and Objects (Ch.6)

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Summer 2022 – University of Education

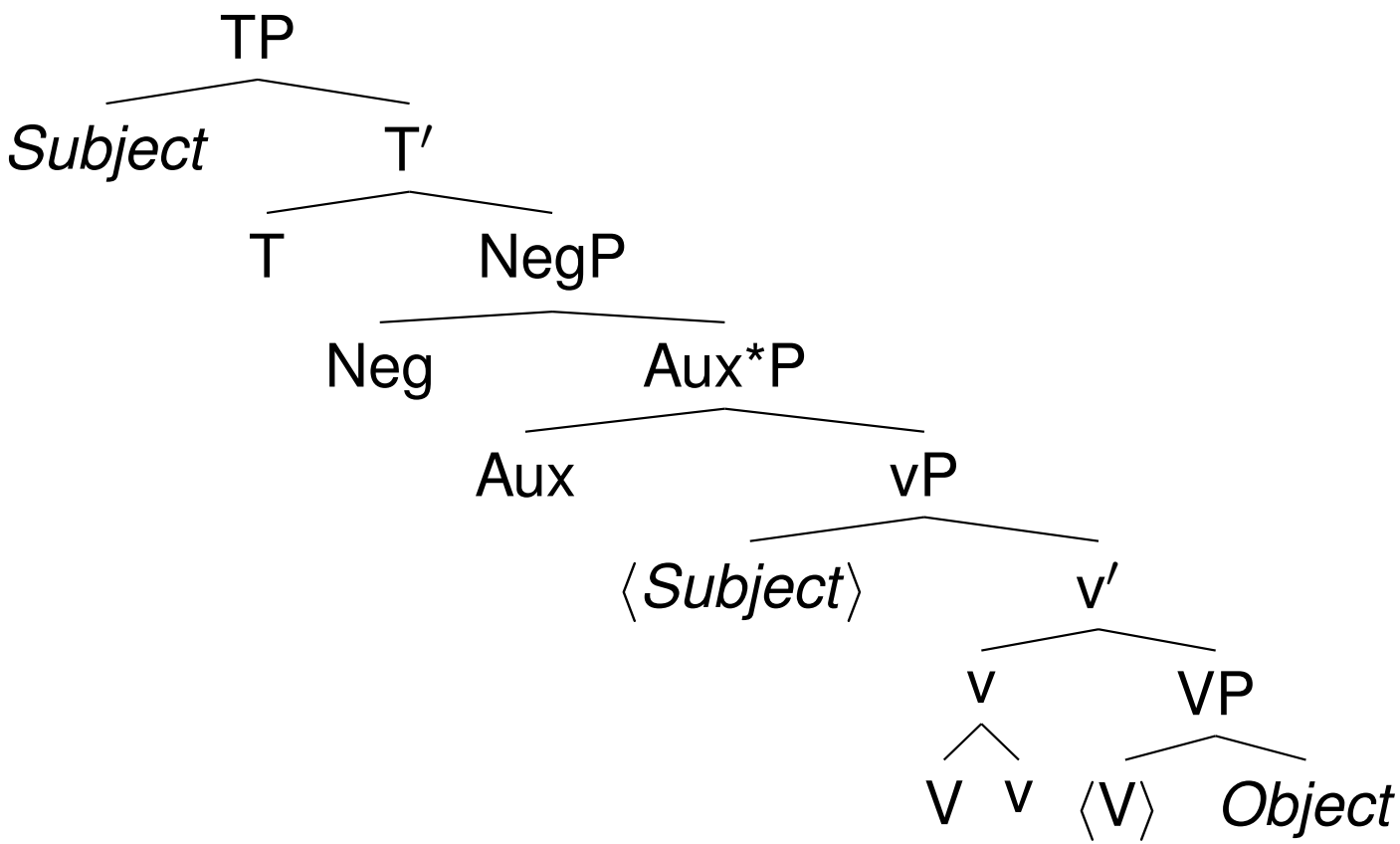
Intro

In this part ...

- So far, we didn't talk about the position of the subject.
- There is evidence for two subject position
  - its **base position** as specifier of the vP
  - its **surface position** as specifier of the TP
- In addition to provide evidence for two subject positions, it's also necessary to motivate the movement (just as for verbs).

Introduction

(1)



Floating quantifiers

Floating quantifiers

- **Floating quantifiers** provide evidence for two subject positions.
- However, not all quantifiers can be floated, compare (2) and (3).

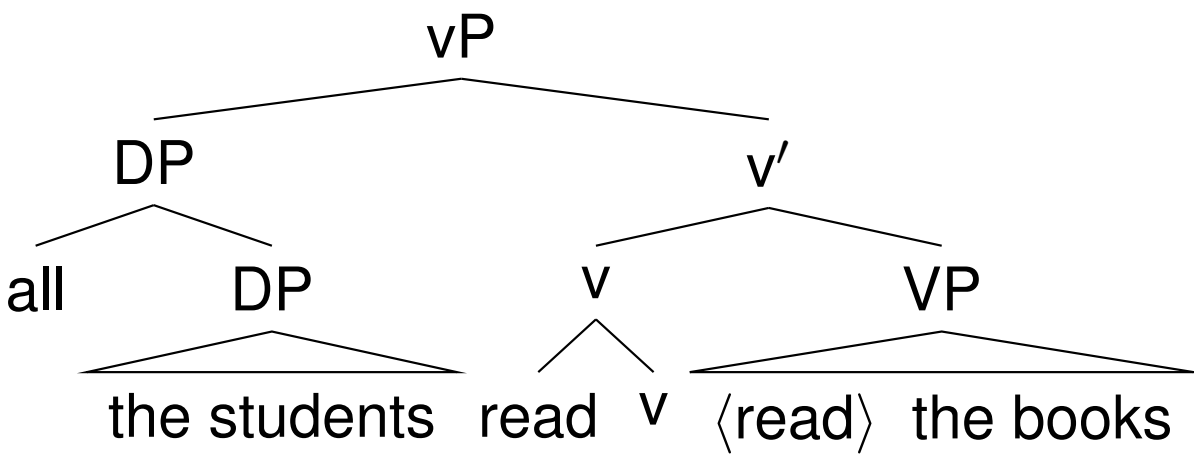
(2)
a. **All** the students had come
b. The students had **all** escaped
c. **Both** the twins might have been at the party
d. The twins might have **both** been at the party

(3)
a. **Most** students have been learning
b. *Students have **most** been learning
c. **Many** students have become vegetarian
d. *Students have **many** become vegetarian

Floating quantifiers

- The subject is first merged in spec-vP.

