

## 3.1.1 Subjacency

Chomsky (1986a) proposes the following formulation of Subjacency:

(1) (= Chomsky's (59))

$\beta$  is *n*-subjacent to  $\alpha$  iff there are fewer than  $n + 1$  barriers for  $\beta$  that exclude  $\alpha$ .

(2) is Chomsky's proposed constraint (p.30).<sup>1</sup>

(2) In a well-formed chain with a link  $(\alpha_i, \alpha_{i+1})$ ,  $\alpha_{i+1}$  must be 1-subjacent to  $\alpha_i$ .

Exclusion is defined as in (3).

(3) (= Chomsky's (17))

$\alpha$  excludes  $\beta$  if no segment of  $\alpha$  dominates  $\beta$ .

With respect to the notion "segment" in (3), following May (1985), Chomsky proposes the following (p. 7):

[I]n a structure of the form [4], a typical adjunction structure with  $\alpha$  adjoined to  $\beta$ ,  $\alpha$  is not dominated by the category  $\beta$ ; rather,  $\beta$  consists of two "segments," and a category is dominated by  $\beta$  only if it is dominated by both of these segments.

(4) (= Chomsky's (11))

$[\beta \alpha [\beta \dots]]$

We will mainly be concerned with the question of what constitutes a barrier for the purposes of definition (1). Chomsky introduces the concept *blocking category* (BC), and then defines *barrier* in terms of BC.

(5) (= Chomsky's (25))

$\gamma$  is a BC for  $\beta$  iff  $\gamma$  is not L-marked and  $\gamma$  dominates  $\beta$ .

(6) a. (= Chomsky's (28))

$\alpha$  L-marks  $\beta$  iff  $\alpha$  is a lexical category that  $\theta$ -governs  $\beta$ .

b. (= Chomsky's (27))

$\alpha$   $\theta$ -governs  $\beta$  iff  $\alpha$  is a zero-level category that  $\theta$ -marks  $\beta$ , and  $\alpha$ ,  $\beta$  are sisters.

c. (= Chomsky's (12))

$\alpha$  is dominated by  $\beta$  only if it is dominated by every segment of  $\beta$ .

(7) (= Chomsky's (26))

$\gamma$  is a barrier for  $\beta$  iff (a) or (b):

a.  $\gamma$  immediately dominates  $\delta$ ,  $\delta$  a BC for  $\beta$ ;

b.  $\gamma$  is a BC for  $\beta$ ,  $\gamma \neq \text{IP}$ .

Immediate domination in (7) is a relation between maximal projections.  $\gamma$  immediately dominates  $\delta$  if there is no intervening maximal projection, that is, no maximal projection that dominates  $\delta$  and is dominated by  $\gamma$ .

The Subjacency Condition as defined in (2) unifies the classical cases of Subjacency violations (complex NP constraint, WH-island constraint) with those subsumed under Huang's (1982) CED (subject condition, adjunct condition). Let us briefly consider some examples:

- (8) a. \*where<sub>2</sub> did you see [<sub>NP</sub> the book<sub>1</sub> [<sub>CP</sub> which<sub>1</sub> [<sub>IP</sub> John put  $t_1$   $t_2$ ]]]  
b. ?\*who<sub>1</sub> [<sub>IP</sub> did [<sub>NP</sub> pictures of  $t_1$ ] please you]

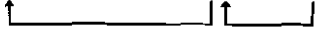
The movement of *where* in (8a) clearly crosses two barriers. The embedded CP is a BC since it is not  $\theta$ -marked by any lexical category. Thus, it is a barrier, and it also makes the NP dominating it a barrier. Similarly, in (8b), the subject NP is a BC. Thus, it is itself a barrier and makes the IP another barrier. Therefore, the movement of *who*<sub>1</sub> from the position of  $t_1$  to SPEC of CP crosses two barriers, and hence, (8b) violates Subjacency.

Let us next consider some grammatical examples:

(9) a. what<sub>1</sub> [did you [see  $t_1$ ]]


b. what<sub>1</sub> [did you [think [[John [saw  $t_1$ ]]]]]]

Chomsky (1986a) assumes that VP is not L-marked. Thus, if the movement of *what* in (9a) takes place in one step from the position of  $t_1$  to SPEC of CP, then it violates Subjacency, since it crosses VP and IP, both barriers. VP is a barrier since, by hypothesis, it is a BC (and is not IP). IP is a barrier since it immediately dominates a BC, VP. This implies that *what* in (9a) moves to SPEC of CP in two steps. Chomsky (1986a) therefore proposes that *what* in (9a) first adjoins to VP and then moves to SPEC of CP, as shown in (10).

(10) [<sub>CP</sub> what<sub>1</sub> [<sub>IP</sub> did you [<sub>VP</sub> [<sub>VP</sub> see  $t_1$ ]]]]  


The VP is a BC—and hence, a barrier—for  $t_1$ . However, since this node does not exclude the landing site of the first movement, it does not count for the purpose of Subjacency (see (1)). Thus,  $t_1$  is 0-subjacent to the position adjoined to VP. The position adjoined to VP is also 0-subjacent to SPEC of CP. The VP is not a BC, thus not a barrier for this movement, since it does not dominate the position adjoined to VP. IP is a BC for this movement, but is not a barrier since IP, by definition, is a barrier only when it immediately dominates a BC. Thus, (10) does not violate Subjacency.

