Chapter 1

Superiority and Movement

As originally stated by Kuno and Robinson (1972, 474), Superiority constrains *wh*-preposing in the following way:

(1) A *wh*-word cannot be preposed, crossing over another *wh*.

This generalization embodies the following three claims:

(2) a. Superiority applies to *wh*-words.
    b. Superiority is a property of movement.
    c. Superiority involves crossing.

The statement in (1) captures the ill-formedness of (3b), where the *wh*-object is preposed and crosses over the *wh*-subject.

(3) a.   I wonder who bought what.
    b. *I wonder what who bought.

Since superiority effects were observed and formulated as in (1), additional data have been discovered and various proposals have been made to accurately locate Superiority within the general theory of grammar. Throughout the development of this line of research, the essence of superiority has generally been analyzed as a condition on the movement of *wh*-phrases,[1] and *wh*-phrases not displaying superiority effects have generally been analyzed as not undergoing movement. For instance, it has been pointed out that not all *wh*-words exhibit the effect of superiority: specifically, *which*-phrases do not exhibit this effect. The link between superiority and movement has naturally led to proposals to distinguish the two types of *wh*-phrases in terms of movement: according to this approach, D(iscourse)-linked *which* phrases, which do not exhibit superiority effects, do not undergo movement, whereas non-*which* phrases do exhibit superiority effects and therefore must move (see, e.g., Pesetsky

1987). In this chapter, we will demonstrate not only that the claim in (2a) is empirically inadequate, but also, contra (2b), that superiority effects are exhibited in structures that are not derived by movement and, contra (2c), that they do not involve crossing.

1.1   Superiority as a Condition on Movement

Working within the principles-and-parameters framework (Chomsky 1981),[2] many researchers have adopted the assumption that *wh*-phrases must undergo movement and have suggested some version of the Empty Category Principle (ECP) or other well-formedness conditions on empty categories to derive Superiority as stated in (1) and illustrated in (3). Representative formulations are Kayne's (1983) Connectedness; May's (1985) and Pesetsky's (1982) Path Containment Conditions; Huang's (1982), Lasnik and Saito's (1984), and Rizzi's (1990) head and antecedent government; and Aoun's (1985, 1986) Generalized Binding in place of the antecedent government clause of the ECP.[3] Indeed, under an ECP approach, the superiority effect exhibited in (3b) was used in turn to argue for the existence of LF movement. The overt movement of *what* in (3b) makes the empty category left by the LF movement of the subject, *who*, ill formed, whereas the trace left by the covert movement of the direct object, *what*, in (3a) is well formed. The contrast between (3a) and (3b) is reduced to the well-formedness of the traces generated by movement of the in-situ *wh*-phrases at LF.

In fact, ECP-based accounts have proven to be not quite adequate empirically. First, it was observed that Superiority is not a condition on D-linked *wh*-expressions. (The examples in (4) are from Hornstein 1995, 130–132; those in (5)–(6) are from Pesetsky 2000, 16.)

(4) a. Which man reviewed which book?
    b. Which book did which man review?

(5) a. Which person ___ bought which book?
    b. Which book did which person buy ___?

(6) a. Which person did John talk to ___ about which topic?
    b. Which topic did John talk to which person about ___?

Second, an ECP approach essentially reduces the subject/object asymmetry to a left branch effect or argument/adjunct asymmetry. This is, however, not completely accurate. As Hornstein notes (1995, 124):

[T]here are well-known empirical puzzles. . . . For example, Hendrick and Roche-mont (1982) note that sentences like [(7b)] display superiority effects without either of the *wh*-words being in subject position. The Superiority Condition can capture these cases straightforwardly as *who* is superior to *what*. However, an ECP-style analysis has to postulate that *who* in such cases is actually a kind of subject or adjunct and this is what prevents its LF movement. Though it is possi-ble to elaborate such an ECP-style theory, it lacks naturalness.[4]

(7) a. Who did you persuade to buy what?
    b. *What did you persuade who to buy?

Moreover, as Kayne (1983) notes, in sentences like (8a–b) with three or more *wh*-phrases, Superiority is no longer relevant, a fact that is difficult to capture under an ECP-based approach.[5] (The following examples are from Pesetsky 2000, 17.)

(8) a. *What did who give ___ to Mary? (detectable superiority effect)
    b. What did who give ___ to whom? (no detectable superiority effect)

ECP-based approaches thus have been replaced by approaches such as those based on Connectedness or the Path Containment Condition. Despite these adjustments, it remains the case that superiority effects are considered a property of movement structures.