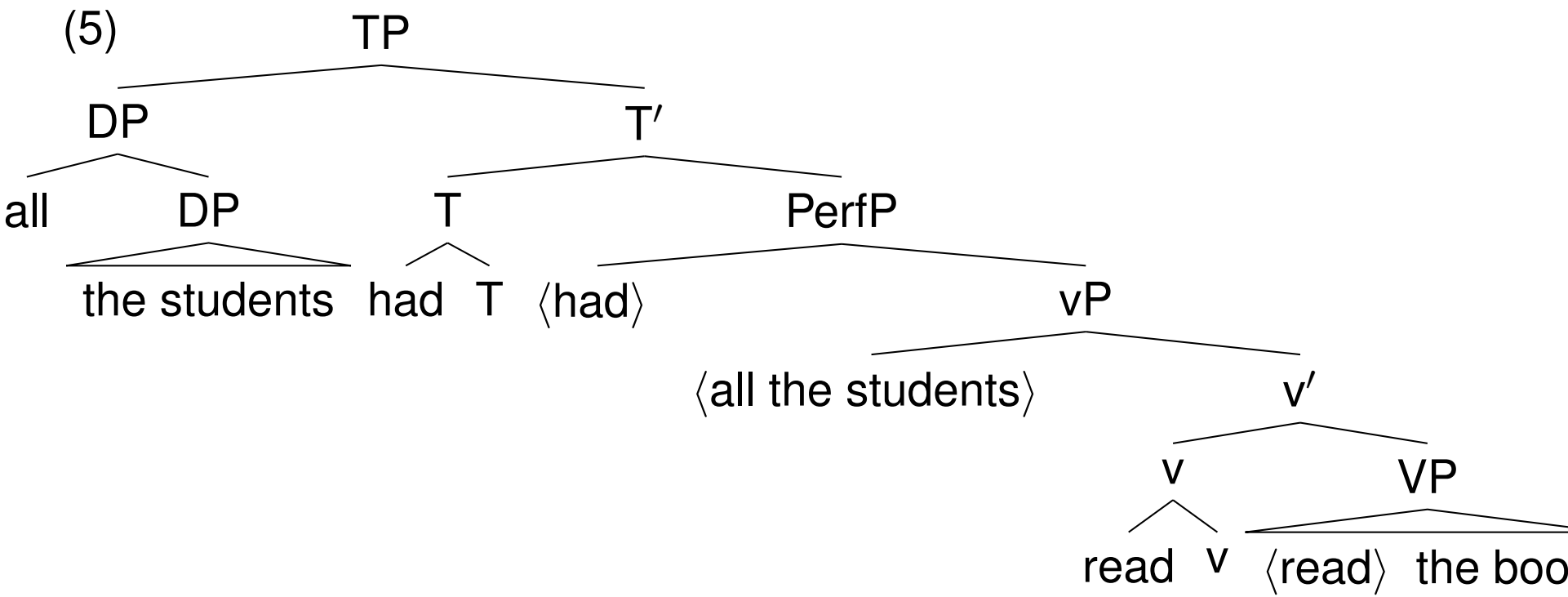
(4)



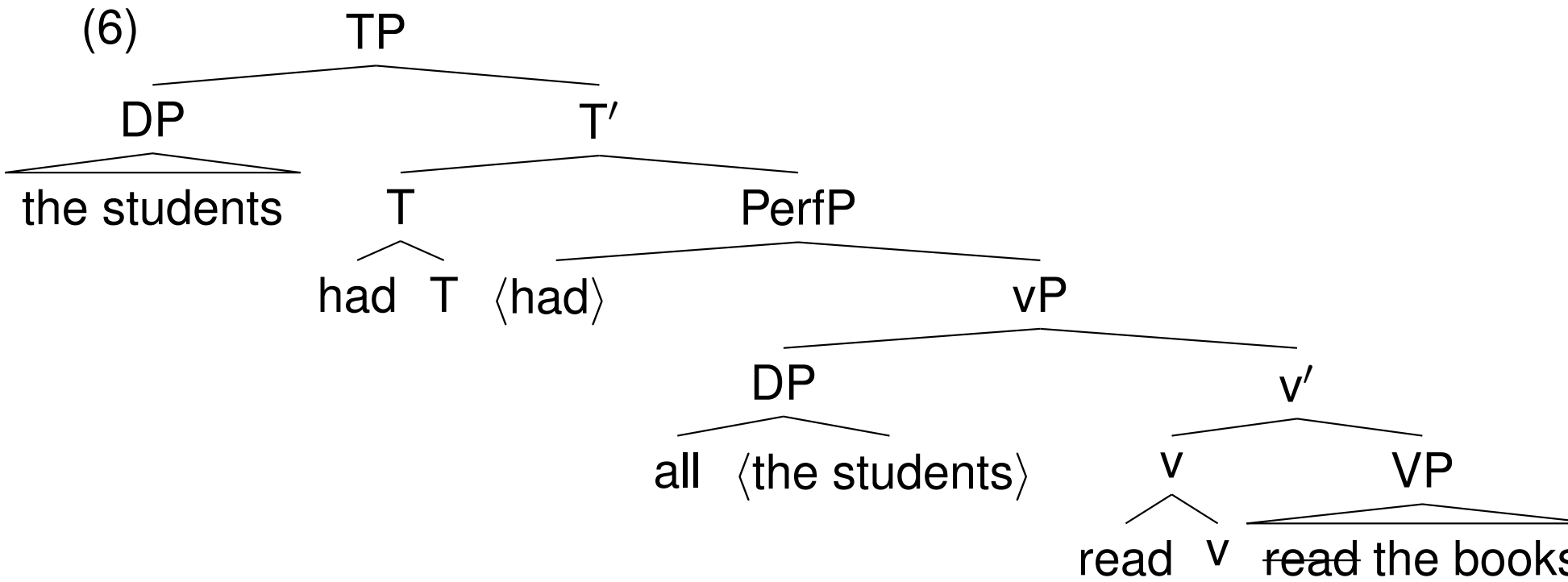
Floating quantifiers

- Under the assumption that a DP moves to the specifier of TP, there is a choice.
  - Either we move the whole DP in spec-vP, *all the students* ...
  - or we move a subpart of this DP, which is also a DP *the students*.

(5)



Floating quantifiers



What about our language?

