Form a question on the basis of the underlined constituent:

20. Bill believes that John thinks that Mary heard that Susan read that Peter claims that Fred wants to meet <u>Kathy</u> in Copley square because he likes open spaces.

21. Bill believes that John thinks that Mary heard that Susan read that Peter claims that Fred wants to meet Kathy <u>in Copley square</u> because he likes open spaces.

22. Bill believes that John thinks that Mary heard that Susan read that Peter claims that Fred wants to meet Kathy in Copley square <u>because he likes open spaces</u>.

23 a. Bill met the man who likes <u>Mary</u>

    b. *Who$_k$ did Bill meet the man who likes t$_k$


24 a. John left the party because he didn't like <u>the host</u>

    b. *Who$_k$ did John leave the party because he didn't like t$_k$


25 a. That Linda failed <u>the exam</u> proves that she didn't study hard enough

    b. *What$_k$ that Linda failed t$_k$ proves that she didn't study hard enough


26 a. She will pass the exams if she studies <u>in the morning</u>

    b. *When$_k$ will she pass the exams if [she studies t$_k$]

# Islands

- There are environments out of which (Wh-)movement is not possible.
- We call these environments "islands for extraction" or just "islands".
- In (23-26) we see certain conditions under which CPs become islands.
- In (20-22) we see conditions under which CPs are not islands.
- Can you tell the difference?

Under what conditions is a CP not an island?

Or, under what conditions is a CP an island?

<span style="color:red">If a CP is not the complement of a verb, it is an island for movement. That is, extraction out of it is not possible.</span>

And the same holds in Russian, as the next few slides show.

**R1.** Petjasčitaet,   čto   Maša    xočet vstretiť'sja
Petja  believes that   Masha    wants    to.meet

s   Vanej    na Dvortsovoj
 with Vanja on Palace.square

'Petja believes that Masha wants to meet <u>Vanja</u> in
   the Palace.square'

**R2.** S     kem  Petja  sčitaet,      čto    Maša xočet
  with    whom    Petja  believes that   Masha   wants

vstretiť'sja   ___ na Dvortsovoj,
to.meet          on  Palace.square

'Who does Petja believe that Masha wants to meet in
   the Palace square?'

R3. Petja   sčitaet, čto Maša        xočet   vstretit'sja
Petja   believes   that    Masha  wants  to.meet

s    Vanej   na Dvortsovoj
with    Vanja   on  Palace.square

R4. Gde    Petja    sčitaet, čto Maša       xočet
where  Petja    believes    that    Masha  wants

vstretit'sja s    Vanej,
to.meet    with    Vanja

'Where does Petja believe that Masha wants to meet Vanja
   because she likes open spaces?'

**R5.** Petja sčitaet, čtoMaša xočet vstretit'sja
Petja believes that Masha wants to.meet

s Vanej na Dvortsovoj,
with Vanja on Palace.square

potomy čto ona ljubit otkrytye prostranstva.
because she likes open spaces

**R6.** Počemu Petja sčitaet, čtoMaša xočet
why Petja believes that Mash wants

vstretit'sja s Vanej na Dvortsovoj?
to.meet with Vanja on Palace.square

'Why does Petja believe that Masha wants to meet with
Vanja at Palace square?'

R7. Petja  vstretilsja s    čelovekom,
   Petja    met         with    person

kotoryj     ljubit  <u>Mašu</u>
which  loves   Masha
'Petja met with a person who loves Masha.'

R8. *Kogo       Petja  vstretilsja s    čelovekom,
    who.ACC   Petja   met     with    person

kotoryj     ljubit   _?
which  loves

*Who did Petja meet with a person who loves _?

**R9.** Petja  ušel  s  večerinki, potomu čto
Petja  left from  party  because

obidel xozjajku  doma.
offended  host  of.house
'Petja left the party because he offended <u>the host</u>.'

**R10.** *Kogo  Petja  ušel  c  večerinki,
who  Petja  left  from  party

potomu čto  obidel _ ?
because  offended
Who did Petja leave the party because he offended _ ?

R11. Ona  sdast        examen,  eslibudet
she      will.pass   exam          if    will

zanimatjsa      po utram
study          on  mornings
'She will pass the exams if she studies in the morning.'

R12. *Kogda  ona      sdast        examen,
when         she      will.pass   exam

[esli    budet      zanimatjsa  _]?
if   will          study
*When will she pass the exams if [she studies _]?

