CAS LX 522
Syntax I

V2, and *wh*-movement
(8.4, 9.1-9.3)

18

CP

- The thread here (chapter 8) is motivating and making use of the CP level of our structure:
- C is the home of the [clause-type:…] feature, differentiating interrogatives and declaratives.
- C is sometimes available to check case on the subject when it can't be checked the higher verb (ECM) or finite T:
  - I want [$\emptyset_{NULL}$ PRO to see more syntax]
  - I intended [for her to be win the lottery].
- We'll see more for CP as we explore question formation—but first, we'll see it at work in German…

V2 languages

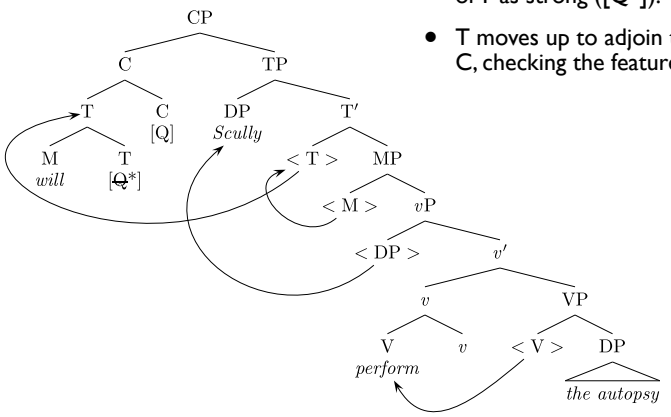
- There are a number of languages that are classified as "verb second" or "**V2**" languages. They are so called because in general the (tensed) verb must be second, after the first major constituent in the sentence.
  - De man heeft een boek gezien gisteren. **(Dutch)**
    the man has a book seen yesterday
    'the man has seen a book yesterday.'
  - een boek heeft de man gezien gisteren.
  - gisteren heeft de man een boek gezien.
  - Die Kinder haben diesen Film gesehen. **(German)**
    the children have this film seen
    'The children have seen this film.'
  - Diesen Film haben die Kinder gesehen.

Analyzing V2

- How can we account for this?
- Assume that in German, most things are very similar to English:
  - The UTAH is the same (Agents in Spec*v*P, etc.)
  - The EPP is the same (T has a [***u*D***] feature; there needs to be a DP in SpecTP)
- Things to remember:
  - French/Irish and English differ in whether *v* moves to T.
  - Irish and French/English differ in whether the subject moves to SpecTP.
  - In English yes-no questions (but not in declaratives), T moves to C.

English Yes-No Question

- In a YNQ, the [Q] feature of C matches and values the [*u*clause-type:] feature of T as strong ([Q*]).
- T moves up to adjoin to C, checking the feature.



Analyzing V2

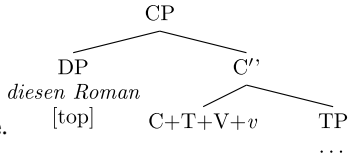
- Since the finite verb is sometimes to the left of the subject:
  - Diesen Roman las ich schon letztes Jahr
    this book read I already last year
    'I read this book already last year.'
- Just like it is in English YNQs:
  - Will I get an A?
- We can suppose that German and English differ in that when C values the [*u*clause-type:] feature of T, it is *always* strong.
  - In fact, more natural sounding than what we have to say in English: When C values [*u*clause-type:] as [Q] (but not [Decl]) it's strong.

Topics

- The constituent that appears first in a V2 clause is generally considered to be a topic.
- Suppose that C has a "topic" feature [***u*top***] and whatever is the topic of the sentence (be it an adverb, the subject, the object) is also marked with an (interpretable) [top] feature.
- Then this will work just like the EPP, essentially.

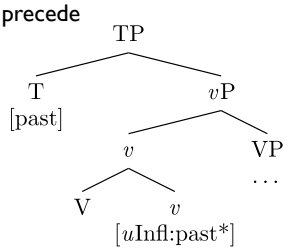
V2 languages

- The basic idea we'll be pursuing with respect to V2 languages is this:
  - To get the tensed verb higher than the subject (which is sometimes is), we move the verb to T, and then T (with the verb) to C.
  - To put C into "second position", we move some phrase into SpecCP.
- The "first phrase" in V2 languages is generally interpreted as the topic of the sentences. So, we say that the topic (whatever it is going to be) has a feature that marks it as such: An interpretable [top] feature.



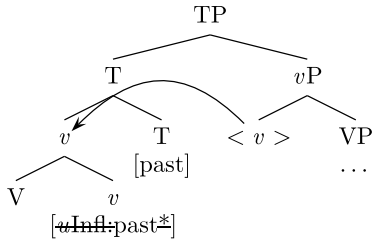
Reminder: T, v, and [uInfl:]

- The way our system works (movement happens in order to check strong uninterpretable features), we implement this as follows:
  - Because the verb moves to T, we need there to be a strong feature checked between T and *v*.
  - This is common cross-linguistically. Recall French, where the highest verbal head (the *v*, or an auxiliary) moves to T.
    - This explained why verbs always precede adverbs and negation in French.
  - Since the [tense] feature of T values the [***u*Infl:**] feature of the highest verbal head, we say that in French, when [tense] values [***u*Infl:**], the feature is strong.



Reminder: v to T

- So, *v* starts out with a [*u*Infl:] feature.
  - ***v* <u>always</u> starts out with a [*u*Infl:] feature.**
- We Merge T, and the [tense] feature (e.g., [past] = [tense:past]) matches and values the [***u*Infl:**] feature.
- What differentiates French and English is that when [tense] values [***u*Infl:**], the valued [***u*Infl:**] feature is **strong**.
- In English, it is not strong except in one case: if the [***u*Infl:**] feature is one an auxiliary (Perf, Prog, Pass), then a [***u*Infl:**] feature valued by [tense] is strong.
  - Auxiliaries precede negation and adverbs, main verbs do not.