EPP

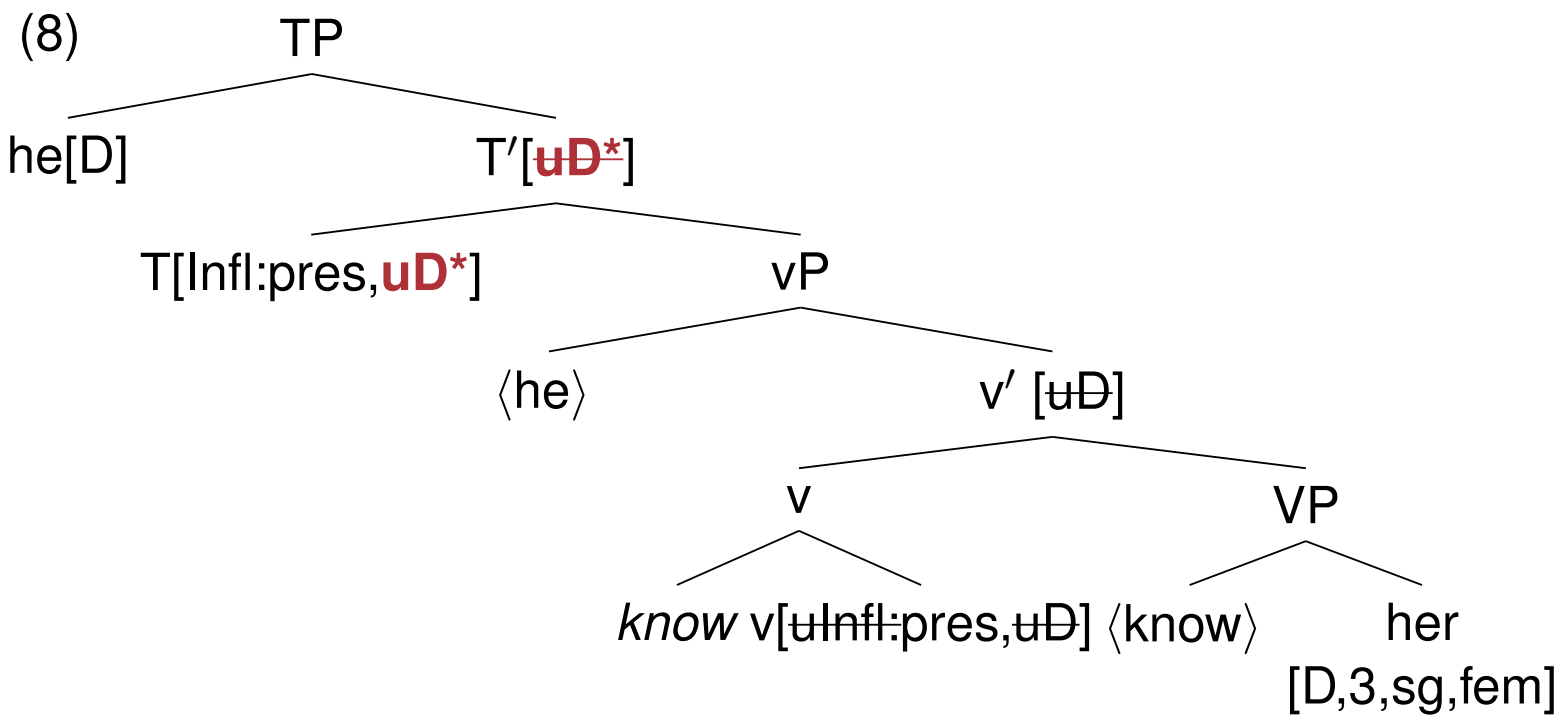
The EPP feature

- A standard assumption is that subject movement is triggered by a so-called **EPP-feature** (short for *Extended Projection Principle* by a terminological mistake).
- This is a purely formal feature that is not associated with anything else.
- Very often in theoretical linguistics is written down literally as [EPP], but Adger goes with his notation of strong and weak features.

Subjects and EPP-features

(7) He knows her

(8)



EPP

The question now arises, why the EPP feature of T cannot be fulfilled by the object, i.e. why (9) is excluded.

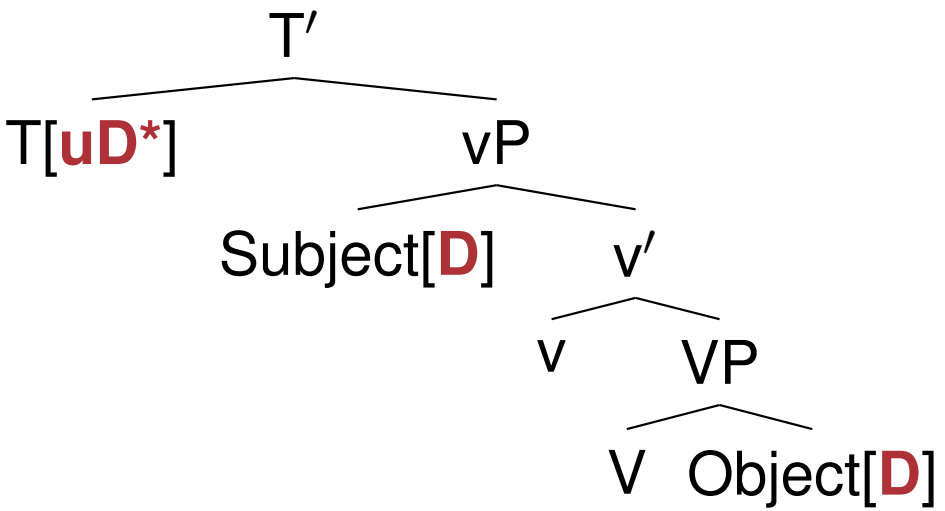
(9) *[$_{TP}$ Her has [$_{vP}$ he known ⟨her⟩]]

(10) **Locality of Matching**:
Agree holds between a feature F on X and a matching feature F on Y if and only if the is no intervening Z[F].

(11) **Intervention**:
In a structure [X . . . Z . . . Y], Z intervenes between X and Y iff X c-commands Z and Z c-commands Y.

EPP

(12)

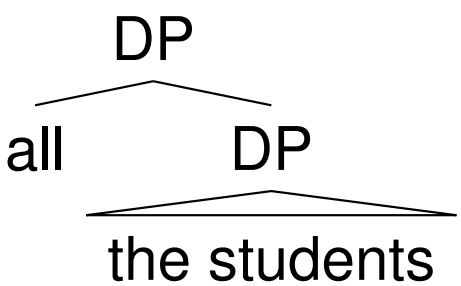


- In (12), [uD*] of T theoretically has two possible targets.
- The D of the subject, **intervenes** in the agreement relation between T and the object.
- Thus, the only practical agreement target for [uD*] of T is [D] of the subject.

EPP

- Note that this also makes the right prediction for floating quantifiers for which we assumed (13).

(13)



- There are two DPs in (13) but according to (11) there is no intervention since they do not c-command each other.
- Thus, either one of the DPs in (13) can satisfy the EPP.

Case

Case

- Many languages do not mark subjects and objects with morphological case, but also many do.

(14) a. Der Vater hilft dem Sohn.
the.NOM father helps the.DAT son
'The father helps the son.'

b. Der Sohn hilft dem Vater.
the.NOM son helps the.DAT father
'The son helps the father.'

- While German marks case on the definite article, English does not.
- But English marks case on pronouns. Give examples.
- Check if your language marks morphological case on nouns, demonstratives, or pronouns.

Case assignment

- A standard assumption is that DPs agree with functional projections in case.

(15) a. **T** bears an uninterpretable[1] feature **[uCase:nom]** which values a case feature [uCase:____] on a DP under Agree.

b. **v** bears an uninterpretable feature **[uCase:acc]** which values a case feature [uCase:____] on a DP under Agree.

[1] It's uninterpretable because case is purely functional. It doesn't contribute to the meaning.

Subjects and EPP-features

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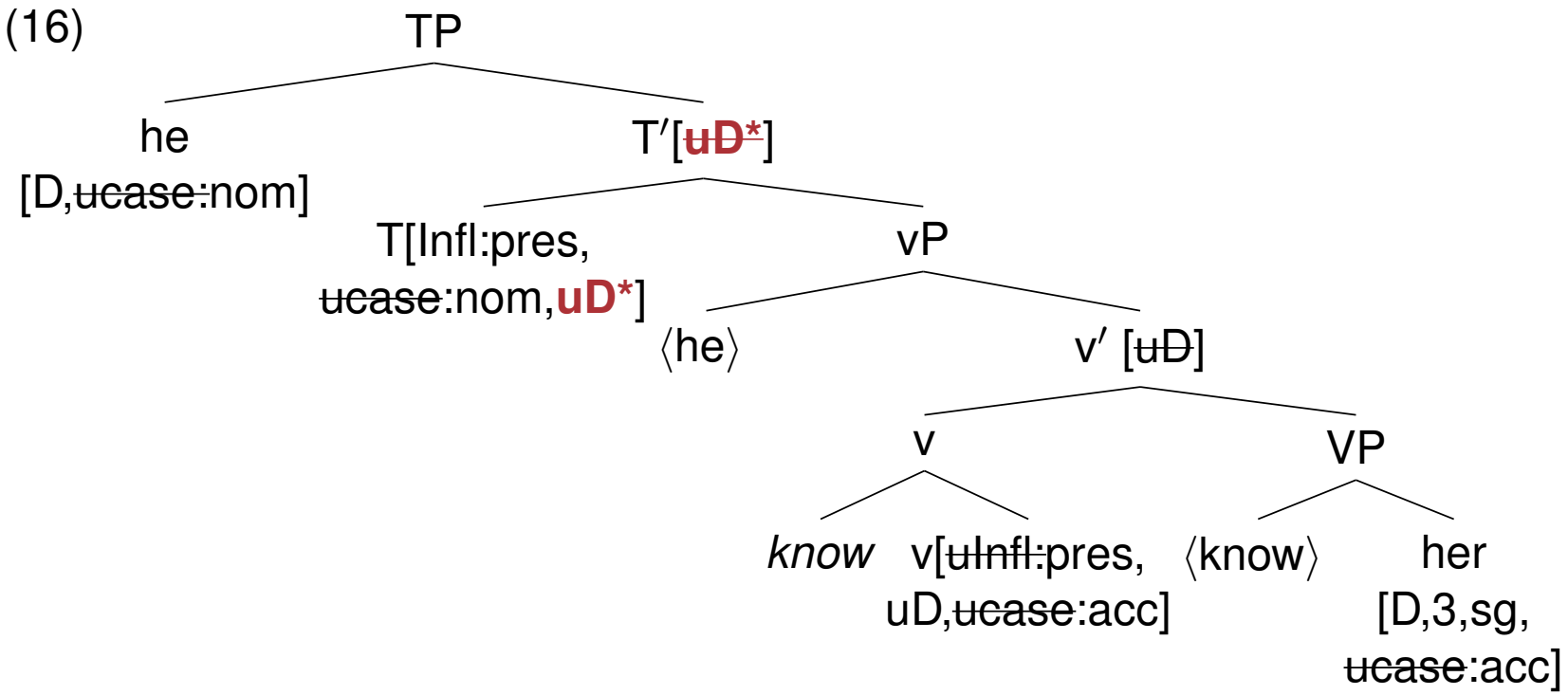

