1. Argument/adjunct asymmetries

Recall the contrasts below:

1. a) *Extracting an object from a non-finite wh-island*
    ?What were you wondering how to fix?

    b) *Extracting an object from a finite wh-island*
    ??What were you wondering how Bill should fix?

    c) *Extracting an adjunct from a non-finite wh-island*
    * How were you wondering what to fix?

    d) *Extracting an adunct from a finite wh-island*:
    * How were you wondering what Bill should fix?

All of these violate Subjacency, but there is a clear contrast between a) and the rest, and also (says Roberts) between b) on the one hand and c) and d) on the other.

→ The idea: b) is better than c) and d) because the trace of movement in b) is better off than the trace of movement in c) and d).

→ Traces, it was thought, had to satisfy something called the *Empty Category Principle*

2. ECP: traces must be properly governed

3. **Proper government**: government either by
                                    a) a lexical head
                 or   b) by an antecedent

(This was back when people were still thinking of traces as subject to various binding principles. Saying a trace had to be governed by an antecedent was sort of like saying it had to be bound in its governing category).

4. a)   Government: a head governs X if the head c-commands X and
                                    no barrier intervenes between the head and X

    b)   Barrier: any XP except IP

Basically, to satisfy the ECP, either a trace has to be sister to a lexical head (thereby satisfying a), or its chain has to obey Subjacency (thereby satisfying b).

→ Adjuncts, by definition, *can't* be sister to a lexical head, so the only way for an adjunct extraction to be well-formed is for it to obey Subjacency

→ Objects are sisters to a lexical head (to get their internal theta-roles), so they are better than adjuncts in Subjacency-violating circumstances.

→ Subjects are *not* sisters to a lexical head, so they're as bad as adjuncts when you try to extract them in Subjacency-violating circumstances:

> *Extracting a subject from a wh-island*
5.   *Who were you wondering how *t* would play the song?
6.   *Who were you wondering whether *t* would play the song?

> *Extracting a subject from a CNPC*
7.   *Who did you believe the claim that *t* played the song?

> *Extracting a subject from a clausal subject:*
8.   *Who is that *t* would arrest the rioters certain?

→ Note: this means that it's not right to talk about argument-adjunct asymmetries, in that subjects are also arguments

→ also note: wh-phrases get Case. It's the lexical government of the position of the *wh*-trace that's important, not the position of the *theta*-trace:

a.   *What were you wondering how broke?
         ??What were you wondering how Bill broke?
         compare:

b.   *What were you wondering whether opened?
         ??What were you wondering whether Bill opened?

c.   *What were you wondering how *t* was broken?
         *What were you wondering whether *t* was opened?

→ it also means that a kind of prima-facie 'obvious' solution to the badness of adjunct extraction isn't exactly right.

Processing alternative to the ECP that doesn't quite work: the reason that the intended interpretations of Subjacency-violating adjunct extractions are hard to get is really a *processing* problem: because adjuncts are not selected for by any verb, you have no clues about where the extracted phrase originated — no unambiguous 'gap'. Hence, the competition provided by the grammatical matrix clause-extraction reading really gets in the way of seeing the intended embedded clause-extraction reading

Why this doesn't work: In subject-extraction cases, which are just as flatly ungrammatical as the adjunct extraction cases, you *do* have an unambiguous gap -- the only place the extracted element could have originated is in the subject gap in the embedded clause,

where the embedded verb should be assigning its embedded theta-role. But they're much worse than the object extraction cases.

Another reason why this doesn't work: you see ECP effects in Chinese (a wh-in-situ language) but you don't see Subjacency effects. If you have the wh-word in-situ, there's no ambiguity about the intended reading. If the extra badness of Subjacency with adjuncts in English was just a processing effect, then in a wh-in-situ language without Subjacency effects, then the adjunct wh-sentences should be grammatical as direct questions, but they ain't.

2   Wh-movement at LF? Chinese

→ Chinese is a wh-in-situ langauge. The question-word in a direct question appears in the spot where its non-question-word correlate would appear in a declarative:

9.   Zhangsan   yiwei Lisi   mai-le   shenme   ?
        Z.   thinks L.   bought-asp   what   ?
        "What does Zhangsan think Lisi bought?"

→ Embedded questions, where the force of the sentence is declarative, but contains a verb that selects for an embedded question clause, like *wonder*, also have the wh-word in-situ

10.   Zhangsan   xiang-zhidao Lisi   mai-le   shenme.
        Z.   wonders   L.   bought-asp   what
        Zhangsan wonders what Lisi bought.

