Superiority

Chomsky 1973 pp. 245-246

(1) John knows [who [t saw what]
(2) *John knows [what [who saw t]
(3) *What books does [John know [to whom [(PRO) to give t t ]]
(4) *To whom does [John know [what books [(PRO) to give t t ]]
(5) "... wh-Movement cannot move a wh-phrase across a wh-subject (just as it cannot move a wh-phrase across a wh-COMP)."
(6) No rule can involve X, Y in the structure
    ...X...[t...Z...-WYZ...]
    where the rule applies ambiguously to Z and Y and Z is superior to Y
(7) Superior (informal): "closer to the root of the tree"
(8) Superior (more formal): A is superior to B if every major category dominating A dominates B as well but not conversely.
(9) John knows [what books [(PRO) to give t to whom ]]
(10) John knows [to whom [(PRO) to give what books t ]]
(11) John knows [what [(PRO) to give t to whom ]]
(12) John knows [to whom [(PRO) to give what t ]]
Possibly cf.
(13) *John knows [who(m) [(PRO) to give what to t ]]


(14) Shallowness: An operation must be the shallowest p. 258
(15) α is shallower than β if and only if the depth of α is properly included in the depth of β. p. 260
(16) Depth: The depth of a Move-α operation affecting α is the union of the depth of α in the input of the operation and the depth of α in the output, where the depth of α is the set of maximal projections which dominate α. p. 258
<<This led to the 'Attract' view of movement, by which the movement of α is to satisfy the needs of the head β to which it moves.>>
Chomsky Ch. 3, p. 181

(17)  Whom₁ did John persuade t₁ [(PRO) to visit whom₂]
(18)  *Whom₂ did John persuade whom₁ [(PRO to visit t₂]

(19)  *Whom₁ "has failed to make the shortest move".  [Not quite accurate]
(20)  "... Movement of whom₂ to [Spec, CP] is longer in a natural sense (definable in terms of c-command) than movement of whom₁ to this position."

Similarly for wh-islands:

(21)  *What did you wonder where John put
(22)  [cp,What₁ did [ip, you wonder [cp, where₂ [ip, John put t₁ t₂]]]]

(23)  Where is closer to the matrix C than what is, so where is an intervener preventing what from moving.  [And where is for some reason frozen in place.]

and ' Superraising':

(24)  *John seems that [it is likely [t to be arrested t]]

(25)  It intervenes between matrix subject position and John preventing the latter from moving.
    [Even though it is frozen in place.]

Relativized Minimality  Rizzi (2001), simplifying and updating Rizzi (1990)

(26)  Y is in a Minimal Configuration (MC) with X iff
    there is no Z such that
    (i) Z is of the same structural type as X, and
    (ii) Z intervenes between X and Y
    <<Intervention is standardly defined in terms of c-command.>>

In the following, the intervener is in bold:

RM and head movement:

(27)a.  They have left.
    b.  Have they <have> left?

(28)a.  They could have left.
    b.  *Have they could <have> left?
    c.  Could they <could> have left?

RM and A-movement:

(29)a.  It seems that it is likely that John will win.
    b.  It seems that John is likely t to win.
    c.  John seems t to be likely t to win.
    d.  *John seems that it is likely t to win.
RM and $\bar{A}$-movement:

(30)a. How many people do you consider __ intelligent?
   b. How intelligent do you consider John __?

(31)a. ??How many people do you wonder whether I consider intelligent?
   b. *How intelligent do you wonder whether I consider John __?