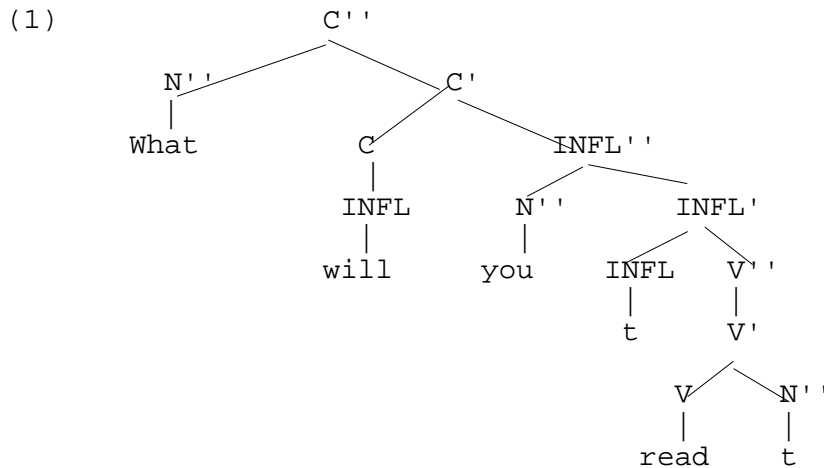## Subjacency
November, 2009

We found a way to analyze the superficially unusual S and S' as perfectly well-behaved X' structures, IP and CP, respectively. Recall that the SPECifier position of an XP category is the sister of X'. We have made use of this position in our analysis of possessives as SPECs of NP (or DP); of NP (or DP) as SPEC of IP. CP, then, is also expected to have a SPEC position. It is reasonable to conjecture that this is the position that WH-phrases move to, as illustrated in (1).