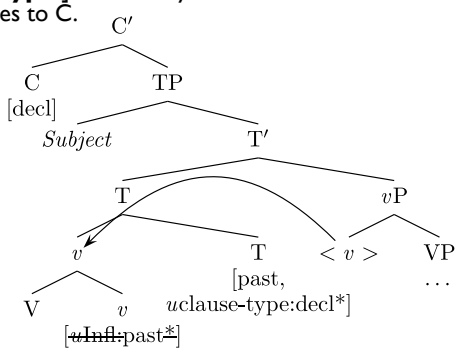


Reminder: Strong features

- Strong features are uninterpretable features that can be checked only when **local to** (a sister of) the feature that checks them.
  - **Strong features very often = something must move.**
- A feature gets to be strong in one of two ways:
  - An **inherently strong feature** of the lexical item.
    - *v* has a strong [*u***V***] feature.
    - T has a strong [*u***D***] feature.
    - *eat* (V) has a strong [*u***D***] feature (associated with the Theme θ-role).
  - A feature that becomes **strong when valued**.
    - Prog has a weak [***u*Infl:**] feature. When valued by [tense], it becomes strong. (In English, Aux moves to T: *I am not eating green eggs & ham*)
    - T has a weak [***u*clause-type:**] feature. When valued by [clause-type:Q], it becomes strong. (In English, T moves to C in questions: *Would you eat them on a train?*)

V2 languages

- To account for the fact that *v* moves to T and then T moves to C in German: a feature that C values on T is valued as strong.
- [***u*clause-type:**] is a perfect candidate.
- So, when [***u*clause-type:**] is valued by C in German, it is valued as strong, and so T moves to C.



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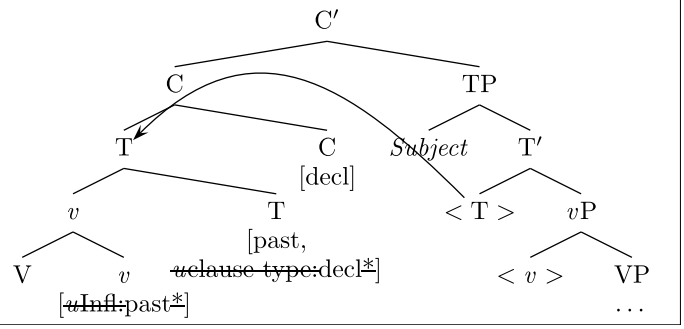
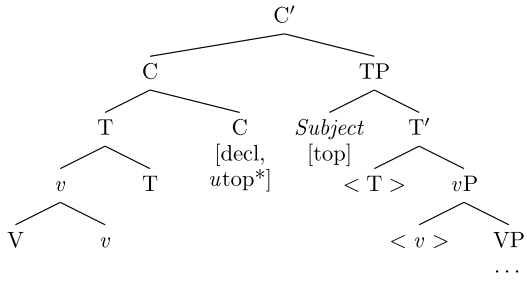


V2 languages

- To account for the fact that the topic moves into SpecCP, we say that C has a **[*u*top*]** feature. Whatever is the topic in the sentence will have a feature designating that, [top].
  - Just like the EPP feature (**[*u*D*]**) of T forces the subject into SpecTP, the **[*u*top*]** feature of C will force movement of the topic into SpecCP.



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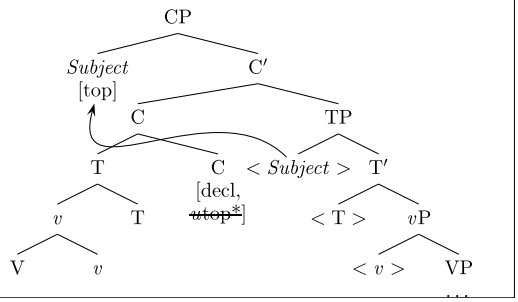
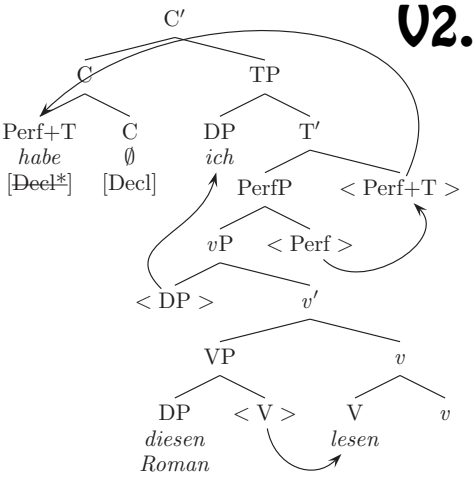
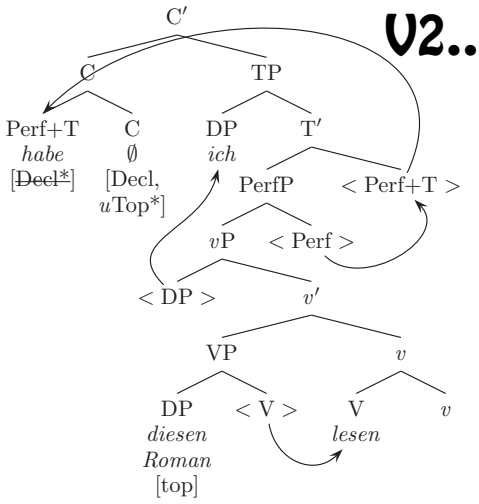


V2...step 1



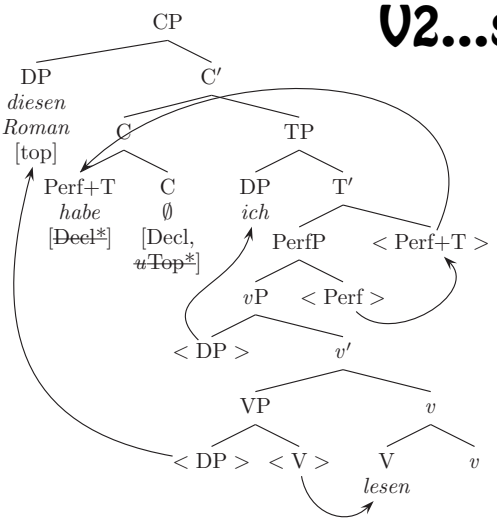
- V moves to *v*.
- Perf moves to T.
- T moves to C.
- Subject moves to SpecTP.

V2...step 2a



- The object is marked as topic.
- C has a **[*u*top*]** feature.

V2...step 2b



- The object moves up to SpecTP.
- The tensed verb is now in second position.

Embedded clauses

- Will John arrive late?
  - T moves to C in English questions.
  - [**uclause-type:**] on T is strong when valued by [Q] on C.
- I wonder [$_{CP}$ **if** John will arrive late].
  - T does not move to C in embedded questions.
  - Perhaps because C is "filled" already (by *if*).
  - Intuition: We need to be able to tell when C is [Q]— if nothing is pronounced there, we move T there to signal that C is [Q].
- Er sagte [$_{CP}$ **dass** ich schon letztes Jahr diesen Roman **las**]
  he said **that** I already last year this book **read**
  'He said that I read this book already last year.'
  - If C is filled in German (*dass*), T does not move to C.
  - Also notice that when T does not move to C, **the verb is at the end**.
  - German appears to be a **head-final** language.