9

R13. (To,)  čto Valja    provalila  <u>ekzamen</u>,  dokazyvaet,
that  that  Valja   failed      exam        proves

čto ona     malo   zanimalas'
that   she      a.little  studied

'That Valja failed the exam proves that she didn't study hard
  enough'


R14. *[Cto$_k$,    (to,)    čto Valja    provalila _ ]   dokazyvaet,
    what     that     that    Valja    failed              proves


čto ona     malo   zanimalas'?
that    she  a.little  studied

*What that Linda failed _ proves that she didn't study hard
  enough?

R17. Petja  sčitaet, čto Maša   xočet   vstretit'sja
Petja    believes    that     Masha wants  to.meet

s    Vanej         i      <u>Kolej</u> na    Dvortsovoj.
with    Vanja    and     Kolja on    Palace.square

'Petja believes that Masha wants to meet Vanja and Kolja in the
    Palace square'

R18. *Kem      Petja    sčitaet, čto Maša   xočet
who     Petja    believes    that    Masha wants

vstretit'sja        s           Vanej    i        na  Dvortsovoj?
to.meet      with    Vanja    and       on       Palace.square

*Who Petja believes that Masha wants to meet Vanja and __in
    the Palace square?

- What am I testing with the sentences below?

27. * Bill met the woman who John left the party because he didn't like

28. * Fred took the exam which that Linda failed proves that she didn't study

27'. * Bill met the woman who$_k$ John left the party [because he didn't like t$_k$]

28'. * Fred took the exam which$_k$ [that Linda failed t$_k$] proves that she didn't study

The above sentences show that the wh-movement involved in relative clause formation is also subject to islands.

When there is no island, wh-movement can be "long distance":

29. I met the man who$_k$ [Bill believes [that Mary thinks [that Susan likes t$_k$]]]

A variety of different factors can turn an environment into an island, not just what we saw earlier.

Compare the following:

30. How/when did he say that she fixed the car?

31. How/when did he discover that she fixed the car?

32. How do you find out that she fixed the car?

33. How/when did you realize that she fixed the car?

34. How/when did you hear that she fixed the car?

- Factive verbs: verbs that presuppose the  truth of their complement (=their object)

   discover, find out, be aware that, regret, realize, know and others
- Non-factive verbs: hear, say, believe, think

Compare the following two sentences. If you hear me utter (35b) you will think that I believe that the earth is flat as well. Not so if you hear me utter (35a).

35a. You know what! My friend John thinks that
     the earth is flat.
   b. You know what! My friend John realized
      that the earth is flat.

Factive islands are called "weak" islands because adjuncts cannot get out, but arguments can:

36a. What did he discover that Mary had fixed?

   b. What did he realize that Mary had fixed?


The islands that we saw earlier are "strong" islands because neither adjuncts nor arguments can be extracted from them.

# One final island (but there are quite a few more) and its significance

37. What$_k$ does she think that Peter ate t$_k$?

In (37) *what* moves from the position it was generated in at D-structure to the Specifier of the matrix CP.

Does it get there directly ("at one fell swoop") or does it make intermediate stops?

This is an important question with major theoretical repercussions, so let us take a look at it, even if in a simplified form.

- The first question to pose is this:

If wh-movement happens in steps, what would be plausible candidates for intermediate positions?

- Reasonable first hypothesis:

If a wh-constituent moves up in search of a specifier of a CP as landing site, maybe it passes through all intermediate specifiers of CP.

So we are exploring the possibility of the derivation in (38) for sentence (37):

38.