(1)

```
                        C''
         N''                    C'
          |
        What          C              INFL''
                      |
                     INFL        N''        INFL'
                      |           |
                     will        you    INFL      V''
                                          |        |
                                          t        V'

                                             V         N''
                                             |         |
                                           read        t
```
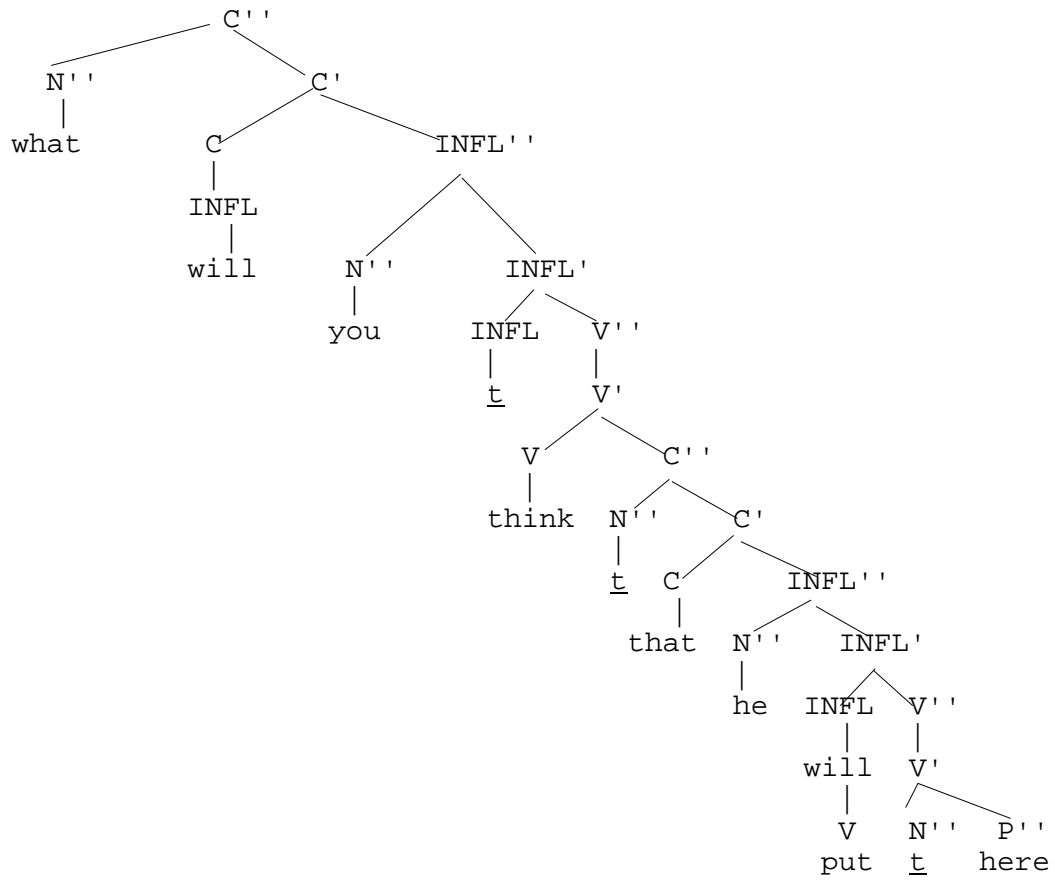
Evidence for this analysis is provided by a phenomenon known as the WH-Island Constraint (discovered by Chomsky in the very early 1960's): unlike an embedded declarative, an 'embedded question' does not permit extraction out of it:
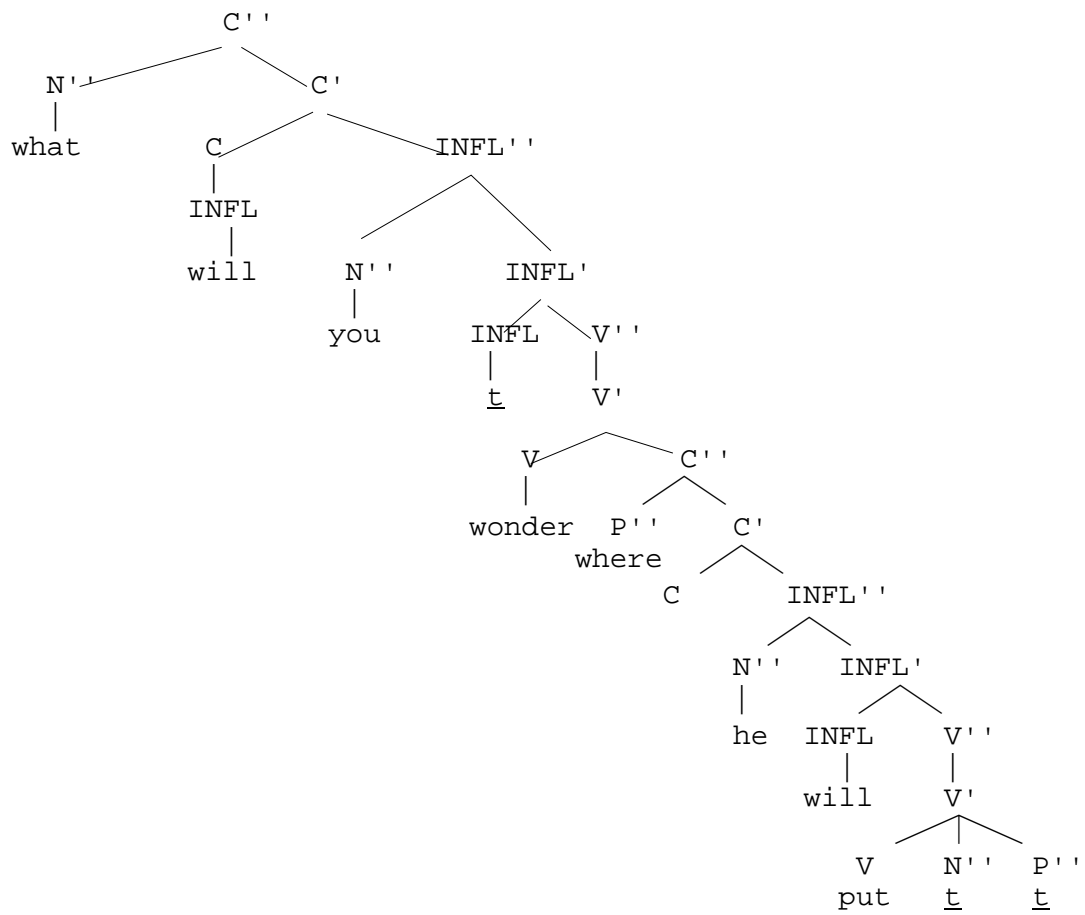
(2)   What will [you think [that [he will put t here]]]
(3) *What$_1$ will [you wonder [where$_2$ [he will put t_1 t_2]]]

