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).

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 might [you think [that [he will put \_ here]]]
(3) *What \_ might [you wonder [where \_ [he will put \_ \_ \_]]]

If we assume that apparent long distance movement, as in (2), must actually be the result of a sequence of short movements (as first proposed by Chomsky (1973)), then the SPEC of CP analysis of WH Movement provides an immediate account 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')

what
\[ \text{N''} \]
\[ \text{C} \]
\[ \text{INFL''} \]
\[ \text{INFL} \]
\[ \text{might} \]
\[ \text{N''} \]
\[ \text{INFL'} \]
\[ \text{you} \]
\[ \text{INFL} \]
\[ v'' \]
\[ \text{V'} \]
\[ \text{think} \]
\[ \text{N''} \]
\[ \text{C'} \]
\[ \text{INFL''} \]
\[ \text{that} \]
\[ \text{N''} \]
\[ \text{INFL'} \]
\[ \text{he} \]
\[ \text{INFL} \]
\[ v'' \]
\[ \text{V'} \]
\[ \text{will} \]
\[ \text{V'} \]
\[ \text{C'} \]
\[ \text{N''} \]
\[ \text{P''} \]
\[ \text{put} \]
\[ \text{t} \]
\[ \text{here} \]

(3')

what
\[ \text{N'} \]
\[ \text{C} \]
\[ \text{INFL''} \]
\[ \text{INFL} \]
\[ \text{might} \]
\[ \text{N''} \]
\[ \text{INFL'} \]
\[ \text{you} \]
\[ \text{INFL} \]
\[ v'' \]
\[ \text{V'} \]
\[ \text{think} \]
\[ \text{N''} \]
\[ \text{C'} \]
\[ \text{INFL''} \]
\[ \text{wonder} \]
\[ \text{P''} \]
\[ \text{where} \]
\[ \text{C} \]
\[ \text{INFL''} \]
\[ \text{he} \]
\[ \text{INFL} \]
\[ v'' \]
\[ \text{V'} \]
\[ \text{will} \]
\[ \text{V'} \]
\[ \text{C'} \]
\[ \text{N''} \]
\[ \text{P''} \]
\[ \text{put} \]
\[ \text{t} \]
\[ \text{t} \]
We can state the requirement that forces “successive cyclic” movement 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, mainly because he had the larger clause node now CP as the relevant bounding node. Chomsky (1977) discusses the potential effects of making the smaller clausal node now IP one of the bounding nodes.]

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

There is actually one other derivation to be considered. Suppose in (3'), what first moves into the lower Spec of CP, then from there to the higher Spec of CP. Finally, where moves into the vacated lower Spec of CP. Every step obeys Subjacency. Chomsky (1973) blocks this derivation with an additional condition, one he first put forward in Chomsky (1965):

(51) No rule can apply to a domain dominated by a cyclic node $A$ in such a way as to affect solely a proper subdomain of $A$ dominated by a node $B$ which is also a cyclic node.

In other words, rules cannot in effect return to earlier stages of the cycle after the derivation has moved to larger, more inclusive domains. We will refer to (51) as the “Strict Cycle Condition.”

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 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 evidently 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 since he had already proposed that NP is in the list of 'bounding nodes':

(9) *Who did [IP [NP 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. [Essentially the proposal of Chomsky(1977)]

The major reason Chomsky (1977) switched from CP to IP as the clausal bounding node was to use Subjacency to to rule out extraction from subjects (9) and from embedded questions (3). [As I mentioned
above, Chomsky (1973) used TSC and SSC for WH island effects, but by Chomsky (1976), it had become evident that those conditions constrain A movement but NOT A movement. This created a new problem since objects, unlike subjects, are not islands. As Chomsky (1977) says "It was for this reason that Subjacency was not extended to S <IP> in Chomsky 1973". See the Brief Overview of Subjacency handout for further discussion and solution.]

Rizzi (1980), in a very famous footnote, suggested that IP vs. CP is actually a parameter, a choice available to a language. He claimed that certain WH effects present in English are absent in Italian (and also Subject Condition effects). Rizzi’s examples involve relativization rather than questioning because of a claimed interfering factor with the latter. Relativization should be relevant, since Ross (1967) already showed that that process, like questioning and topicalization, obeys island constraints.

(11) a. Tuo fratello,
your brother,
[CP a cui [IP mi domando [CP [che storie] [IP abbiano raccontato ]]]],...
to whom me demand what stories have.they SUBJ told
"Your brother, to whom I wonder which stories they told,..."

b. La macchina
the car
[CP che [IP mi domando [CP se [IP Mario potrà utilizzare nel week end]]]]
that me demand if Mario may.FUT use in the week end
"The car that I wonder if M. will be allowed to use in the weekend..."

(12) These are Subjacency violations according to the On Wh movement (1977) statement not the Conditions on Transformations (1973) one.

(13) So Rizzi reasoned that a parameter must be a stake, in such a way that while S' (= CP) is the cyclic node for Subjacency in Italian, in contrast S (= IP) is the cyclic node for Subjacency in English.

(14) Rizzi also predicted that, were we to construct examples where two CP cyclic nodes must be skipped, a Subjacency violation would ensue (that is, that the parameter is not ±Subjacency):

(15) *Questo argomento,
[IP di cui [IP mi sto domandando [CP a chi [IP potrei chiedere
[CP quando [IP dovro parlare ]]]]] mi sembra sempre piu complicato.
"This topic, of which I am wondering whom I could ask when I will have to talk, seems to me more and more complicated."

(16) * La macchina
[CP che [IP mi domando [CP se [IP Mario creda [CP che [IP potra utilizzare ]]]]]]
that me demand whether Mario believe.SUBJ that may.FUT use
"The car that I wonder whether Mario believes that he will be allowed to use..."
La nuova idea di Giorgio, di cui immagino che cosa pensi, diverrà presto di pubblico dominio.

"Giorgio's new idea, of which I imagine what you think, will soon become known to everybody."
For evidence for the successive cyclic movement demanded by Subjacency, see the HO about McCloskey's discussion of Irish and the Merchant HO, both linked on the course site.

Here's some evidence from Barss's thesis, based on interaction between Binding Theory and WH-movement:

\[
\text{Which aspect of himself does Bill think John knows that Jerry is proudest of?}
\]