  This line of pursuit—relating superiority effects to movement—has been incorporated into the latest theoretical development, the Minimalist Program. Within this framework, superiority effects have been subsumed primarily under the notion of Attract Closest (Chomsky 1995, 296).

(9) α can raise to target K only if there is no legitimate operation Move β targeting K, where β is closer to K.[6]

In a structure such as (10), C^0 has a strong *wh*-feature that requires checking by a *wh*-element.

(10) [C^0 [$_{IP}$ who saw what]]

Either *who* or *what* can satisfy this requirement. Movement of *who* is preferred since the distance it must travel is shorter than the distance *what* would need to travel in order to check the same feature. This captures the contrast found in the following pair of sentences:

(11) a. Who saw what?
    b. *What did who see?

We will return to the details of this type of analysis in section 1.3. For present purposes, it suffices to point out that a very prominent line of research historically has been to subsume superiority effects under general conditions on movement structures.[7]

1.2   Superiority in Nonmovement Structures

Though superiority effects have often been related to movement our investigation of Lebanese Arabic (LA) demonstrates that such effects occur in nonmovement as well as movement structures.

In LA, a *wh*-element can remain in situ, be moved to the Spec of Comp, or be directly generated in the Spec of Comp. When it is directly generated in the Spec of Comp, the *wh*-interrogative is related to a resumptive pronoun in argument position. Questions containing two *wh*-phrases, which have the potential to display superiority effects, may be generated in any of the following ways:

(12) a. One *wh*-phrase undergoes *wh*-movement, leaving a gap in the position from which it is raised; the other stays in situ.

b. One *wh*-phrase occurs at the beginning of a sentence and is related to a resumptive pronoun in the sentence; the other stays in situ.

c. Both *wh*-phrases stay in situ.

There is evidence, to be discussed shortly, indicating that the (12b)-type construction cannot be derived by movement when the resumptive pronoun is within an island. Significantly, not only the (12a)-type but also the (12b)-type of *wh*-construction displays superiority effects. This fact shows that superiority effects do not arise from movement alone. We elaborate on this point by first discussing in detail the types of *wh*-interrogatives in LA and then demonstrating the relevance of Superiority to nonmovement structures.

1.2.1   *Wh*-Interrogatives in Lebanese Arabic

In LA, three different strategies, illustrated in (13)–(15), can be used to generate *wh*-interrogative constructions.

• *Gap strategy:* The *wh*-phrase occurs at the beginning of a clause and is related to a gap.

(13) ʔayya mmasil šəft   bə-l-matʕam
     which actor   saw.2MS in-the-restaurant
     'Which actor did you see in the restaurant?'

• *Resumptive strategy:* The *wh*-phrase occurs at the beginning of a clause and is related to a resumptive pronoun.

(14) ʔayya mmasil šəft-uu   bə-l-matʕam
     which actor   saw.2MS-him in-the-restaurant
     'Which actor did you see (him) in the restaurant?'

• *In-situ strategy:* The *wh*-phrase remains in situ.

(15) šəft   ʔayya mmasil bə-l-matʕam
     saw.2MS which actor   in-the-restaurant
     'Which actor did you see in the restaurant?'

As established in Aoun and Benmamoun 1998, Aoun and Choueiri 1997, 1999, and Aoun, Choueiri, and Hornstein 2001, the gap strategy is generated by movement. The resumptive strategy is also generated by movement when the *wh*-element and the resumptive pronoun are not separated by an island; otherwise, it is base-generated. Finally, movement does not play a role at all for the in-situ strategy. Evidence for the above distinctions comes from the relevance of island conditions to the various strategies and the possibility of reconstruction. Below, we briefly sketch some of the syntactic differences among the three strategies. (For details and examples, see the works mentioned above.)

   Wh-elements related to gaps are sensitive to islands: a gap cannot be separated by an island from the *wh*-phrase it is related to. Moreover, a *wh*-phrase related to a gap displays reconstruction effects: the *wh*-phrase behaves as if it were in the gap position with respect to binding, for instance. In sentence (16), which illustrates a reconstruction effect, the pronoun contained in the fronted *wh*-element can be bound by a quantifier that c-commands the gap position, but the fronted *wh*-element itself cannot.

(16) ʔayya ṭaalib min   ṭulaab-a   fakkarto   ʔənno kəll
     which student among students-her thought.2P that   every
     mʕallme   ħatnaʔe
     teacher.FS will.3FS.choose
     'Which of her$_i$ students did you think that every teacher$_i$ would choose?'

Such diagnostics lead to the conclusion that the gap strategy is generated by movement: a *wh*-phrase is moved from the gap position to the beginning of a sentence—the Spec of Comp.