What does she think [$t_k$' that [Peter ate $t_k$]]
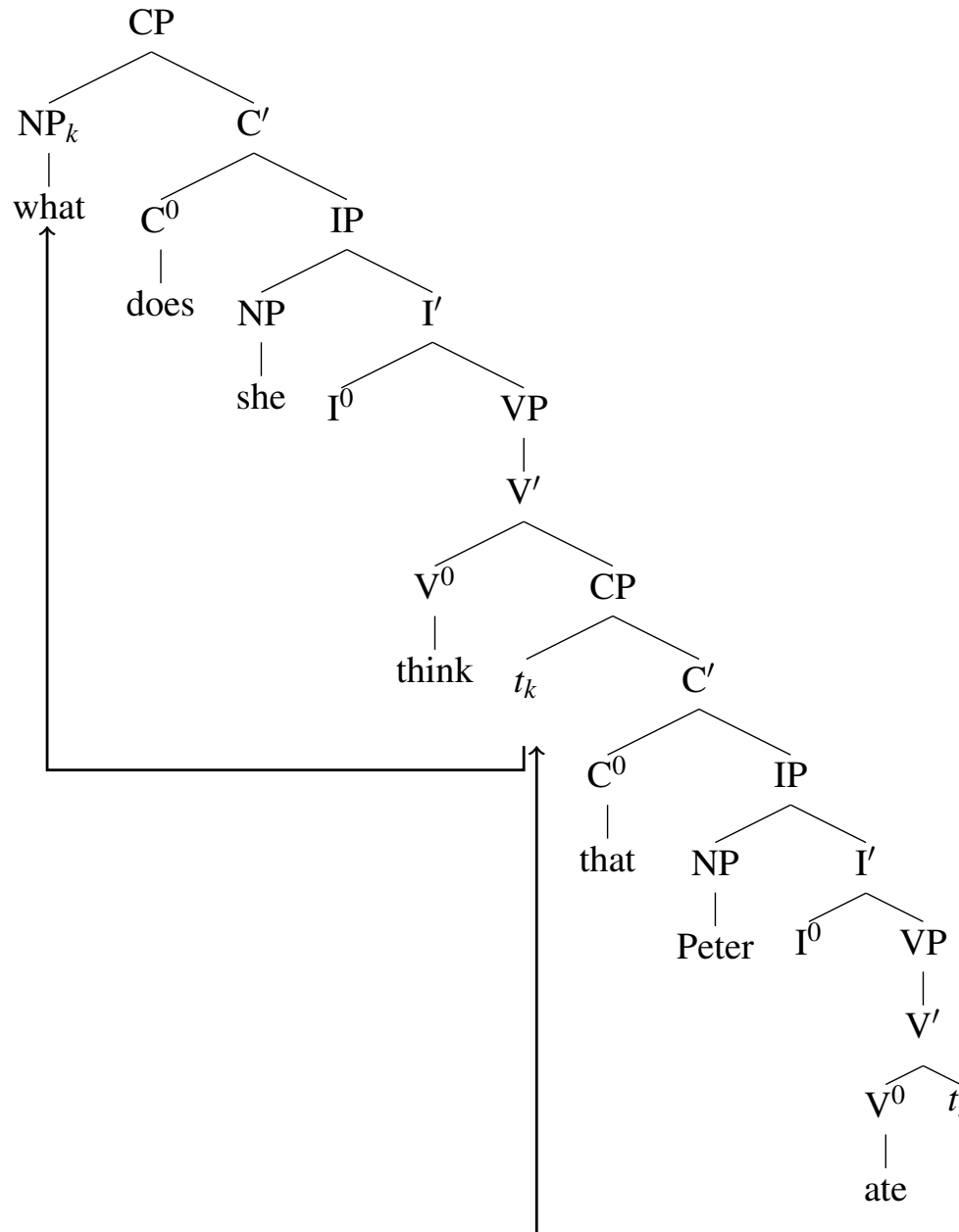
- What could count as a type of argument in favor of (38)?

We fill the specifier of the intermediate CP and see whether movement is still possible. But we have to make sure we fill it with something that has the right to be there to begin with, otherwise the sentence will be ungrammatical, but for an irrelevant reason.

So let's fill the specifier of the intermediate CP with another Wh-word, as in (38-41). The resulting sentences are grammatical but they lack a certain reading! Specifically, the reading that would have resulted if movement from the embedded clause over the filled specifier was possible. This means that movement MUST proceed through that intermediate specifier.

39. How did he ask when she fixed the car?

40. When did he ask how she fixed the car?

41. How did he ask what she fixed?
Notice that in (39-41), the embedded CP *is* the complement of a verb.

Why am I bothering to say this?
So movement is "cyclic". It has (at least some) intermediate steps.

- Wh-movement out of a CP is possible if
  -the CP is the complement of a verb and
- -the verb is not factive (or the mover is an argument) and
  -all the intervening specifiers of CPs are available for movement through.

And there are some further conditions as well but that's OK!

It's not like you need to learn them by heart!

Tacit knowledge!

# What do I mean when I say...

- Movement is cyclic.
- Movement is always to a c-commanding position.
- Islands constrain movement.

  (more or less the same for all investigated languages)

- The possibility of interpreting a wh-constituent inside a certain environment is equivalent to the possibility of wh-movement out of that environment.

Which is the correct answer? a, b, or c?

Movement

- a. is always to a c-commanding position, and cyclic
- b. is impossible out of the complement of a factive verb
- c. is impossible out of a complement CP

Answer: a

# Enter Chinese (data from Huang 1982 MIT PhD)

Look at the following:

42. Zhangsan yiwei Lisi mai-le shenme

    Zhangsan thnks Lisi  bought what

    "What does Zhangsan think Lisi bought?"

What could you say about Wh-questions in Chinese?

Chinese is what is called a "Wh in situ" language. The wh-constituent can stay in its base-generated position (it can also move).

Given what we have said so far, what is a question that would be natural to ask about Chinese?