→ Chinese doesn't obey Subjacency for arguments. That is, you can put a wh-word in for an object, in any of the island conditions we've seen, and get a grammatical direct-question interpretation:

11.   CNPC: wh-word giving direct question ok in a relative clause
        ni   zui   xihuan [shei   mai   de shu]?
        you   most   like   [who   buy   prt book]
        "Who do you like the books that *t* bought?
        (i.e. "Who is the x such that you like the books x bought?")

(I presume that if you filled in "Zhangsan" for "shei" above, you'd have a sentence that meant "You like the books that Zhangsan bought") (?)

12.   Subject condition: wh-word giving direct question ok in clausal subject
        [wo   mei   shenme]   zui   hao?
        I   buy   what   most good?
        What is [that I buy *t]* good?   (That I buy books is good)
        i.e. what is the X such that that I buy x is good?

(cf. It is good that I buy books.   What is it good that I buy?)

13.   Argument extraction from a wh-island:
        ni   xiang-zhidao [wo weishenme   mai   shenme]
        you   wonder   [I   why   buy   what]
        What do you wonder why I buy?
        i.e. What is the x such that you wonder why I buy x?

So, given that all of these are fine, what is going wrong with the following?

First: a grammatical sentence with an adjunct wh-word in situ: Chinese speakers?
14.   Zhangsan   yiwei [Lisi   weishenme   mai-le shu]
        Z.   thinks Lisi   why   bought book
        "Why does Zhangsan think Lisi bought books?
Now: What about if we put an adjunct wh-word inside our islands:
15.   CNPC (relative clause)
        *Ni   zui   xihuan [weishenme   mai   su   de   ren]
        you   most like   [why   buy   book prt   person]
        "Why do you like [the man who bought the books *t*]?

on the reading: What is the reason x such that you like the man who bought
                  the books for that reason x?

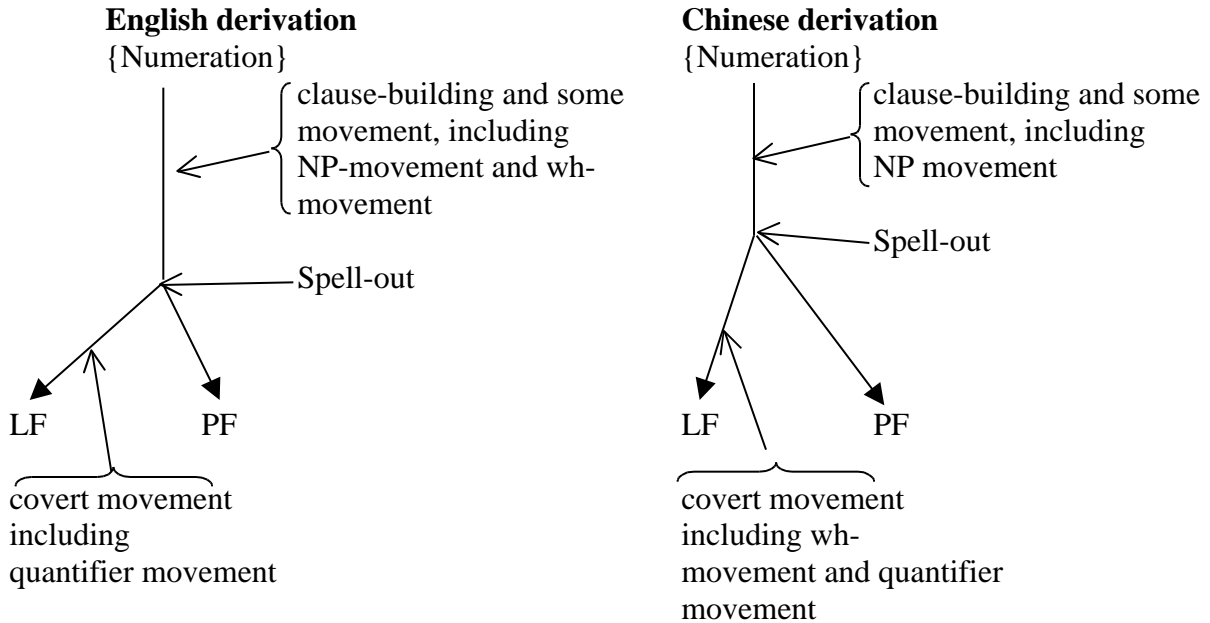16.   Subject condition:
        *[Wo weishenme   mai   shu]   zui   hao?
         [I   why   buy books]   most   good
        Why is [that I buy books *t*] good?
        i.e. What is the reason x such that that I buy books for that reason is good?

17.   Wh-island
        ni   xiang-zhidao [wo weishenme   mai   shenme]
        you   wonder   [I   why   buy   what]
        Why do you wonder what I buy *t* ?
        i.e. What is the reason x such that you wonder what I buy for that reason x?