If we assume that apparent long distance movement, as in (2), is actually the result of a sequence of short movements, then the SPEC of CP analysis of WH-Movement provides an immediate analysis of (2) vs. (3). In (3), the SPEC of the lower C'' is filled (by where) so it is not available as an escape hatch from the lower clause. But in (2), the lower SPEC of CP is available.

```
(2')                        C''
                N''                  C'
                 |            C            INFL''
                what          |
                            INFL           N''         INFL'
                             |              |
                            will          you    INFL        V''
                                                  |           |
                                                  t           V'
                                                         V          C''
                                                         |      N''       C'
                                                       think     |
                                                                 t    C         INFL''
                                                                      |
                                                                    that   N''         INFL'
                                                                            |
                                                                           he    INFL      V''
                                                                                  |         |
                                                                                 will       V'
                                                                                  |      V''   P''
                                                                                  V      |
                                                                                 put     t    here
```

```
(3')                        C''
                N''                  C'
                 |            C            INFL''
                what          |
                            INFL           N''         INFL'
                             |              |
                            will          you    INFL     V''
                                                  |        |
                                                  t        V'
                                                      V            C''
                                                      |       P''        C'
                                                    wonder    where
                                                                    C         INFL''
                                                                         N''         INFL'
                                                                          |
                                                                         he    INFL        V''
                                                                                |           |
                                                                               will         V'
                                                                                       V    N''   P''
                                                                                       |
                                                                                      put    t     t
```

We can state the requirement in the following way:

(4) One step of movement cannot 'cross' 2 IPs. [One instance of what
     Chomsky (1973) called 'subjacency', though Chomsky in that work
     used SSC and TSC to rule out this example.]

Then, the well-formed derivation in (2') must involve 2 steps, each of
them only crossing only one IP.

     Topicalization is another transformation that conforms to this
constraint, as shown by the contrast between (5) and (6).

(5)   This book, I think that he will put t here
(6) *This book, I wonder where he will put t

This is particularly interesting because it indicates that a
topicalized constituent must use the SPEC of CP to exit from an
embedded sentence, even though the place where the topic comes to rest
is not SPEC of the higher CP. This can be seen in examples of
embedded topicalization like (7) or (8).

(7)   Mary thinks that this book, I will like t
(8)   Mary thinks that this book, I should say that I like t

     Chomsky subsequent to (1973) also used subjacency to account for
the unacceptability of extraction out of a subject by adding NP to the
list of 'bounding nodes':

(9) *Who did [[stories about t] appear in the newspaper]

(10) One step of movement cannot 'cross' 2 bounding nodes, where the
      bounding nodes are IP and NP.

     Chomsky (1986) was concerned with the stipulative nature of the
list of bounding nodes and with the fact that (10) falsely predicts
that not just subjects but objects are 'islands'.

(11) Who did [you read [stories about t]]

To solve these problems, he proposed instead (I simplify slightly)
that ALL XPs are potentially 'barriers', but that an XP that is the
complement of a lexical head (V, N, A, maybe P) is not a barrier.
This gives the subject-object asymmetry noted just above, since object
is complement of V. This new 'Barriers' theory also accounts for the
observation of Huang (1982) that extraction out of 'adjuncts'
(including adverbial modifiers) is barred:

(12) *Who did you go home [because Mary mentioned t]

Adjuncts, by definition, are not complements of lexical heads. A few
problems still remain. First, since IP is usually not the complement
of a lexical head, it ought to be a barrier. But then, if subjacency
prohibits movement across even one barrier (as Chomsky conjectures),
then WH-movement would be blocked altogether:

(13) Who [t left]

So Chomsky exempts IP (rather ironically, since it was one of the

original bounding nodes, though we are already familiar with another IP exemption). Another obvious problem is that extraction of anything out of VP ought to be blocked, since VP is not the complement of a lexical head. Now things get tricky. Chomsky proposes that an item can escape from a barrier by adjoining to it. Metaphorically, adjoining to a category gets a moving item part way out. Ah, but now, why are there ANY subjacency effects? Adjunction should void all barriers. Chomsky proposes that adjunction to arguments is illicit (based, somehow, on the θ-criterion); and adjunction to an adjunct is prohibited, well, because it is.

The final question is the hardest: What about Chomsky's original island constraint, the WH-island constraint? We have exempted IP; and the embedded CP in (3) is the complement of <u>wonder</u>. So there now aren't any barriers for the movement of <u>what</u>. The answer to this question, unfortunately, goes well beyond the simplified version of the Barriers theory I have summarized here. To see how it really works, you will have to look at <u>Barriers</u> and/or the summary of the Barriers framework in <u>Move α</u> (pp. 69-73).

Chomsky, Noam. 1973. Conditions on transformations. In *A festschrift for Morris Halle*, ed. Stephen Anderson and Paul Kiparsky, 232-286. New York: Holt, Rinehart and Winston.
Chomsky, Noam. 1986. *Barriers*. Cambridge, Mass.: MIT Press.
Huang, C. -T. James. 1982. *Logical relations in Chinese and the theory of grammar*. Doctoral dissertation, MIT, Cambridge, Mass.
Lasnik, Howard, and Mamoru Saito. 1992. *Move α*. Cambridge, Mass.: MIT Press.