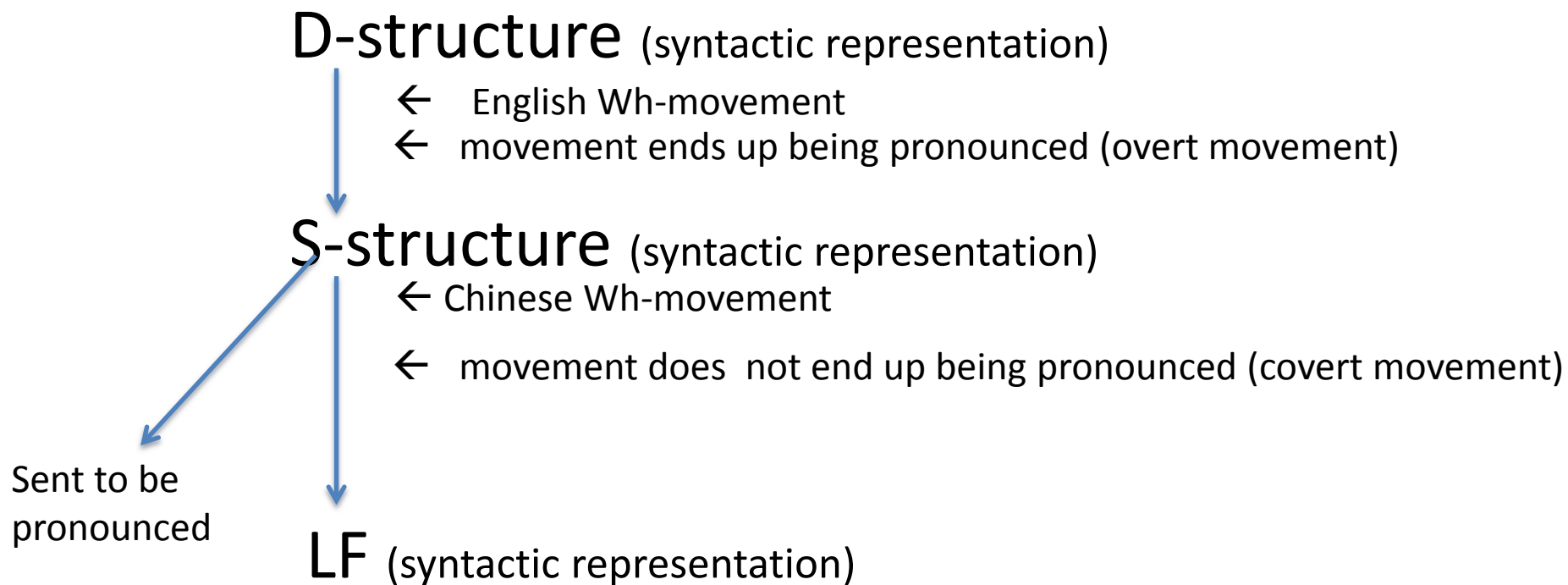If there is no movement, what about islands? Does Chinese have islands?

43. *ni zui xihuan [weishenme mai shu de ren]

    you most like   why        buy book  $C^0$ person

  *"Why$_k$ do you like the man who bought the books t$_k$"


44. *ta [zai Lisi weishenme mai shu yihou]shengqi le?

    he  at Lisi  why        buy  book after] angry Prt

  *"Why$_k$ did he get angry [after Lisi bought the books t$_k$]


45. *[wo weishenme mai shu]     zui hao?

    I    why        buy book     most good?

  *"Why$_k$ is [that I buy the books t$_k$]  best?"


What we see is that Wh-words in Chinese cannot appear in environments out of which English cannot form questions. Why would this be?

- The T model
- There is one hypothesis that has many arguments for it (in addition to these facts, that is):

**D-structure** (syntactic representation)

← English Wh-movement
← movement ends up being pronounced (overt movement)

**S-structure** (syntactic representation)

← Chinese Wh-movement

← movement does not end up being pronounced (covert movement)

Sent to be pronounced

**LF** (syntactic representation)

(Logical Form feeds interpretive component)

In these terms, the difference between Chinese and English lies in the order of operations:

In English, Wh-movement happens before that part of the derivation/representation is sent to the pronunciation component.

In Chinese, Wh-movement happens after the derivation is sent to the pronunciation component.

The position that covert movement exists has gathered a great many arguments overs the years.

# References

- Huang, Cheng-Teh James. "Logical Relations in Chinese and the Theory of Grammar (PDF)."

MIT OpenCourseWare
http://ocw.mit.edu

24.902 / 24.932 Language and its Structure II: Syntax
Fall 2015