Interlude: what we're doing

- Remember, what we're doing is trying to describe our **knowledge of language**.
  - We believe that the intricacies of human language are actually too complicated to *learn*, that we're in fact describing a kind of system that is genetically "built-in", sort of like our vision system.
  - If that's the case, the same system must underlie all human languages, and the differences must be relatively minor.
  - We're identifying a few "parameters of variation"— ways in which human languages can differ.

Interlude: what we're doing

- What we're saying here is that languages can differ in a few small respects, and ***we can account for that***:
- **Headedness:** heads come before complements in some languages (English), and after complements in others (Japanese, German).
- **Verb-raising:** some languages move *v* to T (French), others don't. (Under what conditions does T value [***u*Infl:**] as strong?)
- **V2:** some languages move *v* all the way to C (through T), and topicalize something, yielding the V2 pattern. (Under what conditions does C have a [***u*top****] feature and value [***u*clause-type:**] as strong?)
- **EPP:** VSO languages seem to move *v* up to T, but don't move the subject to SpecTP, yielding VSO. (Does T have a [***u*D****] feature?)

Types of sentences

- Sentences come in several **types**. We've mainly seen **declarative clauses**.
  - Horton heard a Who.
- But there are also questions (**interrogative clauses**)…
  - Did Horton hear a Who?
  - Who did Horton hear?
- …**exclamatives**…
  - What a crazy elephant!
- …**imperatives**…
  - Pass me the salt.

Wh-questions

- *Wh*-questions are "information-seeking" questions, involving a *wh*-word.
  - Who, what, when, where, why, HoW, which
- *What will they bake?*
- Observe that *what* is basically the object of *bake*. And look how far away it is from *bake*, the thing that assigns it a θ-role.
  - Cf also. "echo questions": *I drank WHAT?*
- Also, notice that T has moved to C here too (like it does in yes-no questions).

[wh]

- *Wh*-words are a little bit like pronouns, standing in for whatever category of thing we'd like information about.
- These interrogative expressions are different from non-interrogative pronouns and demonstratives.
  - *That will they bake.
- *What*, *where*, *when* are differentiated from *that*, *there*, *then* in being interrogative. This is a feature of the *wh*-word: **[wh]**.

(wh)

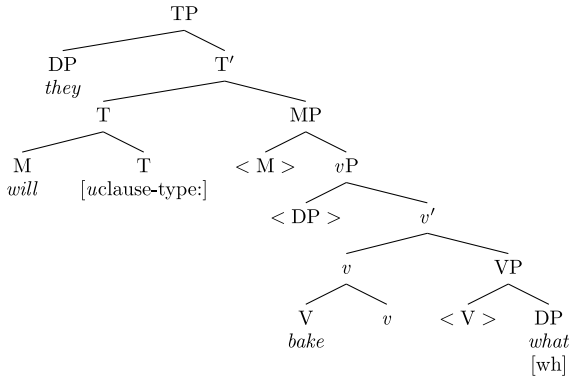
- A *wh*-word has the same category as its non-*wh*-counterpart—therefore, *wh*-words come in several different categories.
  - What [wh, D]
  - Who [wh, D, human]
  - When [wh, Adv, temporal]
  - Where [wh, Adv, locational]
  - How [wh, Adv, manner]
  - Why [wh, Adv, reason]
  - Which [wh, D, *u*N*]

How are wh-questions formed?

- What we have in English *wh*-questions is like a limited form of V2.
- The analysis of *wh*-questions is the same:
  - The T head moves to C
  - The *wh*-expression moves to SpecCP
- Let's suppose that the reason/mechanism moving T to C is the same as in yes-no questions: We have an interrogative C, with [clause-type:Q]. When the **[*u*clause-type:]** feature of T is valued by [Q], it is strong.

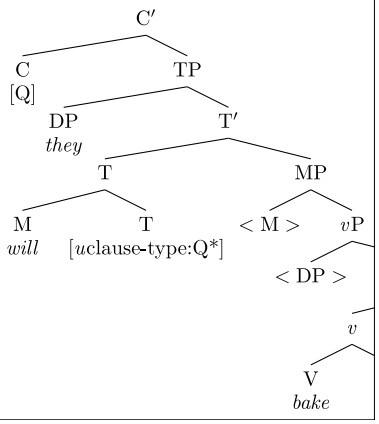
What will they bake?

- To start out, we have a *v*P and TP as usual. The only unusual thing so far is that we have a *wh*-object *what*.



What will they bake?

- The complementizer C has the information about clause-type, and this is a question. As before with yes-no questions, we assume that this C has the feature [clause-type:Q] (or "[Q]" for short).
- As with yes-no questions, the **[*u*clause-type:]** feature of T is strong when valued by Q.

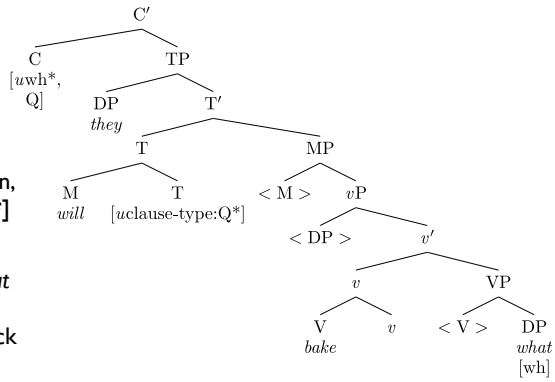


What will they bake?

- As for how *what* winds up at the beginning of the sentence, we will treat this essentially like we treated German V2.

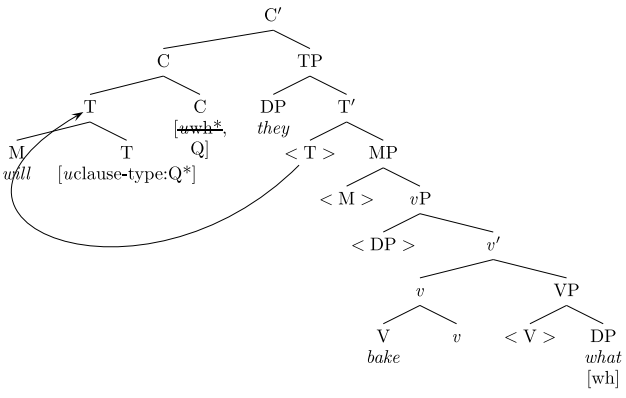
In a *wh*-question, C has a **[*u*wh*]** feature.