The resumptive strategy is not a unified strategy; reconstruction facts indicate that two different types of constructions with resumptive pronouns need to be distinguished. Reconstruction is possible when the *wh*-phrase and the resumptive pronoun are not separated by an island; it is not possible when the *wh*-phrase and the resumptive pronoun are separated by an island. In sentence (17) (no islands involved), but not sentence (18) (an island involved), the pronoun contained within the *wh*-element can be bound by the quantifier.

(17) ?ayya ṭaalib min ṭulaab-a fakkarto ?ənno kəll
which student among students-her thought.2P that every
mʕallme ħatna?-ii
teacher.FS will.3FS.choose-him
'Which of her_i students did you think that every teacher_i would choose?'

(18) ?ayya ṭaalib min ṭulaab-a ?ənbasaṭṭo la?inno kəll
which student among students-her pleased.2P because every
mʕallme ħatna?-ii
teacher.FS will.3FS.choose-him
'*Which of her_i students were you pleased because every teacher_i would choose him?'

Assuming with Chomsky (1995, 71–74) that reconstruction is a diagnostic for movement, Aoun and Benmamoun (1998), Aoun and Choueiri (1997, 1999), and Aoun, Choueiri, and Hornstein (2001) argue that resumption can and in fact must be generated by movement when the *wh*-element and the resumptive pronoun are not separated by an island. Resumption is base-generated otherwise: when separated by an island, the *wh*-phrase and the resumptive pronoun are generated in the Spec of Comp and the argument position, respectively. In other words, a distinction can be made between "true" resumption in cases not allowing reconstruction and "apparent" resumption in cases allowing reconstruction.

In brief, the following generalizations regarding *wh*-interrogatives with resumption can be advanced:

(19) a. A *wh*-phrase is generated by movement when it is not separated from its resumptive pronoun by an island (an "apparent" resumptive pronoun).

b. A *wh*-phrase is not generated by movement when it is separated from its resumptive pronoun by an island (a "true" resumptive pronoun).

The following generalization applies to in-situ *wh*-interrogatives, as will be illustrated:

(20) In-situ constructions allow a *wh*-phrase in situ to occur within an island and have interrogative scope outside the island.

Consider the following sentence:

(21) ʔənbasaṭṭo laʔinno raaħit minduun-ma tʔarrif   miin ʔala
     pleased.2P because left.3FS without   3FS.introduce who to
     saami
     Sami
     'lit. You were pleased because she left without introducing whom to Sami?'
     'Who were you pleased because she left without introducing to Sami?'

This sentence is interpreted as a direct question; the *wh*-in-situ in the adjunct clause can take matrix scope. With Aoun and Choueiri (1999), we assume that the interpretation of this *wh*-in-situ in LA is not generated by (overt or covert) movement to the Spec of Comp (see, e.g., Chomsky 1995, 68–70; Watanabe 1992; Aoun and Li 1993b).[8]

Given the three strategies available for *wh*-interrogatives (13)–(15), a sentence containing two *wh*-phrases may be generated as follows:

(22) a. One *wh*-phrase undergoes *wh*-movement to the Spec of Comp, leaving a gap in the position from which it is raised; the other stays in situ.
     b. One *wh*-phrase is directly generated in the Spec of Comp and is related to a resumptive pronoun in the sentence; the other stays in situ.
     c. Both *wh*-phrases stay in situ.

What will prove significant is that superiority effects arise in both of the first two patterns and not in the third, as we discuss in the following section.

1.2.2 Superiority in *Wh*-Interrogatives

It is not surprising that the pattern in (22a), which involves movement of a *wh*-phrase, exhibits superiority effects: a lower *wh*-phrase cannot be moved across a higher *wh*-phrase.

(23) miin ʔannaʕto   yzuur   miin
     who persuaded.2P 3MS.visit who
     'Who did you persuade to visit whom?'

(24) *miin ʔannaʕto   miin yzuur
      who persuaded.2P who 3MS.visit
      '*Who did you persuade whom to visit?'

Schematically, these configurations, involving Superiority, can be represented as follows (t is the trace left by *wh*-movement; irrelevant details are omitted):

(25) a. [CP wh_1 [IP … t_1 … wh_2 …]] (t_1 c-commands wh_2)
     b. *[CP wh_2 [IP … wh_1 … t_2 …]] (wh_1 c-commands t_2)

Furthermore, as is generally true with Superiority violations, replacing 'who' with a 'which' NP renders (24b) grammatical.

(26) ʔayya walad ʔannaʕto   ʔayya mʕallme tzuur
     which boy   persuaded.2P which teacher.FS 3FS.visit
     'Which boy did you persuade which teacher to visit?'

