Shortest Move

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* ... [$_{\alpha}$ ... *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*]]

Oka (1993) MITWPL 19, Vol. II

(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

Chomsky Ch. 3, p. 181

(17) Whom$_1$ did John persuade t_1 [(PRO) to visit whom$_2$]
(18) *Whom$_2$ did John persuade whom$_1$ [(PRO to visit t_2]

(19) *Whom*$_2$ "has failed to make the shortest move". [Not quite accurate]
(20) "... Movement of *whom*$_2$ to [Spec, CP] is longer in a natural sense (definable in terms of c-command) than movement of *whom*$_1$ to this position."

Similarly for *wh*-islands:

(21) *What did you wonder where John put
(22) [$_{CP}$What$_1$ did [$_{IP}$ you wonder [$_{CP}$ where$_2$ [$_{IP}$ 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 *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.>> <<For Y to move to position X, Y must be in a minimal configuration with X.>>

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 __ ?