

Island Constraints

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These notes cover the basic motivation for WH movement, and some of the constraints on it. Note that in the trees that follow, I have simplified the vP/VP trees so that the trees are manageable in size. I have also annotated the moved element with indices (subscripted i , j etc.) to distinguish multiple WH-phrases.

Evidence for movement

There are three basic properties that characterise WH-movement constructions in language:

1. There is a gap.
2. There is unboundedness.
3. There are constraints on the potential unboundedness.

1 Evidence for a gap

The simplest sign that movement has occurred comes from the fact that properties that are usually thought of as local appear not to be local in movement constructions. This can be easily seen in questions such as (1):

- (1) a. Who _{i} did John see <who _{i} >?
b. *John saw.
c. Which man _{i} did John say <which man _{i} > was leaving?
d. *Which man did John say <which man _{i} > were leaving?

In (1a), *see* is missing an object that it requires (as shown by the ungrammaticality of (1b)). Similarly, the fact that *which man* controls the agreement in (1c) as compared to (1d) despite the fact that *which man* is not local to the inflected auxiliary *was/were*.

2 Evidence for unboundedness

In addition to evidence for a gap, WH-movement is also *unbounded*, i.e. the WH-phrase can be an unlimited number of clauses away from its trace. This can easily be seen in the examples in (2). Although the movement is unbounded, it proceeds in smallish steps, moving through intermediate CPs as shown by the traces in (2c/d). (See the argument for this immediately below.)

- (2) a. Who _{i} did John see <who _{i} >

- b. Who_i did Bill say [_{CP} <who_i> [_{C'} that John saw <who_i>]
- c. Who_i did Fred think [_{CP} <who_i> [_{C'} that Bill said [_{CP} <who_i> [_{C'} that John saw <who_i>]]

3 Constraints

Although movement is unbounded, there are a number of constraints on movement. These constraints have been traditionally called *island constraints* based on the metaphor that a syntactic island is a phrase which elements cannot get off of, just as a person cannot get off of an island without extra help of a bridge or a boat.

3.1 WH-island constraint

The WH-island constraint is the most basic of the island constraints and is the basis for motivating the idea described in Section 2 that movement must occur from CP to CP.

As a baseline, we will consider movement from an embedded declarative clause, as in (3a). If we compare (3a) to (3b) we can see that when the embedded clause contains a WH-element such as *whether*, movement is blocked. This shows two things: first, although movement is unbounded, certain structural configurations can block it. Second, because the movement can be blocked, movement must proceed in small steps (from CP to CP.) If the movement in (3a) moved in one big step, then we should also be able to move in one big step in (3b). Since (3b) is ungrammatical, the option of moving in one big step must be ruled out.

- (3) a. Which movie did John say Bill liked?
- b. * Which movie did John wonder whether Bill liked?