Agreement

Subject-Verb agreement

- These considerations can easily be extended to subject-verb agreement.
- The **ϕ-features** of the subject determine the ϕ-features of the verb.

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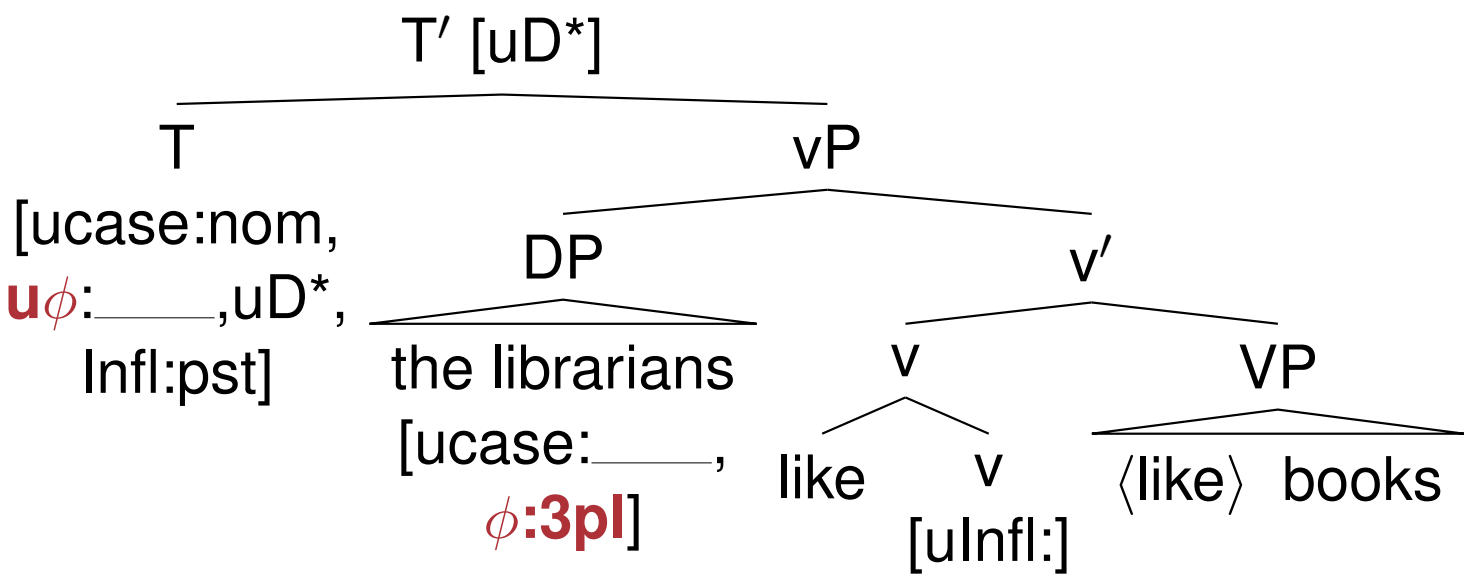
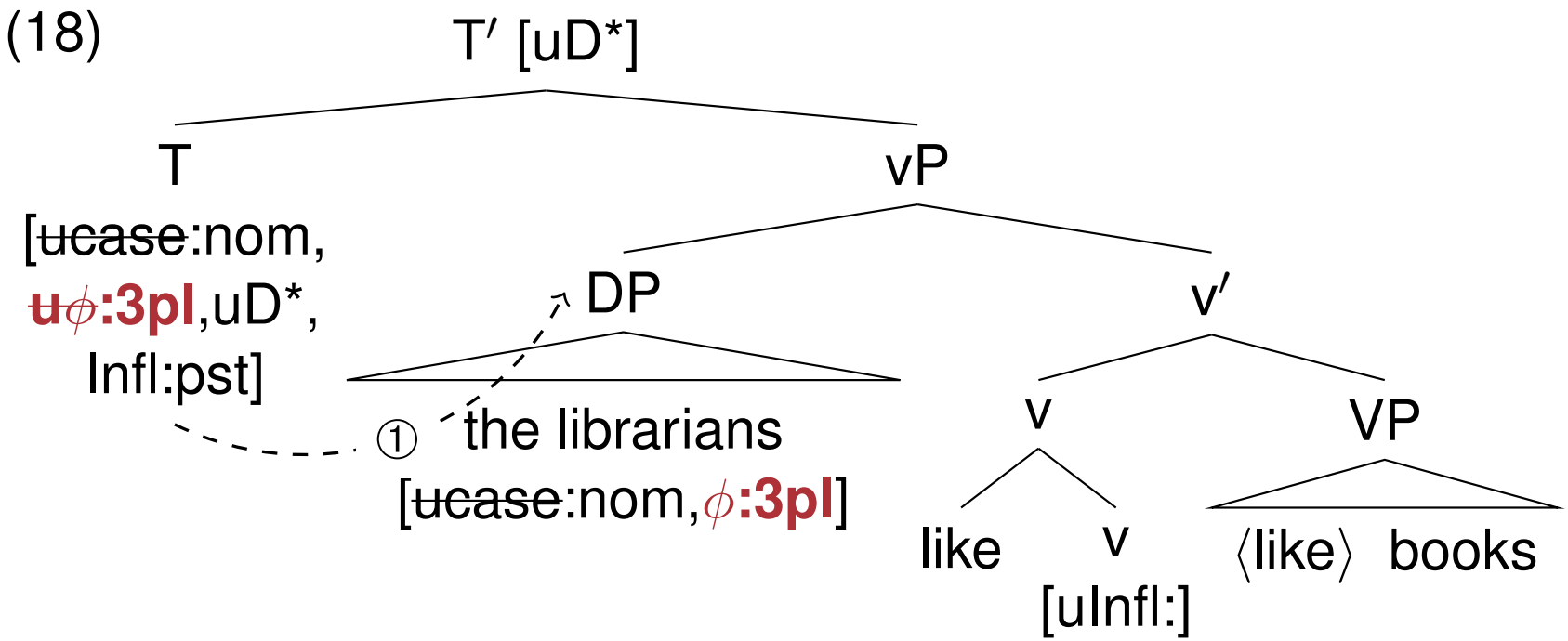