This forces *what* to move into SpecCP to check the feature.



What will they bake?

- T will move to check the (now strong) [*u*clause-type:Q*] feature.
- *What* moves to SpecCP and checks the [*u*wh*] feature of C.



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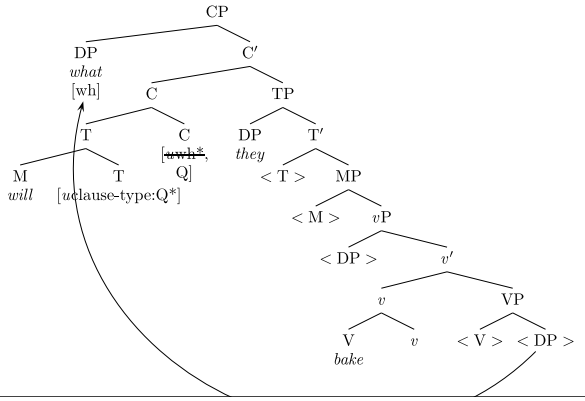


Interrogative Q vs. Declarative Q

- Looking at *wh*-questions as compared to yes-no questions, it looks as if there are two kinds of interrogative C:
  - **"yes-no" C:** [C, clause-type:Q]
  - ***wh*-question C:** [C, clause-type:Q, *u*wh*]
- This is in fact often supposed in the syntax literature—and many languages seem to have a special particle reserved for yes-no questions (e.g., English *if*, Mandarin *ma*)
  - **Adger notes a problem, however:** Nothing in our system so far prevents us from using a yes-no C with a *wh*-word, predicting:
  - Will they bake what?

Op

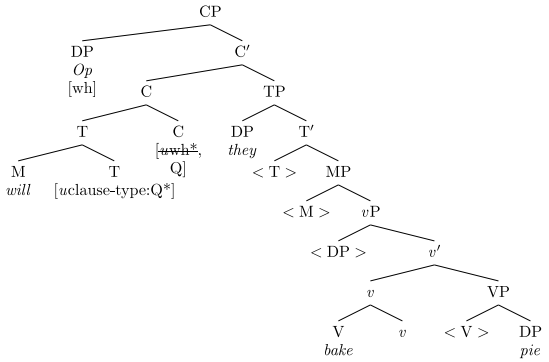
- Accordingly, Adger proposes that there's a *wh*-word even in "yes-no questions".
  - There are actually other reasons to think this as well, but we'll get to them later.
- That is *Will they bake cookies?* is actually something pretty close to:

  Whether will they bake cookies?

  except with a "silent" *whether*, called ***Op***.

Will they bake pie?

- *Op* appears in yes-no questions in the same place that *wh*-words do in *wh*-questions (and we assume it has a [wh] feature as well).
- *Op* is probably like a "silent" *whether* (*wh*+*either*).



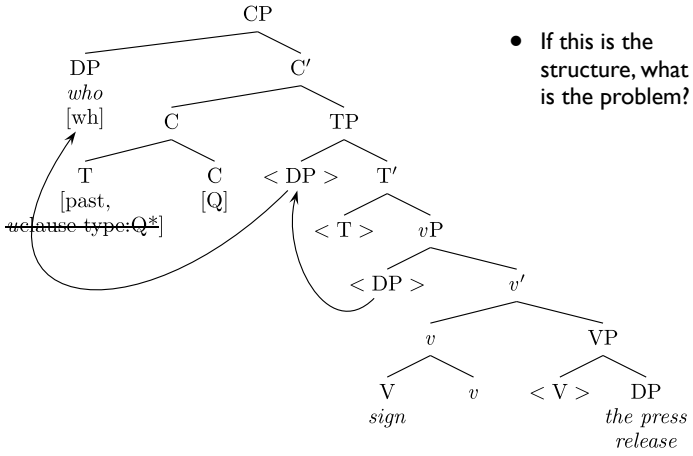
Summary so far

- In *wh*-questions such as *What did they bake*?
  - *What* is like a pronoun, standing in for the theme.
  - *Wh*-words are differentiated by having a [wh] feature.
  - The structure of a *wh*-question is like a V2 clause:
  - T moves to C:
    - The [*u*clause-type:] feature of T is strong when valued as Q.
  - The *wh*-word moves to SpecCP:
    - The interrogative C has a strong uninterpretable [*u***wh***] feature.

Subject wh-questions

- This works nicely for all kinds of *wh*-questions.
  - *What did Toby sign?*
  - *How did Toby sign the press release?*
  - *Why did Toby sign the press release?*
  - *When did Toby sign the press release?*
  - *Where did Toby sign the press release?*
- But **subject wh-questions** pose something of a puzzle:
  - *Who signed the press release?*

Who signed the press release?



- If this is the structure, what is the problem?

Two ways to go

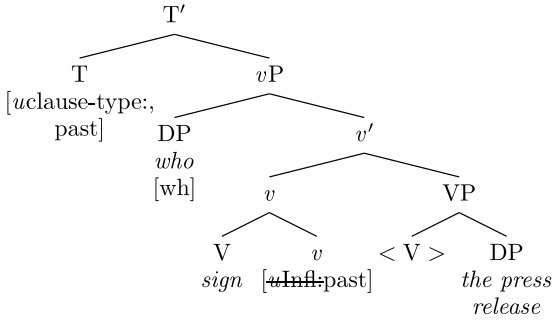
- There is a decision to make here as we move our analysis forward to handle *Who signed the press release?*.
  - **Option one:** All *wh*-questions work the same way. In main clauses, T moves to C, the *wh*-word moves to SpecCP. Nice, tidy, elegant. But we need to re-evaluate PTR and *do*-support.
  - **Option two:** Subject *wh*-questions are different. PTR works the same way everywhere, T moves to C in most *wh*-questions, but in **subject *wh*-questions**, T stays where it is.

Option two

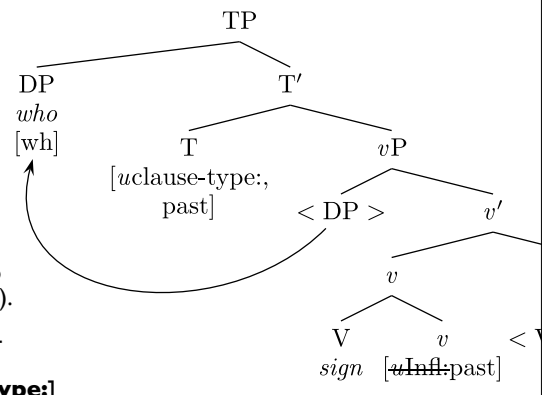
- We'll pursue option two. T doesn't move in subject *wh*-questions. How might that work?
- Why does T move to C in other questions?
  - **[*u*clause-type:]** on T is strong when valued as **[*u*clause-type:Q*]**.
- Adger's proposal:
  [*u*clause-type:] can be valued as [wh].
  - **Ancillary assumption**
    [*u*clause-type:] can only be valued "from above" (the only *wh*-word that can value **[*u*clause-type:]** on T is one that c-commands T, a subject *wh*-word).