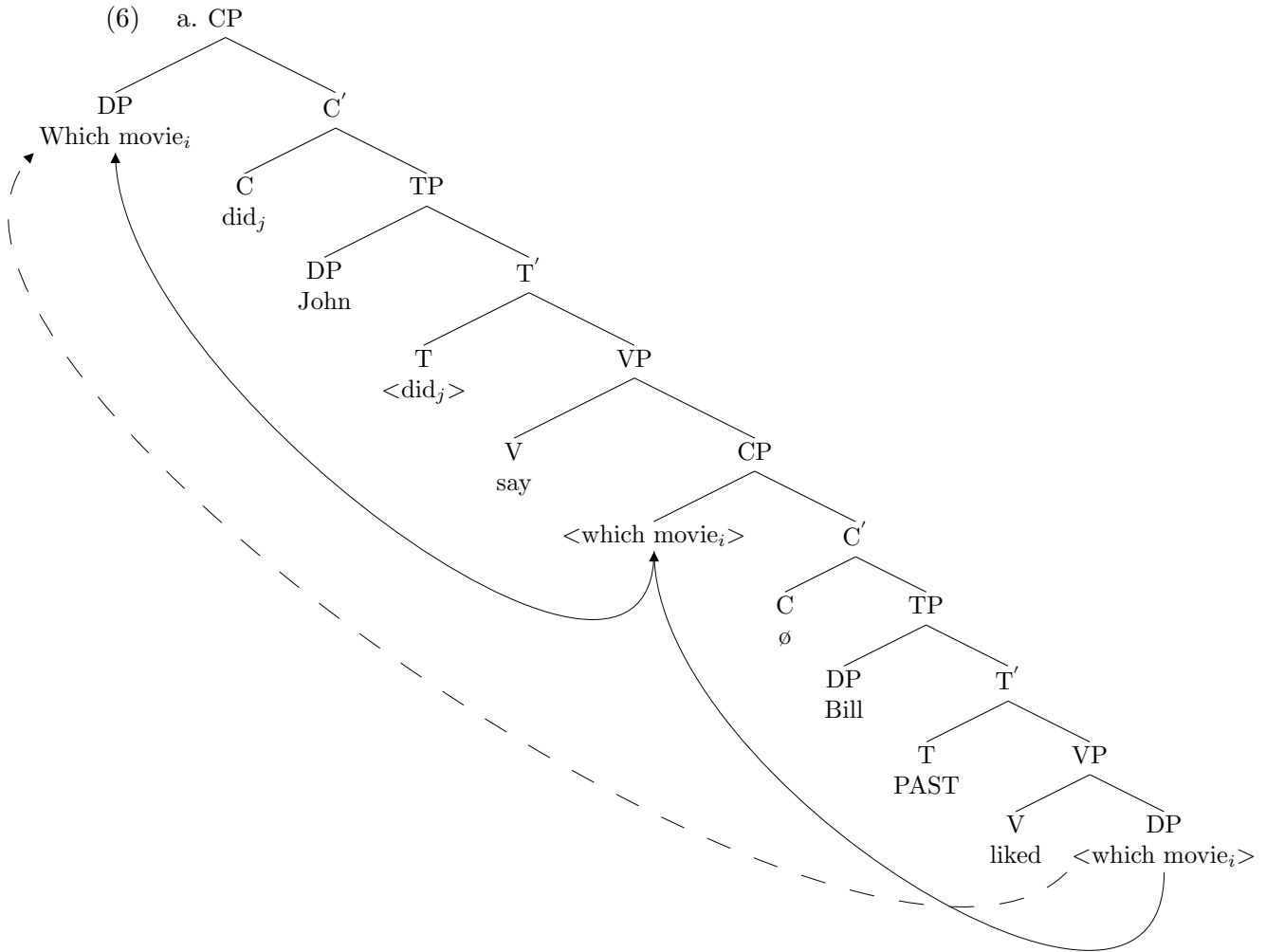
The WH-island condition is formed by any +WH CP, including those headed by *if* as can be seen in the following examples:

