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 ... [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) *Whom₂ "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) \([\text{cp} \text{What}_1 \text{ did } [\text{ip} \text{ you wonder } [\text{cp} \text{ where}_2 [[\text{ip} \text{ John put } t_1 t_2]]]]\]
(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 \( r \)]
(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 Ā-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 __?