Who signed the press release?

- Merging up to T′…

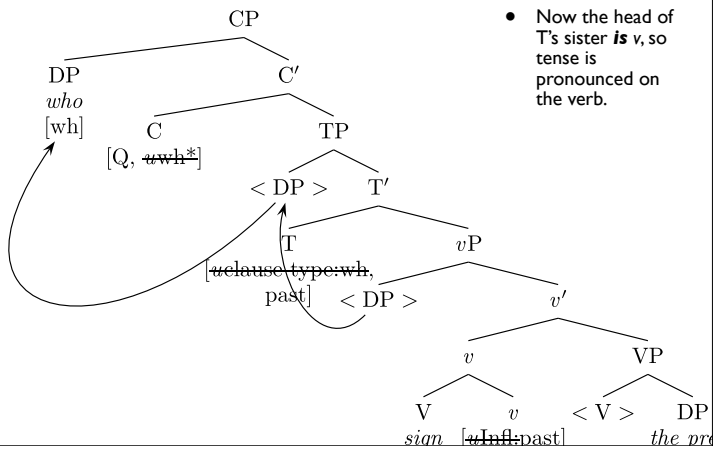


Who signed the press release?



- Move *who* to SpecTP (EPP).
- Now [wh] c-commands **[*u*clause-type:]** and can value it.

Who signed the press release?



- Now the head of T's sister ***is*** *v*, so tense is pronounced on the verb.

Multiple wh-questions

- Although less common, it is possible to ask a question with more than one *wh*-word:
  - (What I want to know is:)
    What will Dan give to whom?
  - Casey knows who moved where.
- Notice what happens:
  - [$_{TP}$ Dan will [$_{vP}$ <Dan> *v*+give [$_{VP}$ what <give> [$_{PP}$ to whom]]
  - [$_{CP}$ what C+will [$_{TP}$ Dan <will> [$_{vP}$ <Dan> *v*+give [$_{VP}$ <what> <give> [$_{PP}$ to whom]]

wh-in-situ

- In English *wh*-questions, a *wh*-word moves up to SpecCP. But if there are **two**, then only one moves, the other stays behind, "in its natural place."
- Does our system so far predict this?
  - In *wh*-questions, C has a [Q] feature and a [***u*wh***] feature.
  - When the [***u*clause-type:**] feature of T is valued by Q the resulting [***u*clause-type:Q***] feature on T is strong.
- Sort of…

*What did who give to Casey?

- It turns out that when you have two options in principle, only one is actually grammatical:
  - Who gave what to Casey?
  - *What did who give to Casey?
- **What's the difference?**
  - [$_{CP}$ who C [$_{TP}$ <who> T [$_{vP}$ <who> *v*+give [$_{VP}$ what <give> …
  - [$_{CP}$ what C+T [$_{TP}$ who <T> [$_{vP}$ <who> *v*+give [$_{VP}$ <what> <give>

*What did who give to Casey?

- **Superiority**
  The highest *wh*-word moves.
  (All things being equal, the shorter move is preferred)
  - Compare:
  - A book was given <a book> to Pete.
  - *Pete was given a book to <Pete>.
  - [$_{CP}$ who C [$_{TP}$ <who> T [$_{vP}$ <who> *v*+give [$_{VP}$ what <give> …
  - [$_{CP}$ what C+T [$_{TP}$ who <T> [$_{vP}$ <who> *v*+give [$_{VP}$ <what> <give>

D-linking

- Just a note:
  Sometimes Superiority appears to be violated.
- I have a list of the authors here, and a list of the books. But I don't know…
  which book which author wrote.
- When this happens, the interpretation is somewhat special. The *wh*-word that is "skipped" (and generally both of them) is picking out one of a small, known list. **D(iscourse)-linking.**

The wh-typology

- **English: One *wh*-word** moves to the front.
  - What did Bill give to whom?
- **Japanese: No *wh*-words** move to the front.
  - Taroo-ga dare-ni nani-o ageta no?
    T-nom who-to what-acc gave Q
    'What did Taroo give to whom?'
- **Bulgarian: All *wh*-words** move to the front.
  - Kakvo na kogo Ivan dade?
    what to whom Ivan gave
    'What did Ivan give to whom?'
- **French: One *wh*-word or no *wh*-words** move to the front.
  - Qui as-tu vu? Tu as vu qui?
    Who have-you seen You have seen who
    'Who did you see?' 'Who did you see?'

wh-in-situ languages

- How might we account for the difference between English and Japanese (Korean, Turkish, Chinese, …) with respect to moving *wh*-words?
  - Why does one *wh*-word move in English?
  - We account for the difference between **French** (*v* moves to T) and **English** (*v* does not move to T) in terms of whether the **[*u*Infl:]** feature on *v* is **strong** (French) or **weak** (English) when valued by T.

Kakvo na kogo Ivan dade?

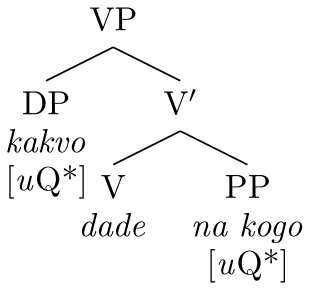
- How about languages like Bulgarian, where all of the *wh*-words move?
- [$_{CP}$ kakvo na kogo
  [$_{TP}$ Ivan dade <kakvo> <na kogo>]
- This one is somewhat trickier… but interesting.
  - Why do *wh*-words have to move (in general)?
  - Why is it sufficient to move just one (in English)?
  - What might we propose in order to ensure that any *wh*-word has to move?

Multiple wh-movement

- To account for this stretches our system in several ways, but ultimately we want to be able to say that Bulgarian and English differ minimally, so we'll need to account for Bulgarian too.
- Suppose that *wh*-words in Bulgarian have the strong feature: **[*u*Q*]**.