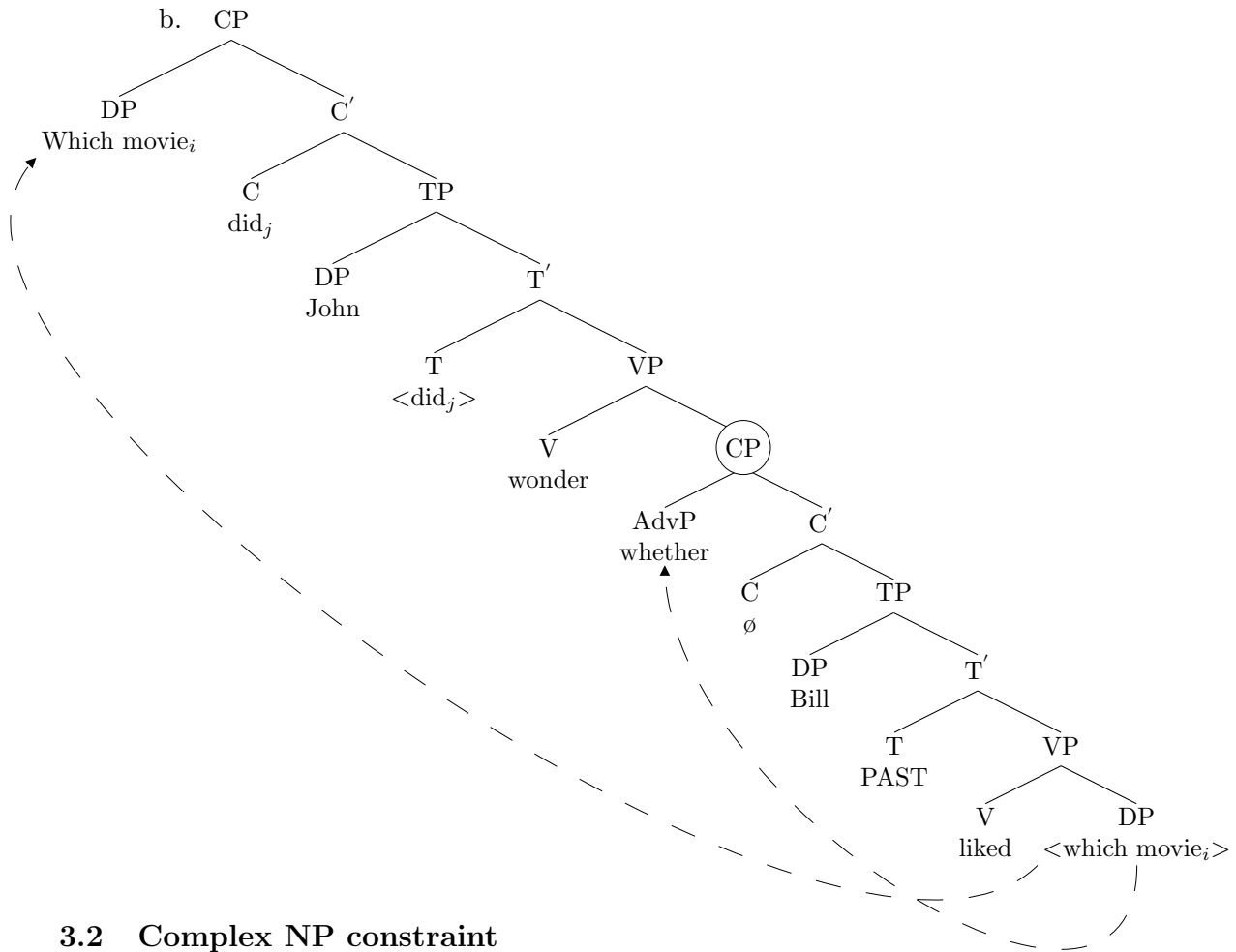
- (4) a. * Which movie_i did John wonder who_j <who_j> wanted to see <which movie_i>?
- b. * Which movie_i did John ask why_j Mary liked <which movie_i> <why_j>?
- c. * Which movie_i did John not know how_j Bill had finished <which movie_i> <how_j>?
- d. * Which movie_i did John ask if <which movie_i> was playing locally?

We can state the constraint as follows:

- (5) *WH-island Constraint*
 A WH phrase cannot be moved out of a +WH CP.
 A +WH CP is a CP with a +WH head or Specifier

We can see the effect of this clearly in the following trees (of (3a/b).) In these (and all subsequent) trees, dashed lines represent impossible movements, and solid line represent actual movements. The node that is crucial in forming the island is circled. Traces of movements not directly relevant to WH-movement (particularly movement of the subject from inside vP) are not shown on these trees.