   Next, consider the resumptive strategy discussed in (22b). Recall that two types of resumptive structures must be recognized in LA. One is derived by movement; in this case, no island intervenes between the *wh*-phrase and the resumptive pronoun. The other is base-generated; in this case, an island intervenes between the *wh*-phrase and the resumptive pronoun. Interestingly, superiority effects occur in both types of resumptive constructions: the one that is derived by movement and the one that is not. In (27a–b), the *wh*-element in the Spec of Comp is not separated from the resumptive pronoun by an island and Superiority must be respected, as illustrated by the ungrammaticality of (27b). In (28a–d), an island intervenes between the *wh*-element and the resumptive pronoun and Superiority is also respected, as indicated by the ungrammaticality of (28b,d).

(27) a. miin ʔannaʕt-u   yzuur   miin
         who persuaded.2P-him 3MS.visit who
         'Who did you persuade (him) to visit whom?'
     b. *miin ʔannaʕto   miin yzuur-u
         who persuaded.2P who 3MS.visit-him
         'Who did you persuade whom to visit (him)?'

(28) a.   miin ʔənbasaṭṭo laʔinno saami ʕarraf-o   ʕa-miin
          who pleased.2P because Sami introduced.3MS-him to-whom
          'Who$_i$ were you pleased because Sami introduced him$_i$ to
          whom?'

     b. *miin ʔənbasaṭṭo laʔinno saami ʕarraf   miin ʕəl-e
          who pleased.2P because Sami introduced.3MS who to-him
          'Who$_i$ were you pleased because Sami introduced whom to
          him$_i$?'

     c.   miin hannayt-u   laʔinno saami zaar   miin
          who congratulated.2P-him because Sami visited.3MS who
          'Who$_i$ did you congratulate (him$_i$) because Sami visited
          whom?'

     d. *miin hannayto   miin laʔinno saami zaar-o
          who congratulated.2P whom because Sami visited-him
          'Who$_i$ did you congratulate whom because Sami visited him$_i$?'

Sentences (27a–b) are schematically represented in (29a–b), and sentences
(28a–d) are schematically represented in (30a–b) (*RP* stands for *resump-
tive pronoun*; irrelevant details omitted).

(29) a.   [$_{CP}$ wh_1 [$_{IP}$ ... RP_1 ... wh_2 ...]]   (RP_1 c-commands wh_2)
     b. *[$_{CP}$ wh_2 [$_{IP}$ ... wh_1 ... RP_2 ...]]   (wh_1 c-commands RP_2)

(30) a.   [$_{CP}$ wh_1 [$_{IP}$ ... [$_{island}$ ... RP_1 ... wh_2 ...] ...]]   (RP_1
          c-commands wh_2)
     b. *[$_{CP}$ wh_2 [$_{IP}$ ... [$_{island}$ ... wh_1 ... RP_2 ...] ...]]   (wh_1
          c-commands RP_2)
     c.   [$_{CP}$ wh_1 [$_{IP}$ ... RP_1 ... [$_{island}$ ... wh_2 ...] ...]]   (RP_1
          c-commands wh_2)
     d. *[$_{CP}$ wh_2 [$_{IP}$ ... wh_1 ... [$_{island}$ ... RP_2 ...] ...]]   (wh_1
          c-commands RP_2)

Again, the unacceptable sentences in (27b) and (28b,d) become acceptable
when 'who' is replaced with a 'which' phrase.

(31) a.   ʔayya walad ʔannaʕto   ʔayya bint tzuur-o
          which boy   persuaded.2P which girl 3FS.visit-him
          'Which boy$_i$ did you persuade which girl to visit him$_i$?'

     b.   ʔayya walad ʔənbasaṭṭo laʔinno saami ʕarraf   ʔayya
          which boy   pleased.2P because Sami introduced.3MS which
          bənt ʕəl-e
          girl to-him

'Which boy$_i$ were you pleased because Sami introduced which
girl to him$_i$?'

c. ʔayya walad hannayto   ʔayya bənt laʔinno saami
   which boy   congratulated.2P which girl   because Sami
   zaar-o
   visited.3MS-him
   'Which boy$_i$ did you congratulate which girl because Sami
   visited him$_i$?'

In the ill-formed cases (27b) and (28b,d), the intervening *wh*-in-situ c-
commands the RP. Now, consider sentences in which c-command does
not obtain between the *wh*-in-situ and the resumptive pronoun. These
sentences are also unacceptable.