Subject-Verb agreement

(18)



Subject-Verb agreement

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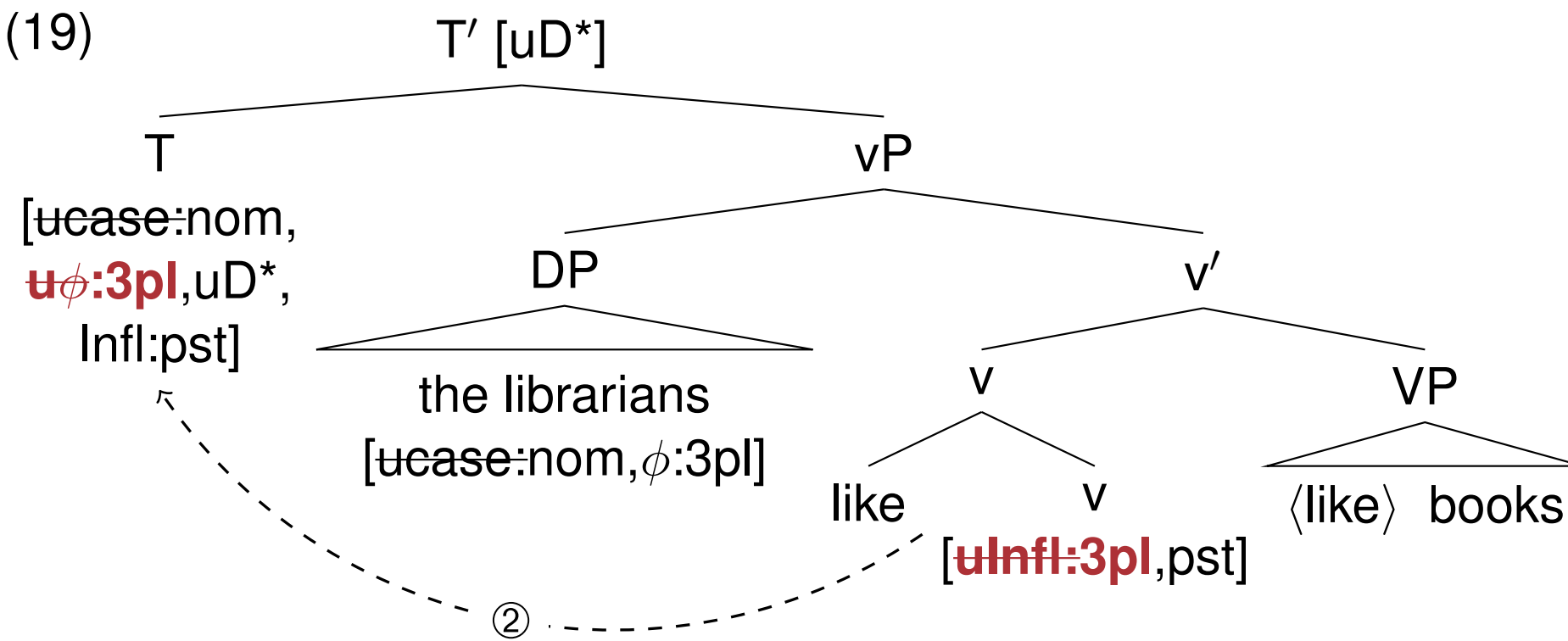
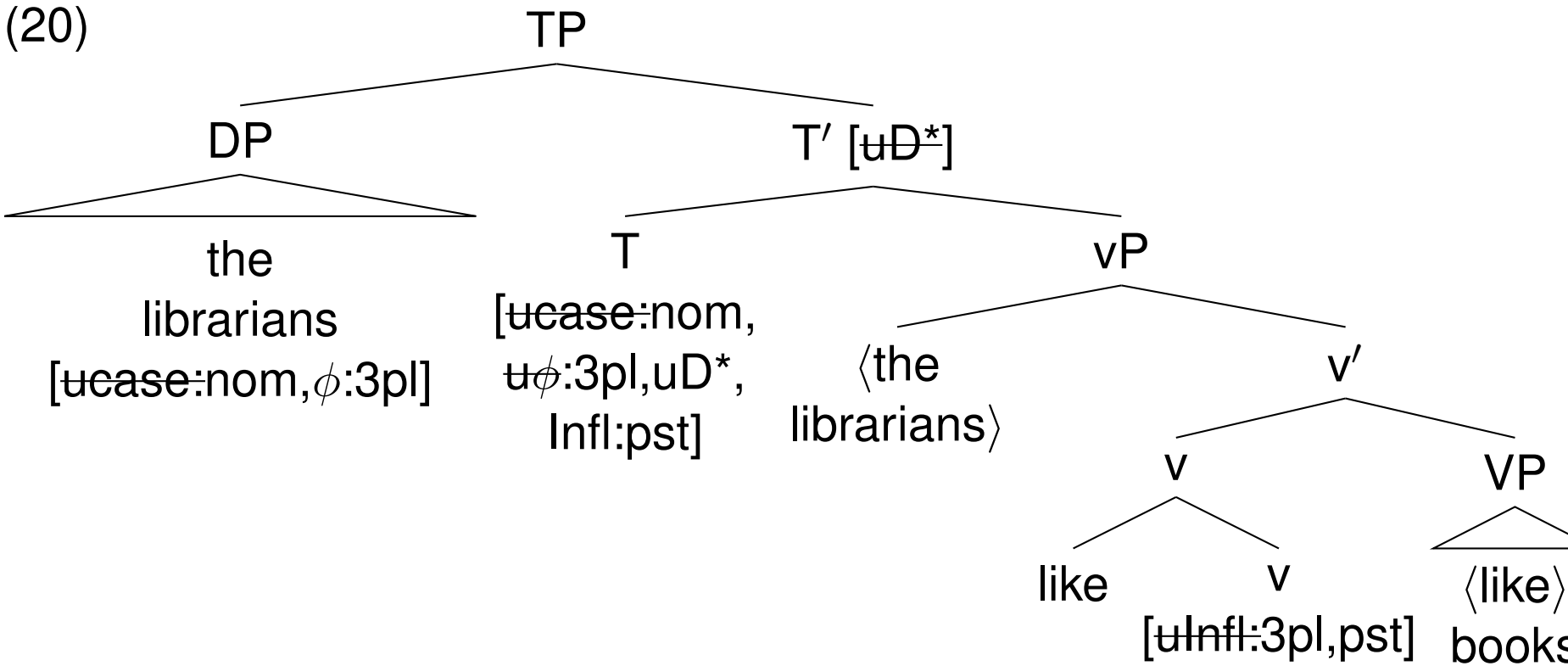


Subject-Verb agreement

- The agreement process happens indirectly:
  1. T agrees with the subject for case reasons and because of the EPP, and by this also values a set of ϕ-features on T.
  2. The verb in v agrees with T to value its [uInfl:] which contains tense and ϕ information.
- In a last step, [uD*] of T forces the subject to move to spec-TP.