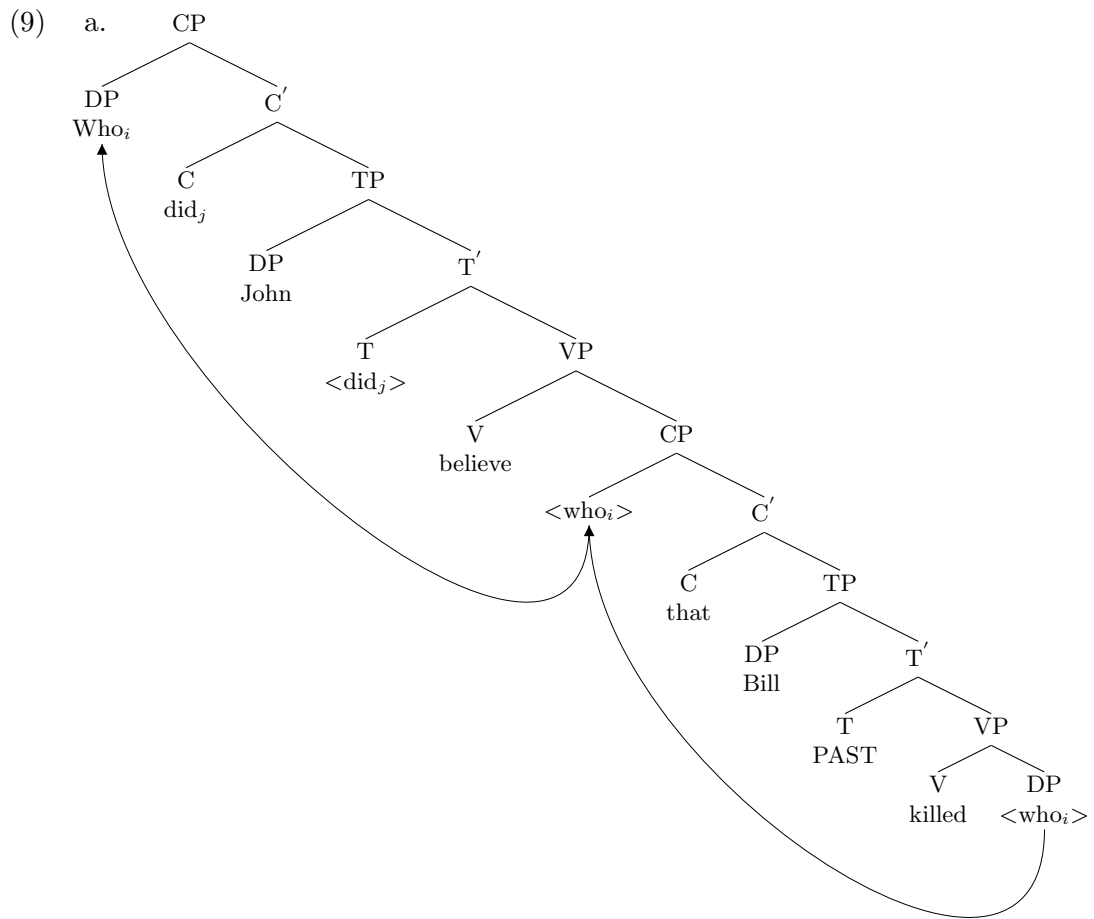
3.2 Complex NP constraint

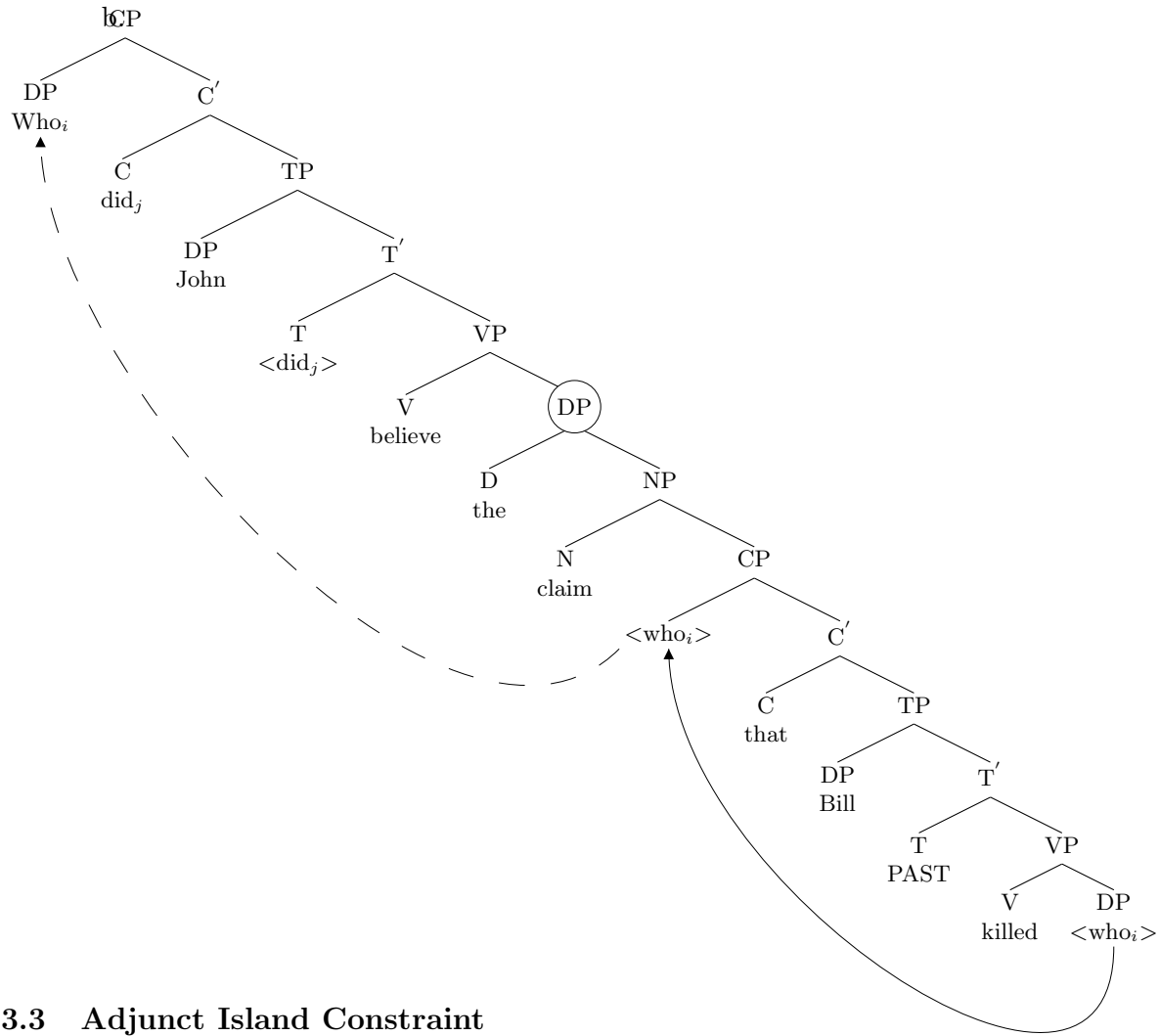
Consider next the contrast in (7):

- (7) a. Who_i did John believe that Bill killed <who_i>?
 b. *Who_i did John believe the claim that Bill killed <who_i>?