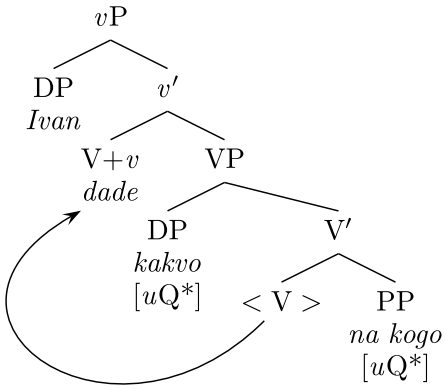
Kakvo na kogo Ivan dade?

- For this to work, we need to suppose that it is possible for a strong feature like **[*u*Q*]** on a *wh*-word to "wait" if there is no way to be checked yet.
  - That is, we can proceed on to *v*P (by HoP), despite the fact that there are strong features left inside VP (but not *on* VP).



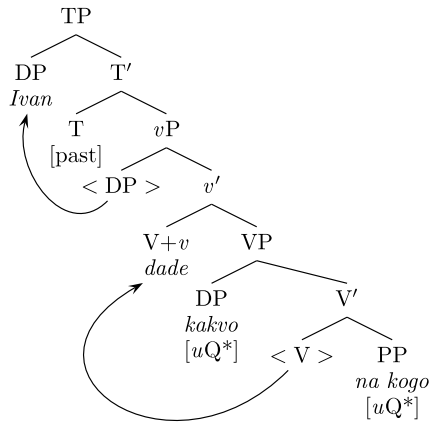
Kakvo na kogo Ivan dade?

- Otherwise, things proceed just as in English…



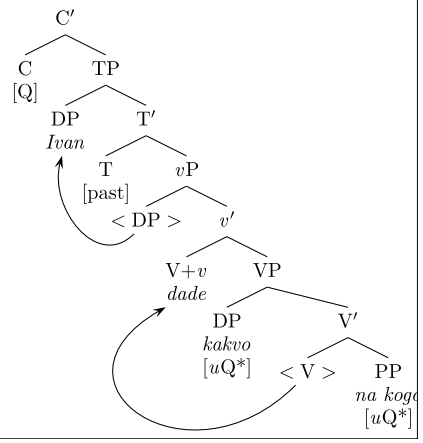
Kakvo na kogo Ivan dade?

- Otherwise, things proceed just as in English…



Kakvo na kogo Ivan dade?

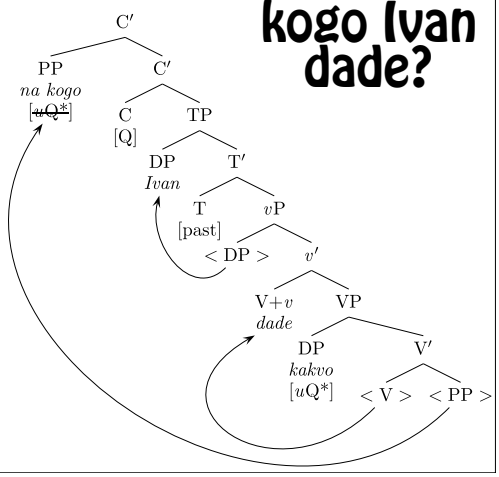
- When we get to C, the *wh*-words finally have a way to be checked.
- We've got two choices.
  - *Na kogo* has been waiting longer.
  - Moving *kakvo* would result in a shorter move.



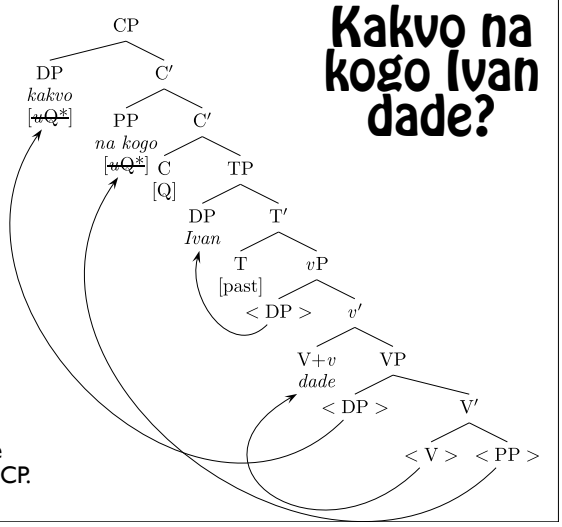
Kakvo na kogo Ivan dade?

Given what we see in Bulgarian, it seems that "seniority" is more important than "making the shortest move."

- Recall that the Superiority effect in English comes from a need to "make the shortest move," but in English, there's no consideration of "seniority."



Kakvo na kogo Ivan dade?



- Et voilà.
- Interesting: Point to the specifier of CP.

Cross-linguistic variation

- By now, we've accumulated a (relatively small, all things considered) set of parameters on which languages can vary, in terms of whether uninterpretable features are strong or weak.

- **Tense on Aux:**
  - **Strong** (aux moves to T): English, French, German, Irish
  - **Weak** (aux doesn't move to T): Swedish
- **Tense on *v*:**
  - **Strong** (*v* moves to T): French, German, Irish
  - **Weak** (*v* doesn't move to T): English, Swedish
- **EPP on T:**
  - **Strong** (subject moves to SpecTP): E, F, S, G
  - **Weak**: Irish

Cross-linguistic variation

- To this we can add the parameters of *wh*-movement…

- **[wh] on [Q]-type C:**
  - **Strong** (A *wh*-word moves to SpecCP): English, German, …
  - **Weak** (No *wh*-word need move to SpecCP): Japanese, …
  - **Optional** (either is possible): French
- **[Q] on *wh*-words:**
  - **Strong** (All *wh*-words move to SpecCP): Bulgarian, …
  - **Weak** (*Wh*-words need not move to SpecCP): English, …

Reminder: Embedded clauses

- Some verbs take DP objects:
  - Hurley grabbed [**DP** the notepad].
  - Hurley wrote [**DP** a note].
- Some verbs take entire clauses (CPs, TPs):
  - Hurley said [**CP** that he was taking a census].
  - Hurley seemed [**TP** <H.> to enjoy the task].
  - Hurley asked [**CP** where Ethan lived].
- It is perfectly possible to ask a question requesting information about something in an embedded clause. A "**long-distance question**".
  - What did Hurley say [**CP** that he was taking <what>]?

Long-distance wh-movement

- What did Hurley say [**CP** he was writing <what>]?
  - This is a question: The highest C has a [Q] (=[clause-type:Q]) feature and a [***uwh****] feature.
  - When C values the [***uclause-type:***] feature of T, it becomes [***uclause-type:Q****]. To check this feature, T moves to C.
  - When T is adjoined to C, its sister is not headed by *v*, so we "insert *do*" to pronounce the tense.
  - To check the [***uwh****] feature of C, the interrogative pronoun *what* moves up (into SpecCP).