Subject-Verb agreement

(20)

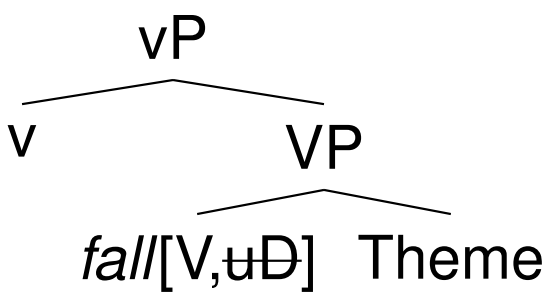


Unaccusatives

Unaccusative subjects

- The **UTAH** states that specific thematic roles are associated with specific positions.
- This results in the assumption that intransitive verbs that only take a theme argument should realize that argument as the object.

(21)

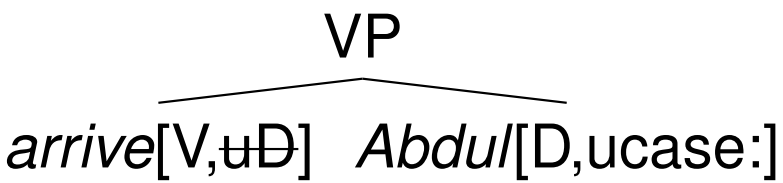


- The verbs are distinct from intransitive verbs that take an agentive subject in that their v projection lacks a specifier.
- We assume that v in **unaccusatives** lacks case features (*unaccusative*) and also its selectional [uD]-feature.

Unaccusative subjects

- This makes two predictions.
  1. There is no intervening subject between the EPP of T and the Theme, the Theme should be able to move to spec-TP to satisfy the EPP.
  2. The Theme carries [uCase:] and the only case assigner is T, therefore the Theme should receive nominative case.

(22)



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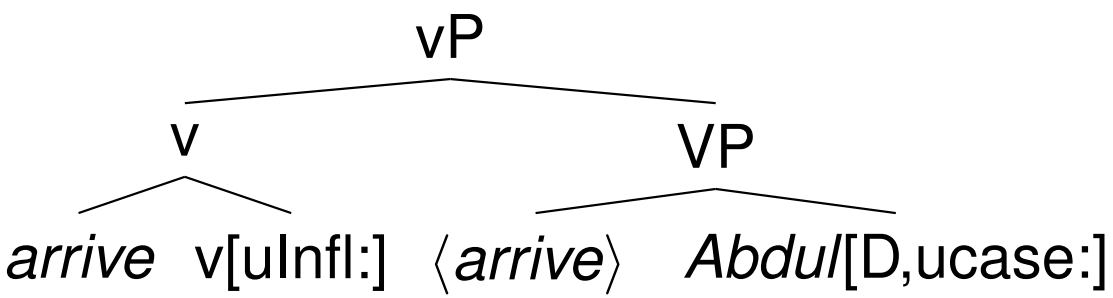

Unaccusative subjects

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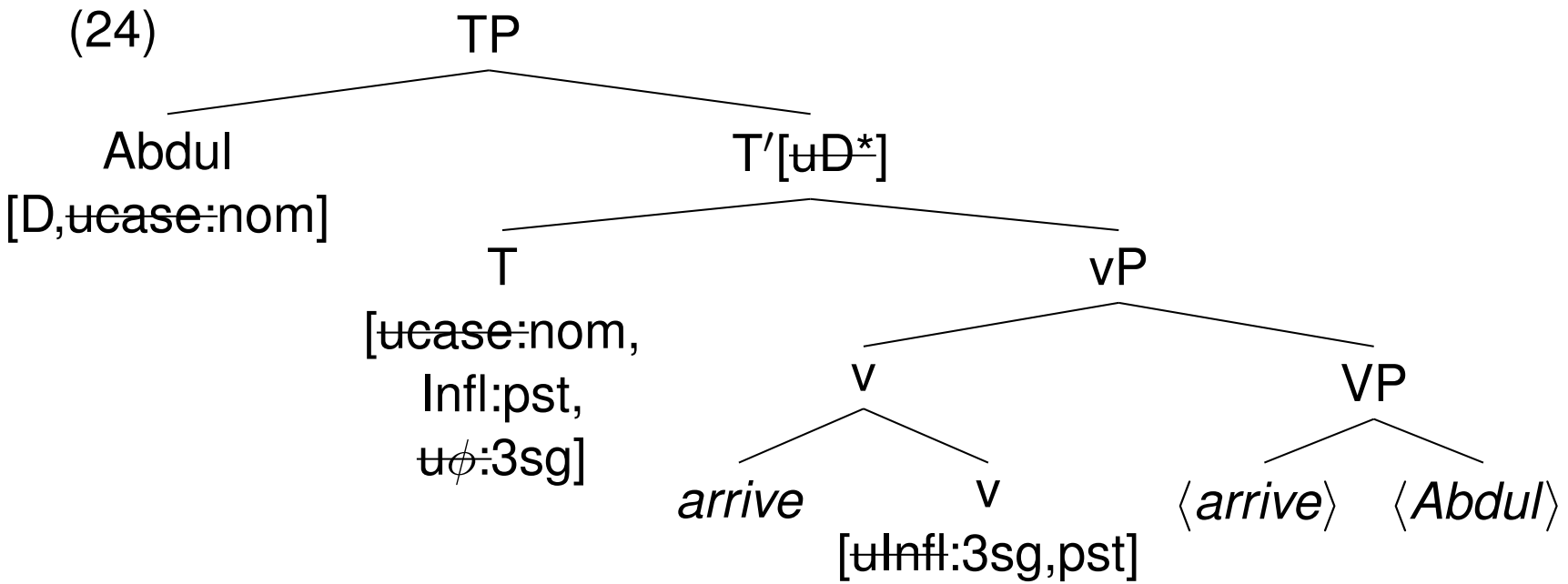


Unaccusative subjects

- On the surface, this looks identical to the structure of an unergative verb like *run*.
- Since it is based on a completely different underlying structure, we should be able to find phenomena that treat unergative subjects differently from unaccusative subjects.
- There are several such phenomena but note that these cannot be treated as definitive tests for unaccusativity nor is the class of unaccusative predicates the same in every language.

Past participles

- **Past participles** can be used to modify objects.
- Since subjects of unaccusative verbs are underlyingly objects, they can also be modified by past participles.
- This does not work for subjects of unergatives.

Past participles

(25) a. Peter boiled the water
b. the boiled water

(26) a. Peter fell
b. the fallen Peter

(27) a. Peter slept
b. *the slept Peter

Resultatives

- Objects can be modified by **resultative adjuncts**.
- Since unaccusative subjects are underlyingly objects, they can also be modified by resultative adjuncts, unergative subjects require a dummy reflexive.

(28)
a. Peter wiped the table clean
b. the door slides open
c. Peter works *(himself) to death

Unaccusative summary

- Subjects of unaccusative verbs seem to pattern with objects of transitive verbs.
- Coming back to English, all these pieces of evidence seem to suggest that
  - unaccusative verbs merge their argument in object position.
  - due to the absence of any intervening material, the object moves to spec-TP to satisfy the EPP of T.
  - since v lacks accusative case, the underlying object receives nominative case from T.