(32) a. *miin fakkarto   laʔinno l-mʕallme   ħikət   maʕ-o
        who thought.2P because the-teacher.FS spoke.3FS with-him
        ʔənno l-mudiira   ħa-təšħaṭ   miin
        that   the-principal.FS will-3FS.expel who
        'Who$_i$ did you think because the teacher spoke with him$_i$ that
        the principal would expel whom?'

   b. *miin fakkarto   laʔinno l-mʕallme   ħikət   maʕ miin
      who thought.2P because the-teacher.FS spoke.3FS with who
      ʔənno l-mudiira   ħa-təšħaṭ-o
      that   the-principal.FS will-3FS.expel-him
      'Who$_i$ did you think because the teacher spoke with whom that
      the principal would expel him$_i$?'

   c. *miin fakkarto   laʔinno l-mʕallme   ħikət   maʕ-o
      who thought.2P because the-teacher.FS spoke.3FS with-him
      ʔənno l-mudiira   ħa-truuħ   minduun-ma təšħaṭ   miin
      that   the-principal.FS will-3FS.leave without   3FS.expel who
      'Who$_i$ did you think because the teacher spoke with him$_i$ that
      the principal would leave without expelling whom?'

   d. *miin fakkarto   laʔinno l-mʕallme   ħikət   maʕ miin
      who thought.2P because the-teacher.FS spoke.3FS with who
      ʔənno l-mudiira   ħa-truuħ   minduun-ma təšħaṭ-o
      that   the-principal.FS will-3FS.leave without   3FS.expel-him
      'Who$_i$ did you think because the teacher spoke with whom that
      the principal would leave without expelling him$_i$?'

Once again, as is true of Superiority violations, the sentences in (32) be-
come acceptable just in case the in-situ 'who' is replaced with a 'which' NP.

(33) a. miin fakkarto   laʔinno l-mʕallme   ħikət   maʕ-o
       who thought.2P because the-teacher.FS spoke.3FS with-him
       ʔənno l-mudiira   ħa-təšħaṭ   ʔayya walad
       that the-principal.FS will-3FS.expel which boy
       'Who$_i$ did you think because the teacher spoke with him$_i$ that
       the principal would expel which boy?'

   b. miin fakkarto   laʔinno l-mʕallme   ħikət   maʕ ʔayya
      who thought.2P because the-teacher.FS spoke.3FS with which
      walad ʔənno l-mudiira   ħa-təšħaṭ-o
      boy   that the-principal.FS will-3FS.expel-him
      'Who$_i$ did you think because the teacher spoke with which boy
      that the principal would expel him$_i$?'

   c. miin fakkarto   laʔinno l-mʕallme   ħikət   maʕ-o
      who thought.2P because the-teacher.FS spoke.3FS with-him
      ʔənno l-mudiira   ħa-truuħ   minduun-ma təšħaṭ
      that the-principal.FS will-3FS.leave without   3FS.expel
      ʔayya walad
      which boy
      'Who$_i$ did you think because the teacher spoke with him$_i$ that
      the principal would leave without expelling which boy?'

   d. miin fakkarto   laʔinno l-mʕallme   ħikət   maʕ ʔayya
      who thought.2P because the-teacher.FS spoke.3FS with which
      walad ʔənno l-mudiira   ħa-truuħ   minduun-ma
      boy   that the-principal.FS will-3FS.leave without
      təšħaṭ-o
      3FS.expel-him
      'Who$_i$ did you think because the teacher spoke with which boy
      that the principal would leave without expelling him$_i$?'

The sentences in (32) are schematically represented in (34).

(34) a. *[$_{CP}$ wh_1 [$_{IP}$ ... [$_{island}$ ... RP_1 ...] ... wh_2 ...]]
     b. *[$_{CP}$ wh_2 [$_{IP}$ ... [$_{island}$ ... wh_1 ...] ... RP_2 ...]][9]
     c. *[$_{CP}$ wh_1 [$_{IP}$ ... [$_{island}$ ... RP_1 ...] ... [$_{island}$ ... wh_2 ...] ...]]
     d. *[$_{CP}$ wh_2 [$_{IP}$ ... [$_{island}$ ... wh_1 ...] ... [$_{island}$ ... RP_2 ...] ...]]

The unacceptability of (34a,c) is especially significant in light of the for-
mulation of Superiority in (1)–(2). Note that in these two patterns,
RP_1 does not cross another wh-phrase to be related to the wh-phrase in the
Spec of Comp, with "crossing" interpreted either linearly or hierarchically.

This fact indicates that crossing is not an intrinsic property of superiority effects.

Finally, let us consider constructions in which both *wh*-phrases remain in situ.