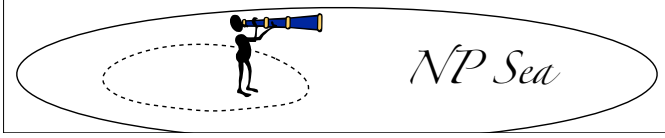
[**CP** what T+C [**TP** H <T> say [**CP** he was writing <what>]]]
[wh] [~~uct:Q*~~]+[Q, ~~uwh*~~]
did

Long distance wh-movement

- At first glance, there seems to be no limit on how far a *wh*-word can move any more than there is a limit on how many clauses you can embed:
  - What did Jack bring?
  - What did Charlie hear [**CP** Jack brought _]?
  - What did Claire say [**CP** Charlie heard [**CP** Jack brought _]]?
  - What did Kate think [**CP** Claire said [**CP** Charlie heard [**CP** Jack brought _]]]?
- *And yet…*

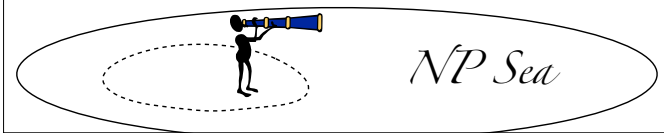
Islands

- Hurley claimed [**CP** that the list does not include Ethan].
- Who did Hurley claim [**CP** that the list does not include _]?
- Jack believes [DP the claim [**CP** that the list does not include Ethan]].
- *Who does Jack believe [DP the claim [**CP** that the list does not include _]]?



Islands

- Hurley claimed [**CP** that the list does not include Ethan].
- Who did Hurley claim [**CP** that the list does not include _]?
- Jack believes [DP the claim [**CP** that the list does not include Ethan]].
- *Who does Jack believe [DP the claim [**CP** that the list does not include _]]?
- *Who* starts out **inside the DP.**
- The DP forms a sort of **barrier to movement**.
- **Complex Noun Phrase island**



Locality

- **The generalization** (which we hope to explain): **A *wh*-word cannot move out of a DP.**
- This is a **locality condition**, a requirement that *wh*-movement not go too far (where escaping from inside a DP counts as "too far").
- We have a bit of a paradox, then: *Wh*-words seem to be able to move arbitrarily far (e.g., from any number of embedded clauses)—but *wh*-words cannot move too far (e.g., out of a DP).

Can wh-words go arbitrarily far?

- Assuming that moving a *wh*-word out from inside a DP is impossible because it is moving the *wh*-word "too far", we should go back to look at why we thought *wh*-words *could* move arbitrarily far.
- What did Kate think [**CP** Claire said [**CP** Charlie heard [**CP** Jack brought _]]]?
- Where do *wh*-words generally move?
  - What will Ethan do _?

What exactly is going on?

- What exactly did you buy?
- What did you buy exactly?
  - All the students will buy a textbook.
  - The students will all buy a textbook.

- What exactly did he say [$_{CP}$ that he wants]?
- What did he say [$_{CP}$ that he wants exactly]?
- What did he say [$_{CP}$ exactly that he wants]?

Scottish Gaelic complementizer agreement

- Bha mi ag ràdh **gun** do bhuail i e.
  was I **ASP** saying **that PRT** struck she him
  'I was saying that she hit him.'
- Tha mi a' smaoineachadh **gu** bheil Iain air a mhisg.
  am I **ASP** thinking **that** is Iain on his drink
  'I think that Iain is drunk.'
- Cò bha thu ag ràdh **a** bhuail i?
  who were you **ASP** saying **that** struck she
  'Who were you saying that she hit?'
- Cò tha thu a' smaoineachadh **a** tha air a mhisg?
  who are you **ASP** thinking **that** is on his drink
  'Who do you think is drunk?'

Inversion in Spanish

- Maria contestó la pregunta.
  Maria answered the question
  'Maria answered the question.'
- Contestó la pregunta Maria.
  answered the question Maria
  'Maria answered the question.'
- Qué querían esos dos?
  what wanted those two
  'What did those two want?'
- *Qué esos dos querían?
  what those two wanted
  ('What did those two want?')

When a *wh*-word is in SpecCP, the subject must appear after the VP.

Successive inversion

- Juan pensaba que Pedro le había dicho que…
  Juan thought that Pedro to-him had said that
  la revista había publicado ya el articulo.
  the journal had published already the article
  'Juan thought that Pedro had told him that the journal had published the article already.'
- Qué pensaba Juan que le había dicho Pedro…
  what thought Juan that to-him had said Pedro
  que había publicado la revista?
  that had published the journal
  'What did Juan think that Pedro had told him that the journal had published?'

Successive inversion

- Juan pen… Juan thou… la revista h… the journal had r… 'Juan thought tha… …m that th… ournal had published the art…e alre…
- Qué pensaba Juan que le había dicho Pedro…
  what thought Juan that to…im had said Pedro
  que había publicado la revista?
  that had published the journal
  'What did Juan think that Pedro had told him that the journal had published?'

That "unbounded" movement…

- It looks like (where we can tell), a *wh*-word that moves from inside an embedded clause **actually moves first to the SpecCP of the embedded clause, and then moves on**.
- [$_{CP}$ What did you say
  [$_{CP}$ <what> that Pat would eat <what>]] ?

- Compare:
  [$_{CP}$ [$_{TP}$ Pat seems [$_{TP}$ <Pat> to be likely [$_{TP}$
  <Pat> to appear [$_{TP}$ <Pat> to cry]]]]]

That "unbounded" movement...

- This means: **Where it looked like *wh*-words were moving over great distances, those distances were traversed in small steps.**

- What did Kate think [$_{CP}$ <what> Claire said
  [$_{CP}$ <what> Charlie heard
  [$_{CP}$ <what> Jack brought <what>]]]?
- If *wh*-movement is in fact constrained not to move "too far", this explains how it can *look* like *wh*-movement is unbounded.

What it means to move too far

- Having gotten an idea about what *is* happening, let's go back to our theory to figure out how we can ensure that it does.
  - We need to allow a *wh*-word to move from one SpecCP to a higher SpecCP.
    - [$_{CP}$ What did Al say [$_{CP}$ <what> that Bart stole <what>]]?
  - We need to prevent a *wh*-word from moving from further inside a CP to a higher SpecCP.
    - [$_{CP}$ What did Al say [$_{CP}$ that Bart stole <what>]]?

