1. The Locality of syntactic computations.

Displacement processes are local.

Displacement processes, such as Wh-movement:

(1) Whom did you give the book to <whom>

may also appear to occur long distance:

(2) a Whom did Mary expect [that you would give the book to <whom>]

   b Whom do you think [that Mary expected [that you would give the book to <whom>]]

50 years or so of investigation on locality in formal generative syntax have shown that, despite its potentially very long-distant realization, syntactic displacement is in fact a local process. The audible position in which a moved constituent is pronounced and the position of its copy inside the clause can be far from each other. However, the long-distance dependency is split into steps through iterated applications of short movements, so that any dependency holding between two occurrences of the same constituent is in fact very local.

(3)

\[ \text{[CP}_3 \text{ Whom [do you think [CP}_2 <\_\_\_\_> [that Mary expected [CP}_1 <\_\_\_\_> that [you gave the book to <\_\_\_\_>]]]]] \]

*Island* context: Complex noun phrase (Ross 1967):

(4) * Whom did Mary report [DP the fact [CP that John talked to <\_\_\_\_>]

No position available to exit DP. I.e.: No *edge* position.

- Movement through Spec-CP (*edge*)
- Movement through Spec-vP (*edge*)

**CP and vP Phases: the minimal domain of syntactic computations.**

Further evidence on the *locality* of syntactic movement:

- Movement through Spec-CP (*edge*)

(5) a In a *Quantifier Floating* structure (*Q-Float*) Q can be stranded in an intermediate CP-*edge* position (McCloskey 2000 on West Ulster English, iii.):
i. What all did you get <___> for Christmas  
   (Q-Float, with Q stranded within the same clause)
ii. What did you get all <___> for Christmas  
   (Q-Float, with Q stranded within the same clause)
iii. [What did he say [all that [he wanted <___>]]]  
   (Q-Float, with Q stranded within the same clause)

(On Q-Float as Q-stranding Sportiche 1988 and much subsequent literature)

b In a wh-question, wh-coping occurs in the intermediate CP-edge position (Fanselow and Mahajan 2000, Felser 2004, on German, i.; Mc Daniel 1989 on Romani, ii.; Du Plessis 1977 on Afrikaans, iii.)

i. Wen glaubst Du, wen sie getroffen hat <___>?  
   ‘Who do you think she met?’

ii. Kas o Demiri mislenola kas i Arifa dikhla <___>?  
   ‘Who does Dimiri think Arifa saw?’

iii. Waarvoor dink julle waavoor werk ons <___>?  
   ‘What do you think we are working for?’

c In a wh-question, the phenomenon of partial wh-movement occurs in some languages: the moved wh-phrase is pronounced in the intermediate CP-edge position and the scope of the question is signaled by a wh-expletive scope marker in a higher CP (Mc Daniel 1989, German, i.; Citko 2014, Polish, ii.; Stepanov 2000, Russian, iii.; Horvarth 1997, Hungarian, iv.)

i. Was galubt Hans [mit wem Jacob jetzt spricht <____>]?  
   ‘Whom does Hans believe Jacob is now talking with?’

ii. Jak myślisz [co Maria zrobi]?  
   ‘What do you think Maria will do’

iii. Kak vy dumaete [kogo ljubit Ivan]?  
   ‘Who do you think Ivan loves?’

iv. Mit gondolsz [hogy kit láttott János]?  
   ‘Who do you think that János saw’

Furthermore, much as in the adult grammars of the different languages illustrated in (14)b, English-speaking children have been shown to undergo a stage in their development in which they pronounce the intermediate position (Thornton 1992):
(15)  *Who* do you think *who* is in the box?

Among other considerations, this child option strongly suggests that breaking the long extraction into shorter steps somehow optimizes the computation, despite the fact that at least one extra step is added to it.

- Movement through Spec-vP (edge)

(16)  a  nin-ne aara aTiccu?
you_{ACC} who beat_{PST}
‘Who beat you?’  
Malayalam (16a, Jayaseelan 2001)

b  Hamid-ne kya: par.ha?
Hamid_{Erg} what read
‘What did Hamid read?’  
Hindi-Urdu (16b, Manetta 2010)

c  Co Ewa komu dała?
what_{ACC} Ewa who_{DAT} gave
‘What did Ewa give to whom’  
Polish (16c, Citko 2010)

(17)  
\[
\begin{array}{c}
\text{[CP3 Whom [do you [vP3 <__>think [CP2 <__> [that Mary [vP2<__>expected [CP1 <__> that [you [vP1 <__> gave the book to <whom>]]]]]]]]]
\end{array}
\]

2.  **Intervention Locality.**

*Agree:* the fundamental engine of syntactic movement.

Take the argument structure of a transitive vP:

\[
\text{vP} \\
\text{DP/EA} \\
\text{V} \\
\text{V} \\
\text{DP/IA}
\]

The DP/EA is the DP, which becomes the subject of the clause, i.e. the highest DP within TP, the DP in Spec-TP. The DP/EA is attracted to the high Spec-TP position

whence: S-Verb agreement, in fact S-T agreement  
(then T/Agreement + T realized on V, possibly through Verb-movement)
A natural way to express the property that *Agree* should always target the *edge* of (the relevant domain, i.e.) the vP as in the illustration in (20), is in terms of *intervention*. *Agree never crosses an intervener*.

The principle:

**Featural Relativized Minimality/fRM:**

Given: \[X...Z...Y\]

A local relation cannot hold between X and Y if Z intervenes and Z matches the specification of X in the relevant morphosyntactic features (Rizzi 1990, 2004).

X = the Target of the dependency carrying relevant features, i.e. movement attracting features in movement dependencies
Z = the Intervener, sharing relevant features with X
Y = the Origin of the dependency

Where X c-commands Z; i.e. intervention is a hierarchical relation.

(22) * \([_{CP1}When \ [do \ you \ wonder \ [_{CP2}who \ [left <when>]]]\]
  \[X \quad Z \quad Y\]
  \[ [+Q] \quad [+Q] \]

- Featural Relativized Minimality also plays a role in giving an interpretation of stages of development as well as in capturing aspects of the way in which impaired populations (SLI, Aphasics) deal with the complex intervention configurations (Friedmann, Belletti, Rizzi 2009 and much related work).