The hypothesis that WH-movement can proceed through adjunction also saves (9b) from violating Subjacency. The movement can proceed as follows:

(11) [<sub>CP</sub> what<sub>1</sub> [<sub>IP</sub> did you [<sub>VP</sub> [<sub>VP</sub> think [<sub>CP</sub> [<sub>IP</sub> John [<sub>VP</sub> [<sub>VP</sub> saw  $t_1$ ]]]]]]]]  




In this formulation, antecedent government is an instance of government. *Govern* is defined in (21).

- (21) (= Chomsky's (18))  
 $\alpha$  governs  $\beta$  iff  $\alpha$  m-commands  $\beta$  and there is no  $\gamma$ ,  $\gamma$  a barrier for  $\beta$ , such that  $\gamma$  excludes  $\alpha$ .

The notion "barrier" here is the same one developed above for Subjacency. Finally, *m-command* is defined in (22) (Chomsky 1986a: 8).

- (22)  $\alpha$  m-commands  $\beta$  iff  $\alpha$  does not dominate  $\beta$  and every maximal projection that dominates  $\alpha$  dominates  $\beta$ .

Now consider (23).

- (23) [<sub>CP</sub> who<sub>1</sub> [<sub>IP</sub> do you [<sub>VP</sub> t<sub>1</sub>' [<sub>VP</sub> wonder [<sub>CP</sub> why<sub>2</sub> [<sub>IP</sub> t<sub>1</sub> won the race t<sub>2</sub>]]]]]]]

Here,  $t_1$  is not antecedent-governed:  $t_1'$  does not govern  $t_1$ , since the lower CP is a barrier for  $t_1$ , by "inheritance" from the IP that it immediately dominates. Similarly, *who*<sub>1</sub> does not govern  $t_1$ . Since  $t_1$  is not antecedent-governed, and since it clearly is not lexically governed, it is not properly governed at all, the desired result in this case.<sup>3</sup>

The treatment of adjuncts is now also straightforward. Recall from chapters 1 and 2 that LF is the only relevant level for the traces of non-arguments. Recall further that in the LF component, *that* can be deleted as an instance of Affect  $\alpha$ . Thus, we need not consider a representation with *that*. With this in mind, consider (25), the LF representation of both (24a) and (24b), under the assumptions of the preceding section.<sup>4</sup>

- (24) a. how do you think [<sub>CP</sub> that John fixed the car t]  
 b. how do you think [<sub>CP</sub> John fixed the car t]

- (25) [<sub>CP</sub> how<sub>1</sub> [<sub>IP</sub> do you [<sub>VP</sub> t<sub>1</sub>" [<sub>VP</sub> think [<sub>CP</sub> t<sub>1</sub>' [<sub>IP</sub> John fixed the car t<sub>1</sub>]]]]]]]

Here,  $t_1'$  governs  $t_1$ , since IP is "defective," that is, never an inherent barrier;  $t_1''$  governs  $t_1'$ , since CP, being L-marked, is not a barrier; and finally, *how* governs  $t_1''$ . In both (24a) and (24b), then, antecedent government holds, and extraction of the adjunct is correctly permitted.

We now turn to a configuration where antecedent government fails. Consider (26).

- (26) [<sub>CP</sub> how<sub>1</sub> [<sub>IP</sub> did Bill [<sub>VP</sub> t<sub>1</sub>" [<sub>VP</sub> wonder [<sub>CP</sub> who<sub>2</sub> [<sub>IP</sub> t<sub>2</sub> [<sub>VP</sub> t<sub>1</sub>" [<sub>VP</sub> wanted [<sub>CP</sub> t<sub>1</sub>' [<sub>IP</sub> PRO to fix the car t<sub>1</sub>]]]]]]]]]]]

As in (25),  $t_1'$  governs  $t_1$ . Further,  $t_1'$  is governed by  $t_1''$ , CP being L-marked and hence not a barrier. However,  $t_1''$  violates the ECP.  $t_1''$  is too distant to govern it, since the intervening CP inherits barrierhood from the intermediate IP. Recall that the BC effect of this IP cannot be evaded

by adjunction to it, given (14).  $t_1''$  is thus an offending trace. Note that  $t_1''$  need not have been created, but if it were not present,  $t_1'$  would be an offending trace. Similarly,  $t_1'$  need not have been created, but then  $t_1$  itself would be the offending trace. Correctly, then, extraction of an adjunct from an island always results in an ECP violation.<sup>5</sup>

In the following sections, we will examine a further range of data in the light of this theory, and based on that examination, we will suggest certain revisions.

## 3.2 Analyses of Topicalization

### 3.2.1 The Standard Analysis

Chomsky (1977a) presents a detailed analysis of topicalization in English. He notes first that the construction with a gap, shown in (27), seems in some respects to parallel the so-called left dislocation (LD) construction, shown in (28), which lacks a gap.<sup>6</sup>

- (27) John, I like t

- (28) John, I like him

This parallelism suggests a common structure. Chomsky proposes that in both constructions, the "topic" is base-generated in Topic position under S":

- (29)
- ```

      S"
     /  \
  Topic S'
  
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The difference between (27) and (28) does not involve the position of *John* at any level, then. Rather, the difference is that (27) involves movement of a WH-operator (later deleted) to COMP, whereas (28) involves no such movement, in fact involves no movement at all.

This analysis of (28) straightforwardly explains Ross's (1967) original observation that LD freely violates island constraints. For example, the relationship between *this book* and *it* in (30) crosses the boundary of a complex NP, yet the example is well formed:

- (30) this book, I accept the argument that John should read it

Topicalization, on the other hand, conforms to island constraints. The topicalized analogue of (30) is substantially worse.

- (31) ??this book, I accept the argument that John should read t

This difference is predicted by the interaction between Chomsky's theory of island constraints—namely, Subjacency as a constraint on movement—