What it means to move too far

- A common idea about this is to say that sentences are built up in "chunks", called **phases**.
- **A CP constitutes a phase.**
- Once you've built a phase, you can't "see into it" further than the specifier.
  - [$_{CP}$ C$_{[uwh*]}$ [$_{TP}$ Al T say [$_{CP}$ that [$_{TP}$ Bart stole what…
  - [$_{CP}$ C$_{[uwh*]}$ [$_{TP}$ Al T say [$_{CP}$ what that [$_{TP}$ Bart stole <what>…
- So, in order for [***u*wh****] to be checked, *what* must be visible to it.

Technical implementation

- To allow *what* to move to an embedded SpecCP, we need to be able to add (optionally) a [***u*wh****] feature even to a C that is not itself [clause-type:Q].

[$_{CP}$ C$_{[uwh*]}$ [$_{TP}$ Al T say [$_{CP}$ what that [$_{TP}$ Bart stole <what>…

- If you don't, the topmost [***u*wh****] can never be checked.
- **Embedded C may optionally bear [*u*wh**].**

Wh-islands

- Having gotten this far, we predict that it is not possible to turn this

  Pat asked [$_{CP}$ who kidnapped the Lindbergh baby].

  into a question asking about the kidnappee:

  *Who did Pat ask [$_{CP}$ who kidnapped <who>]?
- See why?

Wh-islands

- An embedded question forms another kind of an "island", generally called a ***wh*-island**.
  - The embedded C already had a [***u*wh****] feature, which was checked by moving the first *wh*-word into SpecCP. By the time we get to the main clause C, it can no longer see a *wh*-word inside the embedded clause.
- *Who did Pat ask [$_{CP}$ who kidnapped <who>]?

Op

- In fact, remember when we looked at yes-no questions and suggested that even they have a "silent *whether*" (***Op***)?
- Pat wondered [$_{\mathbf{CP}}$ *Op* if Hauptmann kidnapped the Lindbergh baby].

  *Who did Pat wonder [$_{\mathbf{CP}}$ *Op* if Hauptmann kidnapped <who>]?
- Evidence that *Op* is really there.

Complex Noun Phrase islands

- We can use the same kind of explanation for the Complex Noun Phrase islands:
- *Who does Jack believe
  [$_{DP}$ the claim [$_{\mathbf{CP}}$ that the list does not include _]]?
- If we suppose that DP, like CP, is a phase.
- *Who does Jack believe
  [$_{DP}$ the claim [$_{\mathbf{CP}}$ that the list does not include _]]?

Adjunct islands

- One last type of island we'll consider is the **adjunct island**. Generally: A *wh*-word cannot escape an adjoined modifier.
  - Dr. Hibbert laughed [$_{\mathbf{CP}}$ when Homer lost a finger].
  - *What did Dr. Hibbert laugh [$_{\mathbf{CP}}$ when Homer lost]?
- We don't yet have a good explanation for this. So far, we predict these should be possible.

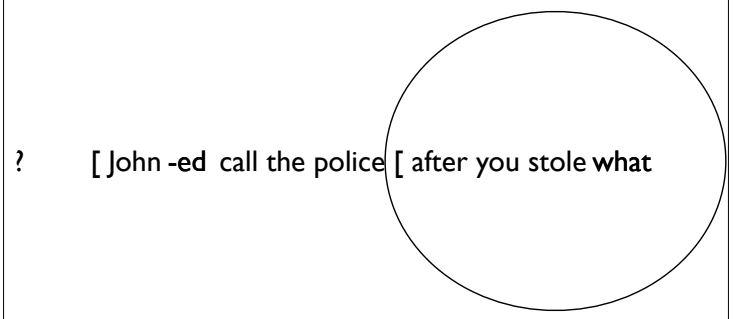
Adjunct islands

- To account for the islandhood of adjuncts in our system, we will add one further condition:
- **The specifier of a phase is only visible to feature matching if the phase gets a θ-role.**
  - *Note:* Adger makes this one step more complicated, to account for "subject islands" but we won't do that here.
- Adjuncts differ from arguments in precisely this property.

In sum...

- Sentences are "chunked" into **phases** as they are built up. Phases are **CP** and **DP**.
- A feature outside of a phase cannot match a feature further inside the phase than its specifier.
- This leads to **island phenomena**, configurations in which a *wh*-word would be "trapped":
  - **CNP islands:** A *wh*-word cannot get to the specifier of DP and so is not visible from outside.
  - ***Wh*-islands:** A *wh*-word cannot get to the specifier of an embedded question (that already has a *wh*-word, or *Op*, in its specifier).
  - **Adjunct islands:** Even the specifier is not visible if the phase did not get a θ-role.

Islands



"Island effects" are a property of movement

1) Jack believes [$_{DP}$ the claim [**$_{CP}$** that the list does not include Ethan]]?

2) *Who does Jack believe [$_{DP}$ the claim [**$_{CP}$** that the list does not include _]]?

3) Who believes [$_{DP}$ the claim [**$_{CP}$** that the list does not include who]]?

4) Dr. Hibbert laughed [**$_{CP}$** when Homer lost a finger].

5) *What did Dr. Hibbert laugh [**$_{CP}$** when Homer lost _]?

6) Who laughed [**$_{CP}$** when Homer lost what]?

- So long as the *wh*-phrase doesn't *move*, it seems that there's no problem with simply having a *wh*-phrase inside an island.

"Island effects" are a property of movement

- Japanese: a *wh*-in-situ language.
- Taroo-ga **[$_{DP}$** Hanako-ni **nani-o** ageta hito-ni **]** aimasita ka?
  T-nom H-dat what-acc gave man-dat met.pol Q
  '*What did Taro meet [the man that gave _ to Hanako]?'
- Taroo-ga **[$_{CP}$** Hanako-ga **nani-o** yomu maeni **]** dekakemasita ka?
  T-nom H-nom what-acc read before left.pol Q
  '*What did Taro leave [before Hanako read _]?'

- ***Wh*-words don't move. Islands don't matter.**

Why phases?

- One of the main motivations behind phases (conceptually—empirically, there is plenty of evidence) is that is makes computation easier.
  - That is, again, the system is lazy. It works in chunks, it never has to look too far to find a feature for checking.
- What happens when a phase is "committed"?
  - The standard idea is that the *phonological interpretation* and *semantic interpretation* of that chunk becomes fixed, and can't be altered later. Terminology: **"Spell-out"**
- Terminology: The requirement that movement not go "too far" (not escape a committed phase) was known in the old days as **Subjacency**—you may still encounter this term when talking to linguists at parties (or reading older papers).