(35) a. Ɂannaʕto   miin yzuur   miin
       persuaded.2P who 3MS.visit who
       'Lit. You persuaded whom to visit whom?'
       'Who did you persuade to visit whom?'

   b. Ɂənbasaṭṭo laɁinno saami ʕarraf   miin ʕala miin
       pleased.2P because Sami introduced.3MS who to   who
       'Lit. You were pleased because Sami introduced whom to whom?'
       'Who were you pleased because Sami introduced ____ to whom?'

   c. hannayto   miin laɁinno saami zaar   miin
       congratulated.2P who because Sami visited.3MS who
       'Lit. You congratulated whom because Sami visited whom?'
       'Who did you congratulate because Sami visited whom?'

   d. fakkarto   laɁinno l-mʕallme   ħikət   maʕ miin Ɂənno
       thought.2P because the-teacher.FS spoke.3FS with who that
       l-mudiira   ħa-təšħaṭ   miin
       the-principal.FS will-3FS.expel who
       'Lit. You thought because the teacher spoke with whom that the principal would expel whom?'

   e. fakkarto   laɁinno l-mʕallme   ħikət   maʕ miin Ɂənno
       thought.2P because the-teacher.FS spoke.3FS with who that
       l-mudiira   ħa-truuħ   minduun-ma təšħaṭ   miin
       the-principal.FS will-3FS.leave without   3FS.expel who
       'Lit. You thought because the teacher spoke with whom that the principal would leave without expelling whom?'

The sentences in (35a–e), schematically represented as (36a–e), are all acceptable; no Superiority violation occurs.

(36) a. ... *wh*₁ ... *wh*₂ ...
   b. ... [island ... *wh*₁ ... *wh*₂ ...] ...
   c. ... *wh*₁ ... [island ... *wh*₂ ...] ...
   d. ... [island ... *wh*₁ ...] ... *wh*₂ ...
   e. ... [island ... *wh*₁ ...] ... [island ... *wh*₂ ...] ...

1.3   Superiority and Movement

The facts presented so far not only pose problems for the generalizations in (1)–(2) but also challenge any movement approach to Superiority. Such approaches are best represented by the recent work of Pesetsky (2000—also see Oka 1993; Bošković 1998, 1999), which presents quite a refined movement (Attract Closest) analysis for Superiority. We show below that even such a refined movement analysis does not account for superiority effects in LA. We first briefly describe Pesetsky's (2000) analysis and then show what challenges the LA data pose.

1.3.1   Pesetsky's (2000) Approach to Superiority

Pesetsky (2000) refines the movement approach to superiority effects based on Attract Closest (AC; see (9)) and offers a comprehensive account that accommodates various types of counterexamples to the standard superiority effects.[10] He argues that superiority effects are accounted for by AC and some special requirement on how the Spec of Comp should be filled. English, for example, has a rule like (37), which requires the Spec of Comp to be filled in the overt syntax by more than one *wh*-phrase ($C_{m\text{-spec}}$ = multispecifier complementizer).

(37) *Specifier potential of $C_{m\text{-spec}}$*
     $C_{m\text{-spec}}$ requires more than one *wh*-specifier.

The fact that English requires multiple *wh*-specifiers in $C_{m\text{-spec}}$ is not obvious from superficial inspection of a string because the following language-specific pronunciation rule operates in English:

(38) *Pronunciation rule (English)*[11]
     a. The first instance of *wh*-phrase movement to C is overt, in that *wh* is pronounced in its new position and unpronounced in its trace positions.
     b. Secondary instances of *wh*-phrase movement to C are covert, in that *wh* is pronounced in its trace position and unpronounced in its new position.

Superiority in English is, then, accounted for by AC and the multiple Spec requirement in (37), tempered by the pronunciation rule in (38).

   A *wh*-element can undergo either phrasal movement or feature movement. In sentences with two *wh*-expressions, such as (39a), AC requires the higher *wh* (in (39a), *who*) to move first. *What* also undergoes movement to

satisfy (37), whose effect is not detectable by surface inspection because of the pronunciation rule in (38). (39a) is therefore well formed. (39b), however, violates either AC or the multiple Spec requirement (37). (39b) violates AC if *what* is moved first to the Spec of Comp. However, AC can still be satisfied if feature (as opposed to phrasal) movement applies first to *who*—that is, if only the [+*wh*] feature of *who* is moved first. *What* could then legitimately undergo phrasal movement to the Spec of Comp, which would be overt according to the pronunciation rule. However, this derivation violates (37), which requires the Spec of Comp to be filled by more than one *wh*-phrase. Feature movement of *who* cannot satisfy (37), and thus there is no well-formed derivation of (39b).

