(1) ECP (Empty Category Principle) 1st version:
    A trace must be governed

(2) *John is illegal [\text{CP} \ 	ext{IP} \ \text{to park here}]  
    (CP is a barrier to government; non-finite Infl isn't a governor)

(3) ECP 2nd version:
    A trace must be properly governed  
    (Proper government is government by a \text{lexical} head)

(4) *Who do you think [that \ t \ solved the problem]]  
    (t is not properly governed)

(5) Which problem do you think [that [John solved \ t]]  
    (t is properly governed by solve)

(6) Who do you think [\ t' \ t \ solved the problem]]  
    (t is not lexically governed)

(7) $\alpha$ properly governs $\beta$ if
    i. $\alpha$ governs $\beta$ and $\alpha$ is lexical  
       ('lexical government')
    ii. $\alpha$ binds $\beta$ and $\beta$ is (zero) subjacent to $\alpha$  
        ('antecedent government')

(8) *Who do you think [\text{CP} \ t' \ 	ext{C'} \ that \ 	ext{IP} \ t \ solved the problem]]

(9) Either that somehow blocks antecedent government
    or
    that somehow turns C' into a barrier for antecedent government

(10) ?*Which car did you leave [before Mary fixed \ t]  
     Subjacency - an 'adjunct island'

(11) *How did you leave [before Mary fixed the car \ t]  
     (t is not properly governed, so the ex. violates both Subjacency and the ECP)

(12) Similarly for all islands: extraction of an adjunct in violation of Subjacency always yields crashingly bad results.

(13) Lasnik and Saito technology: A trace that is properly governed is marked +$\gamma$; one that is not is marked -$\gamma$.  The ECP says *[-$\gamma$]

(14) \checkmark How do you think [\ t [(that) [ Mary fixed the car \ t]]]  
     (Why no "that-trace effect with adjuncts?)

(15) Lasnik and Saito proposal: Adjunct traces are not gamma-marked in overt syntax
     (maybe because they aren't present yet).  In LF (as in overt syntax) that can be deleted.

(16) Argument traces are gamma-marked in overt syntax (or we lose the that-trace effect for subjects).

(17) *How$_2$ do you wonder [when$_1$ [John said \ t$_1$ \ t$_2$' [ Mary solved the problem \ t$_2$]]]
(18) Intermediate traces must be properly governed. \((t_2\) is antecedent governed by \(t_2'\); so it must be the latter the is not properly governed in violation of the ECP.)

(19) Further, gamma-marking must be specifically at levels. If \(t_2'\) could properly govern \(t_2\) and then delete, (17) would be a 'mere' Subjacency violation.

(20) Chomsky's version of this, from the mid-1980's: "Adjuncts must be fully represented". That is, all the traces in the chain of the moved adjunct must remain.

(21) *Who left why

(22) Suppose all WH--phrases move eventually, creating an adjunction structure.

(23) LF: 

\[
\begin{array}{c}
\text{who}_1 \\
\text{why}_2
\end{array} 
\quad 
\begin{array}{c}
\text{IP} \\
\text{who}_1
\end{array} 
\quad 
\begin{array}{c}
\text{CP} \\
\text{left} \\
\text{t}_1 \\
\text{t}_2
\end{array}
\]

\(t_2\) is not properly governed

(24) *Who \(t_1\) said [ [ John left why]] Again, intermediate traces must be properly governed.

(25) ?*Which car did you leave [before Mary fixed \(t\)]

(26) Who left before Mary fixed which car Subjacency doesn't constrain LF movement. (Huang)

(27) ?*What do you believe the claim that Lisi bought \(t\) (Subjacency: 'Complex NP constraint'. There is actually a difficult puzzle here, since by the core Barriers theory, there will actually not be any barriers, assuming that a head N \(\theta\)-governs its clausal complement. We put this problem aside here.)

(28) √Ni xiangxin Lisi mai-le sheme de shuofa Chinese you believe Lisi buy-Asp what claim

(29) *Why do you believe [the claim [that [ Lisi left \(t\)]]]

(30) *Ni xiangxin [[ Lisi weisheme likai] de shuofa Chinese you believe Lisi why leave claim

(31) ??What1 do you wonder [why2 [Lisi bought \(t_1\) \(t_2\)]] 'WH-island constraint'

(32) *Why2 do you wonder [what1 [Lisi bought \(t_1\) \(t_2\)]]

(33) ni xiang-xhidao [Lisi weisheme mai-le sheme] Huang you wonder Lisi why bought what
(34) OK LF (33) can have the indicated interpretation.

\[
\begin{align*}
&S'\text{[COMP sheme}_1]\text{[s ni xiang-zhida0 [s'\text{[COMP weisheme}_2]_2
&[s Lisi t_1 mai-le t_1]_,]_1]}
&= \text{‘what is the thing } x \text{ such that you wonder why Lisi bought } x' \\
\end{align*}
\]

(35) * LF (33) cannot have the indicated interpretation.

\[
\begin{align*}
&S'\text{[COMP weisheme}_2]\text{[s ni xiang-zhida0 [s'\text{[COMP sheme}_1]_1
&[s Lisi t_1 mai-le t_1]_,]_1]}
&= \text{‘what is the reason } x \text{ such that you wonder what Lisi bought for } x, \\
\end{align*}
\]

(36) And similarly for all islands. This is by far the most powerful argument I know for covert movement.

(37) Mali renwei [[Yuehan weisheme likai]]

Mary thinks John why leave
"Why does Mary think [John left t]"

(38) Long distance interpretation (hence movement) of adjuncts is fine when there is no island.