Adverbs

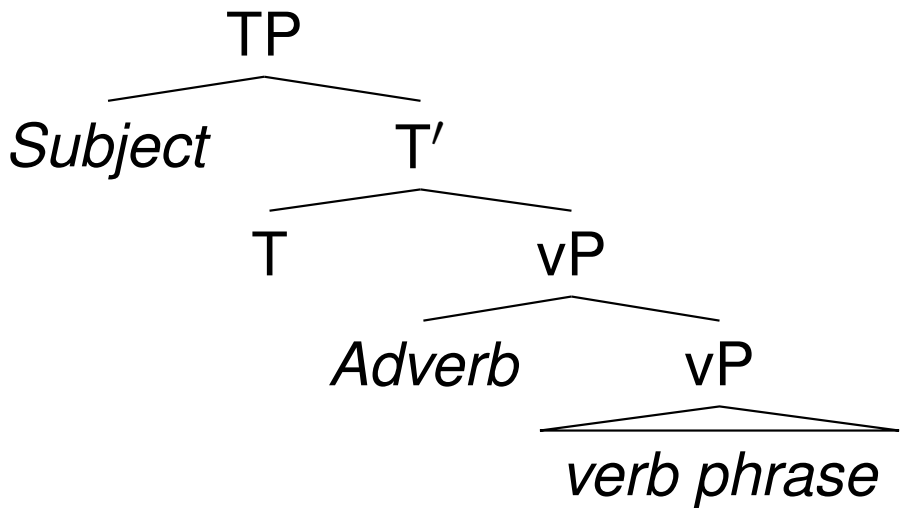
Adverbs

- Taking sentences to be TPs also makes some interesting (correct) predictions about **adverbials**.
- vP adjuncts, for example, should intervene between the subject and the verb, which they do.
- Attaching them below v, to VP, leads to ungrammaticality.

(29) a. Michael **quickly** freed the animals.
b. *Abdul failed **often** mathematics.

Adverbs

(30)



- This also predicts that adverbs like *quickly* will always follow modals.

(31) a. *Michael **quickly** may free the animals
b. Michael may **quickly** free the animals

Adverbs

- vP adverbs like *quickly, slowly, messily, weirdly*, etc. say something about the **manner** in which the event takes place.
- **Propositional** adverbs provide information about the attitude of the speaker towards the whole proposition.
- They are usually best placed sentence initially or finally (32).
- Other placement option are possible, but they require a specific intonation.

(32) a. **Perhaps** Abdul should be leaving.
b. **Fortunately**, Teresa passed mathematics.
c. Acetanga **failed** physics, unfortunately.

(33) a. Abdul **perhaps** should be leaving.
b. Teresa **fortunately** passed mathematics.

Summary

Summary

(34)
a. Finite T bears [ucase:nom], and v bears [ucase:acc].
b. Finite T bears [uD*], the strong EPP feature, which causes something to Merge into the specifier of TP (either an expletive, or a nominal phrase).
c. Agree is constrained so that feature matching only takes place between a feature F and the closest matching feature that F c-commands.

- This provides an account for the distribution of subjects and objects as well as their case patterns.
- It can easily be extended to subject verb agreement.
- Prediction: If there is no intervening subject, the EPP of T should be able to target the object - unaccusatives and passives next week.

Summary

- Two subject positions: spec-vP (θ-position) and spec-TP (case+EPP).
- Movement into spec-TP is caused by the (strong) EPP: [uD*] on T.
- This usually targets the element in spec-vP since Agree is constrained by the following:

(35) **Locality of Matching**
Agree holds between a feature F on X and a matching feature F on Y iff there is no intervening Z[F]

(36) **Intervention**
In a structure [X . . . Z . . . Y], Z intervenes between X and Y iff X c-commands Z and Z c-commands Y

Summary

- If nothing intervenes, the EPP can target the element in object position, this holds for unaccusatives and passives since they share a defective v without specifier and without [acc] being available for case licensing.
- Then, instead of [acc] from v, the objects receive [nom] from T and appears in the normal subject position.
- To account for passives, we assumed the presence of a VoiceP, updating the Hierarchy of Projections.

(37) **Hierarchy of Projections**
T ⟩ (Neg) ⟩ (Asp) ⟩ (Voice) ⟩ v ⟩ V

Expletives

Expletives

- **Expletive constructions** also provide evidence for two different subject positions.
- Expletives are elements that fill the surface subject position but do not receive a θ-role from the verb.
- English has two different expletives (*it* and *there*), but we will only be concerned with *there* in (39).

(38) **It**'s extremely windy today.

(39) **There** are many fish in the sea.

- The *there* in the sentences in (39) is different from the locative proform *there* in (40).
- Expletive *there* is always unstressed.

(40) a. I saw people playing THERE on the beach
b. #THERE are people playing on the beach.

Expletives

- The sentences containing an expletive subject *there* have counterparts with the same thematic structure but where the thematic subject appears in the position formerly occupied by *there*.

(41) a. **There** are **many fish** in the sea.
b. **Many fish** are in the sea.

(42) a. **There** were **many people** playing on the beach.
b. **Many people** were playing on the beach.

Expletives

- Using tag questions as in (43) can be used to test for subject-hood.
- Applying this test to sentences containing *there* shows that the expletive does serve as the subject (44).

(43) a. Ron's likely to be on the Web, **isn't he**?
b. Jenny hasn't eaten all the Clinique make-up again, **has she**?

(44) a. There's going to be a party, **isn't there**?
b. There were people eating fire at the fair, **weren't there**?

Expletives

- Sentences with expletive *there* also contain a thematic subject which is always to the right of *there*.
- Thus, the sentences always have the structure in (46) which clearly shows the existence of two subject positions.

(45) *Many people were there playing on the beach.

(46) **there** T . . . **Subject** vP

Draw a tree for (46)!

What about your language?

Binding

Binding

- Another process that has to do with arguments is **binding**: co-reference under **c-command**.
- Different nominal elements have different binding properties.

(47) **The ABC of Binding**

a. Anaphora (reflexives, reciprocals) have to be bound within their clause.
b. Pronouns (personal) must not be bound within their clause.
c. R-expressions (Noun phrases, incl. names) can never be bound.

Binding

(48) a. Sam$_i$ likes himself$_i$.
b. *Sam$_i$ thinks that Jimima$_j$ likes himself$_i$.

(49) a. *Sam$_i$ likes him$_i$.
b. Sam$_i$ thinks that Jimima$_j$ likes him$_i$.

(50) a. *Sam$_i$ likes Dr. Issah$_i$.
b. *Sam$_i$ thinks that Jimima$_j$ likes Issah$_i$.

Come up with examples from your languages that illustrate the ABC of binding.