(39) a.   Who saw what?
       b. *What did who see?

   Apparent violations of Superiority involving three *wh*-elements, such as the grammatical example in (40), are accounted for by AC, Richards's (1997) Principle of Minimal Compliance (PMC) (41), and the specific English pronunciation rule in (38).

(40) What did who persuade whom to buy ____?

(41) *Principle of Minimal Compliance (PMC; Richards 1998, 601)*
       For any dependency D that obeys constraint C, any elements that
       are relevant for determining whether D obeys C can be ignored for
       the rest of the derivation for purposes of determining whether any
       other dependency D′ obeys C.
          An element X is *relevant* to determining whether a dependency D
       with head A and tail B obeys constraint C iff
       a. X is along the path of D (that is, X = A, X = B, or A
       c-commands X and X c-commands B), and
       b. X is a member of the class of elements to which C makes
       reference.

The PMC allows AC to be met only once. Once AC is satisfied, subsequent movement does not also need to satisfy AC. The derivation of sentence (40) is as follows:

(42) a. *Input to* wh-*movement*
          $C_{m\text{-spec}}$ [who persuaded whom to buy what]
       b. *Step 1*
          C attracts the [+*wh*] feature of *who* (H), pays "AC tax."
          F_i-C [F_i-who persuade whom to buy what]

    c. *Step 2*
       C attracts either of the remaining *wh*-phrases, since the PMC no
       longer requires obedience to AC.
       what F_i-C [F_i-who persuade whom to buy ⎯⎯]
    d. *Step 3*
       C attracts the other *wh*-phrase(s).
       what whom F_i-C [F_i-who persuade ⎯⎯ to buy ⎯⎯]
    e. *Pronounced result*
       What did who persuade whom to buy?

As for the fact that *which*-phrases escape superiority effects as in (4)–(6) and (43), Pesetsky suggests that for sentences containing *which* phrases, there is no requirement that at least two *wh*-phrases must be attracted by $C_{m\text{-}spec}$. That is, the multiple Spec requirement in (37) does not apply in cases involving *which* phrases. In (43), for instance, the *wh*-phrase *which person* can undergo feature movement first, thus satisfying AC, and the multiple Spec requirement in (37) is suspended. The step-by-step derivation is given in (44).

(43) Which book did which person buy?

(44) a. *Input to* wh-*movement*
       $C_{m\text{-spec}}$ [which person bought which book]
    b. *Step 1*
       $C_{m\text{-spec}}$ attracts the [+*wh*] feature of *which person*.
       F_i-C [F_i-which person bought which book]
    c. *Step 2*
       $C_{m\text{-spec}}$ attracts the *wh*-phrase *which book*.
       which book F_i-C [F_i-which person bought ⎯⎯]
    d. *Pronounced result*
       Which book did which person buy?

Recall that feature movement of the first *wh*-phrase is not possible in (39b) because of the multiple Spec requirement in (37). The contrast between (39b) and (43) is the consequence of different requirements on the number of *wh*-phrases in the Spec of Comp: (37) does not apply to *which* phrases.

   The existence of feature movement, Pesetsky argues, is supported by contrasts like the following (É. Kiss 1986; Hornstein 1995):[12]

(45) a. Which person did not read which book?
    b. Which person didn't read which book?

    c.   Which book did which person not read?
    d. *Which book didn't which person read?

(45d) is unacceptable.[13] The unacceptability of this sentence is captured by the requirement of AC together with the blocking effect of negation. To satisfy AC, the subject *which person* needs to undergo movement first—feature movement in this case. However, feature movement is blocked by negation in C. In contrast, (45a) and (45b) are acceptable because the object *which book* can undergo phrasal movement, after *which person* undergoes phrasal movement. Negation does not block phrasal movement. (45c) is grammatical because negation is not in Comp, therefore does not intervene between the subject and the Spec of Comp, and therefore does not intercept feature movement of the subject.

1.3.2 Attract Closest in Lebanese Arabic

An immediate difficulty in extending an AC approach to the LA data is the relevance of superiority effects in nonmovement structures involving resumption, such as those involving islands, discussed earlier and repeated here:

(46) a. $[_{CP}$ wh_1 $[_{IP}$ … $[_{island}$ … RP_1 … wh_2 …] …]] (RP_1
           c-commands wh_2)

      b. *$[_{CP}$ wh_2 $[_{IP}$ … $[_{island}$ … wh_1 … RP_2 …] …]] (wh_1
           c-commands RP_2)

      c. $[_{CP}$ wh_1 $[_{IP}$ … RP_1 … $[_{island}$ … wh_2 …] …]] (RP_1
           c-commands wh_2)

      d. *$[_{CP}$ wh_2 $[_{IP}$ … wh_1 … $[_{island}$ … RP_2 …] …]] (wh_1
           c-commands RP_2)