Notice that there can be no ambiguity in 15-17 in where the *why*-word is construed, and yet the direct question readings for these *why*-words are not grammatical.

Explanation (Huang 1982): Chinese wh-words move *at LF*. LF-movement of wh-words is subject to the ECP, but not to Subjacency.

That is: the Chinese syntactic derivation is sent to spell-out earlier than the English one:

English derivation
{Numeration}

clause-building and some
movement, including
NP-movement and wh-
movement

Spell-out

LF   PF

covert movement
including
quantifier movement

Chinese derivation
{Numeration}

clause-building and some
movement, including
NP movement

Spell-out

LF   PF

covert movement
including wh-
movement and quantifier
movement

When we look at Watanabe, we'll see that this is probably the wrong approach to take to Chinese, but it's for the moment useful for introducing the idea of covert movement.

9.   Zhangsan   yiwei Lisi   mai-le   shenme   ?
     Z.   thinks L.   bought-asp   what   ?
     "What does Zhangsan think Lisi bought?"

10. Zhangsan   xiang-zhidao Lisi   mai-le   shenme.
     Z.   wonders   L.   bought-asp   what
     Zhangsan wonders what Lisi bought.

If there's LF-movement of the wh-phrase in Chinese, then we can understand why 10 gets an embedded question reading (because *xiang-zhidao,* 'wonder', takes an embedded *question* complement, while *yiwei*, 'think', takes an embedded *declarative* complement. Although the surface form of the embedded clauses in 9 and 10 looks identical, the wh-phrase must be interpreted as a direct question in 9 and as an embedded question in 10.

Huang's idea, as Roberts presents it, was basically that the ECP applies to LF movement but Subjacency doesn't.

Unfortunately, this doesn't make the right predictions about subject extraction, which in English, we hypothesized, was subject to the ECP. That's why sentences like 5-8, above, were so bad:

       Extracting a subject from a wh-island
5.   *Who were you wondering how *t* would play the song?
6.   *Who were you wondering whether *t* would play the song?

Extracting a subject from a CNPC
7.   *Who did you believe the claim that *t* played the song?

Extracting a subject from a clausal subject:
8.   *Who is that *t* would arrest the rioters certain?

But Roberts showed us one example of a subject argument in-situ in Chinese in a CNPC (with a relative clause), which was *grammatical*:,

11.   CNPC: wh-word giving direct question ok in a relative clause
      ni   zui   xihuan [shei   mai   de shu]?
      you   most   like   [who   buy   prt book]
      "Who do you like the books that *t* bought?
      (i.e. "Who is the x such that you like the books x bought?")

And we can test this for the other islands condition, if our Chinese speakers are agreeable:

18.   Subject condition: subject wh-word giving direct question ok in clausal subject?
      [shei   mei   de shu]   zui   hao?
      who   buy   prt book   most good?
      Who is [that *t* buy book] good?   (That I buy books is good)
      i.e. Who is the X such that that x's buying the book is best?

Is this a grammatical question? (Did I make a mistake with my *de shu*? I'm sure it's very pragmatically odd. Suggestions? Maybe substitute a verb like "write the letter" or "tell the story" or something?

19.   Subject extraction from a wh-island:
      ni   xiang-zhidao [shei weishenme   mai   de shu]
      you   wonder   [who why   buy   prt book]
      Who do you wonder why *t* buys books?
      i.e. Who is the x such that you wonder why x buys books?

hmm. More on this when we look at Huang's article

Also: ECP and exceptional case-marking

20.   a.   I was wondering whether to believe Bill to have told the truth.
      b.   *Who were you wondering whether to believe to have told the truth?
      compare: I was wondering whether to believe Bill.
             Who were you wondering whether to believe?

22.   a.   I was wondering whether to believe that Bill told the truth.
      b.   Who were you wondering whether to believe told the truth?

23.   a.   I was wondering whether Sue believed Bill to have told the truth.
.   b.   Who were you wondering whether Sue believed to have told the truth?

        compare: I was wondering whether Sue believed Bill.
                Who were you wondering whether Sue believed?

Next time (Tuesday): Discussion of Watanabe, beginning of discussion of Huang
        more on covert movement, and quantifiers

Time after that (Thursday): end of discussion of Huang,, Minimalist approaches to a-bar movement and complement-dependent asymmetries

A-bar homework *next* Thursday, not this Thursday.

NO official Wh-questions this week. Apologies for my lack of response to your last set of questions -- I'll get to it, I promise! I'm finding that as the semester comes to close, I don't have as much time as I did at the beginning… again, apologies!

Unofficial questions very welcome.