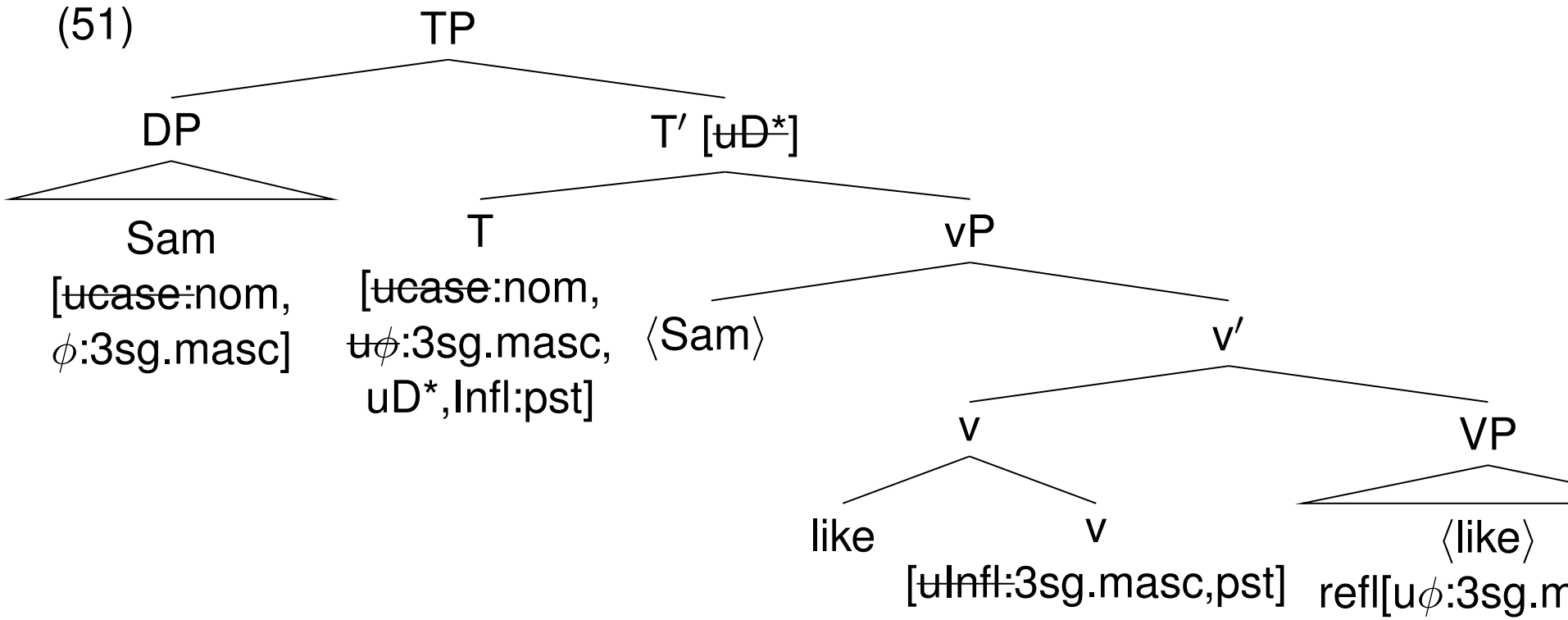
Binding in minimalism

There are two major ways how binding is handled in minimalism:

- via **referential indices** (sg. index), like in Government and Binding theory
- via Agree in phi-features (and/or an index-feature).

Binding via Agree

(51)



Passives

Passives

- **Passives** provide another instance of movement into subject positions.
- Passives are the counterparts of their active sentences in which the object surfaces in subject position and the active subject is expressed (if at all) as adjunct by-phrase.

(52) a. John killed Jason.
b. Jason **was killed** (by Noah).

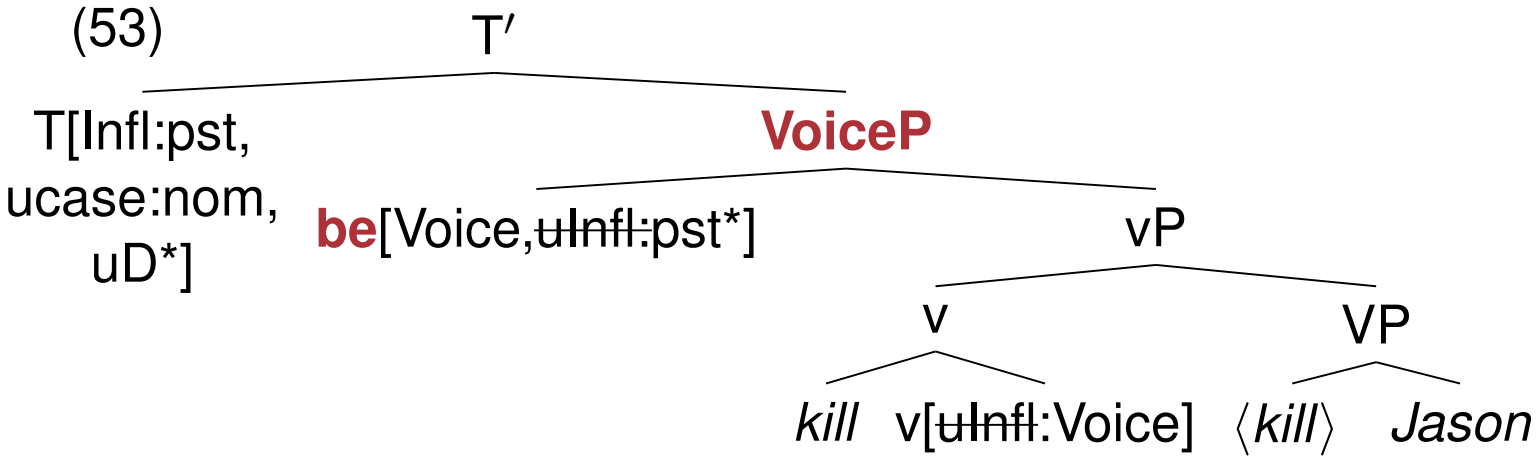
- Following the UTAH and our analysis of unaccusatives, passives should have a very similar structure:
  - The only argument is merged in object position (it receives the Theme θ-role).
  - v does not assign accusative case to the object and lacks a specifier (no [uD]).
  - T assigns nominative case to the object and due to the EPP it moves to spec-TP.

Passives

- To have a place for the passive auxiliary, we can posit a **Passive functional head**:
  - It is part of the Hierarchy of Projections and selects vP.
  - It carries the categorial feature [Voice] (or [Pass] in Adger's notation) which values [uInfl:] on the main verb (and leads to its spell out as past participle).
  - Like all auxiliaries in English it carries its own strong [uInfl:*].
  - It selects an unaccusative vP without specifier.

Passives

(53)



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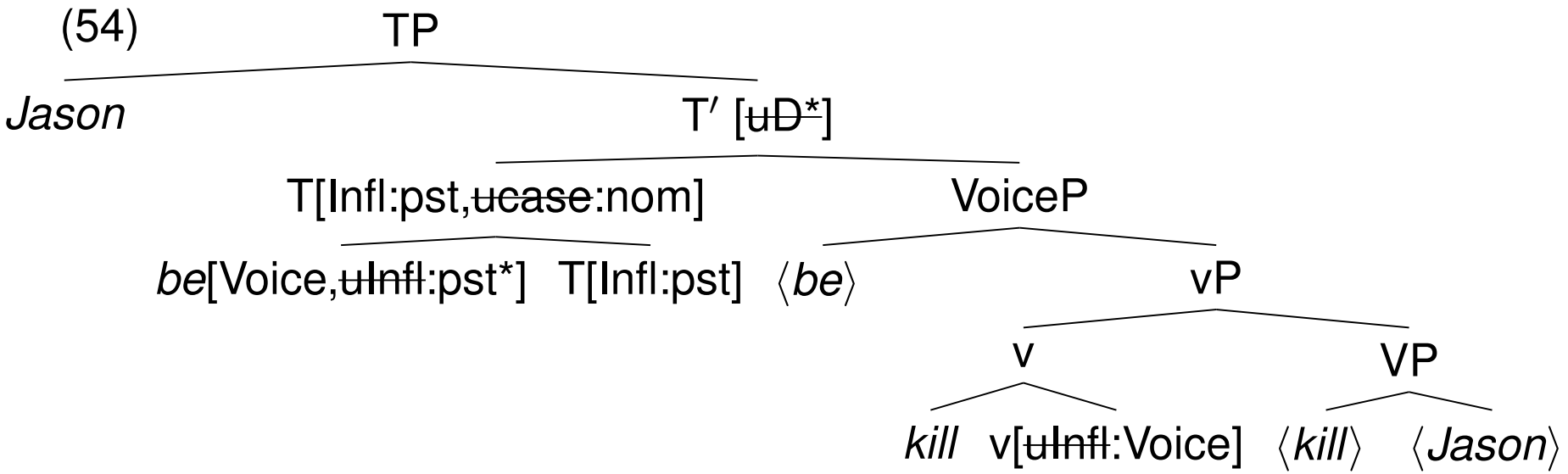

What about your language?