(47) a. *$[_{CP}$ wh_1 $[_{IP}$ … $[_{island}$ … RP_1 …] … wh_2 …]] (neither RP_1
           nor wh_2 c-commands the other)

      b. *$[_{CP}$ wh_2 $[_{IP}$ … $[_{island}$ … wh_1 …] … RP_2 …]] (neither wh_1 nor
           RP_2 c-commands the other)

      c. *$[_{CP}$ wh_1 $[_{IP}$ … $[_{island}$ … RP_1 …] … $[_{island}$ … wh_2 …]
          …]] (neither RP_1 nor wh_2 c-commands the other)

      d. *$[_{CP}$ wh_2 $[_{IP}$ … $[_{island}$ … wh_1 …] … $[_{island}$ … RP_2 …] …]]
          (neither wh_1 nor RP_2 c-commands the other)

We have argued that these patterns cannot be derived by movement because of a lack of reconstruction. As a result, AC is not relevant and the contrast found in (46) and (47) cannot be captured by a movement approach.[14]

Suppose we weaken a movement approach by proposing that, despite standard assumptions, movement is possible from within islands and that the lack of reconstruction is due to other factors.[15] Even an approach based on such a weakening of grammatical theory would still fail for empirical reasons. Recall that resumption in LA is sensitive to Superiority but in-situ *wh*-phrases are not, as illustrated by the contrast in (46) and (47) and the cases with all *wh*-phrases in situ as in (48).

(48) a. … wh_1 … wh_2 …
    b. … [… wh_1 … wh_2 …]
    c. … wh_1 … [… wh_2 …] …
    d. … [… wh_1 …] … wh_2 …
    e. … [… wh_1 …] … [… wh_2 …] …

According to Pesetsky's analysis, all *wh*-phrases undergo movement (feature movement or phrasal movement). They appear in different positions—peripheral or argument positions—because of a difference in pronunciation rules: *wh*-phrases appearing in peripheral positions are generated by spelling out the head of the chain; in-situ *wh*-phrases are generated by spelling out the tail of the chain. Under such an approach, it is not clear, for instance, why the corresponding pairs of patterns in (47a–d) and (48d–e) differ in acceptability.[16]

In brief, the LA data cannot be satisfactorily accommodated by an AC approach to Superiority. Superiority in LA is at play in nonmovement structures and does not apply to constructions involving only *wh*-in-situ as in (48). The intervention effects are not responsible for Superiority violations. They are relevant for pair-list interpretations but not single-pair interpretations.

Even if illicit movement is made to apply to those cases with *wh*-phrases in situ or resumptive pronouns within islands, a movement approach to superiority effects cannot adequately capture the differences in acceptability exhibited in (46)–(48).

1.4   Summary

In this chapter, we investigated the behavior of the three types of LA *wh*-interrogative constructions listed in (22a–c), repeated here, with respect to superiority effects. We showed that, when an island separates a resumptive pronoun in a (b)-type structure from the *wh*-phrase in the Spec of Comp, the structure cannot be derived by movement. Nonetheless, (b)-type structures as well as (a)-type structures exhibit superiority effects.

(22) a. One *wh*-phrase undergoes *wh*-movement to the Spec of Comp,
leaving a gap in the position from which it is raised; the other
stays in situ.

    b. One *wh*-phrase is directly generated in the Spec of Comp and is
related to a resumptive pronoun in the sentence; the other stays
in situ.

    c. Both *wh*-phrases stay in situ.

In view of the prominent, decades-old line of research that subsumes
Superiority under movement relations, the data we have discussed so far
are significant. They present a novel and interesting picture: Superiority is
relevant even in certain nonmovement structures such as those involving
a resumptive pronoun separated from its *wh*-antecedent by an island, as
in (46) and (47). These facts indicate that Superiority violations are not
restricted to constructions involving movement. We further showed that
cases involving *which* phrases do not exhibit Superiority, thus confirming
that we are indeed dealing with superiority effects in LA. Moreover, we
established that Superiority violations do not necessarily involve crossing.
This argues that the view of Superiority as originally formulated in (1),
consisting of the three subclaims in (2a–c), is not adequate empirically. A
movement approach fails to capture the contrasts found in (46)–(48),
even if movement is made to apply more broadly (allowing illicit move-
ment) and the movement theory greatly weakened. Consequently, Supe-
riority must be approached from a new perspective—an important focus
of the next chapter.