Again, comparing (7b) with movement out of an embedded tensed clause, we can see that movement out of a DP in this case is unacceptable. (We must make an exception for indefinite DPs like those in (16a), which can be moved out of). The structures of (7a/b) are given in (9). We can thus state the Complex NP constraint as follows:

- (8) *Complex Noun Phrase Constraint*
 Nothing may be moved out of a definite DP





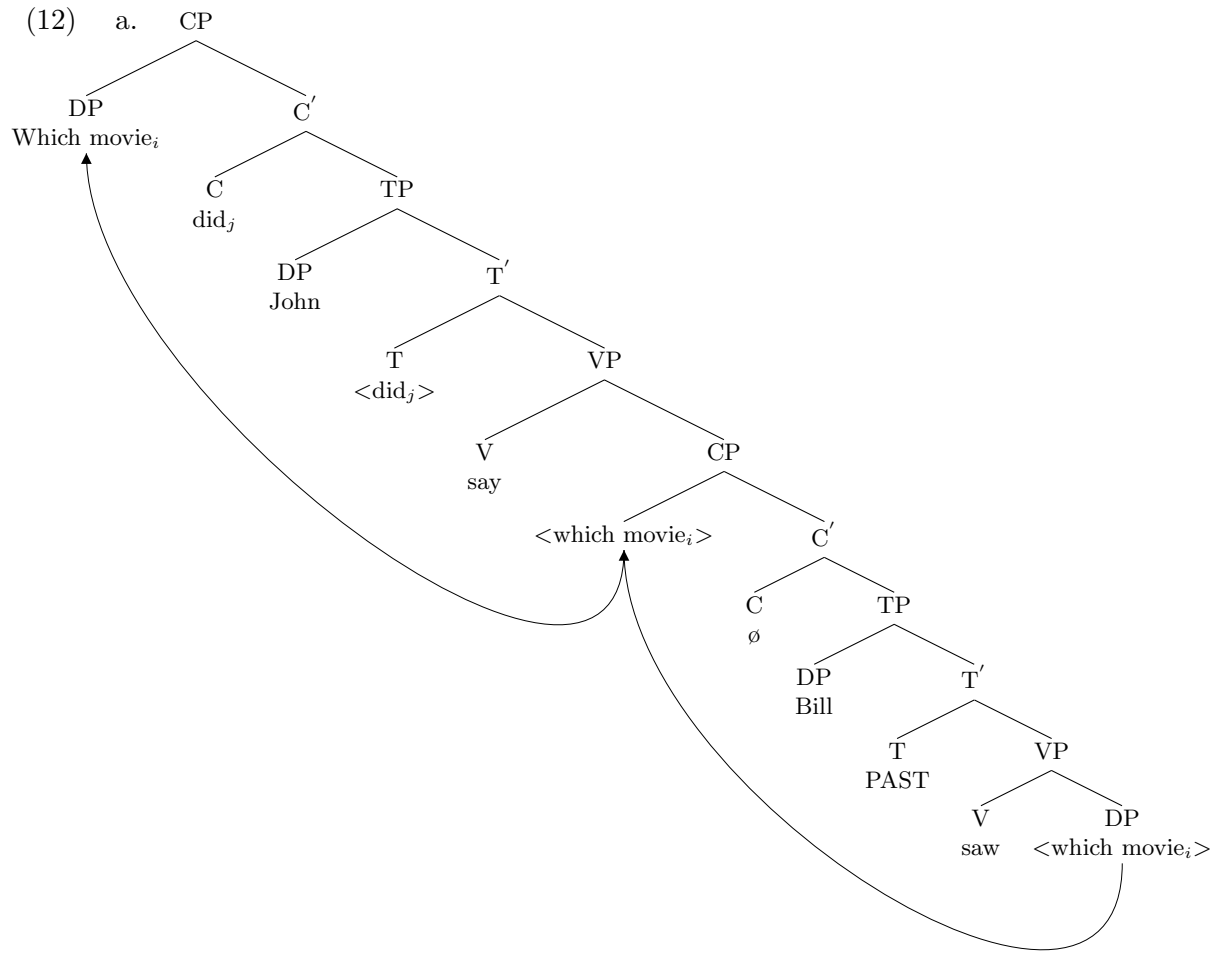
3.3 Adjunct Island Constraint

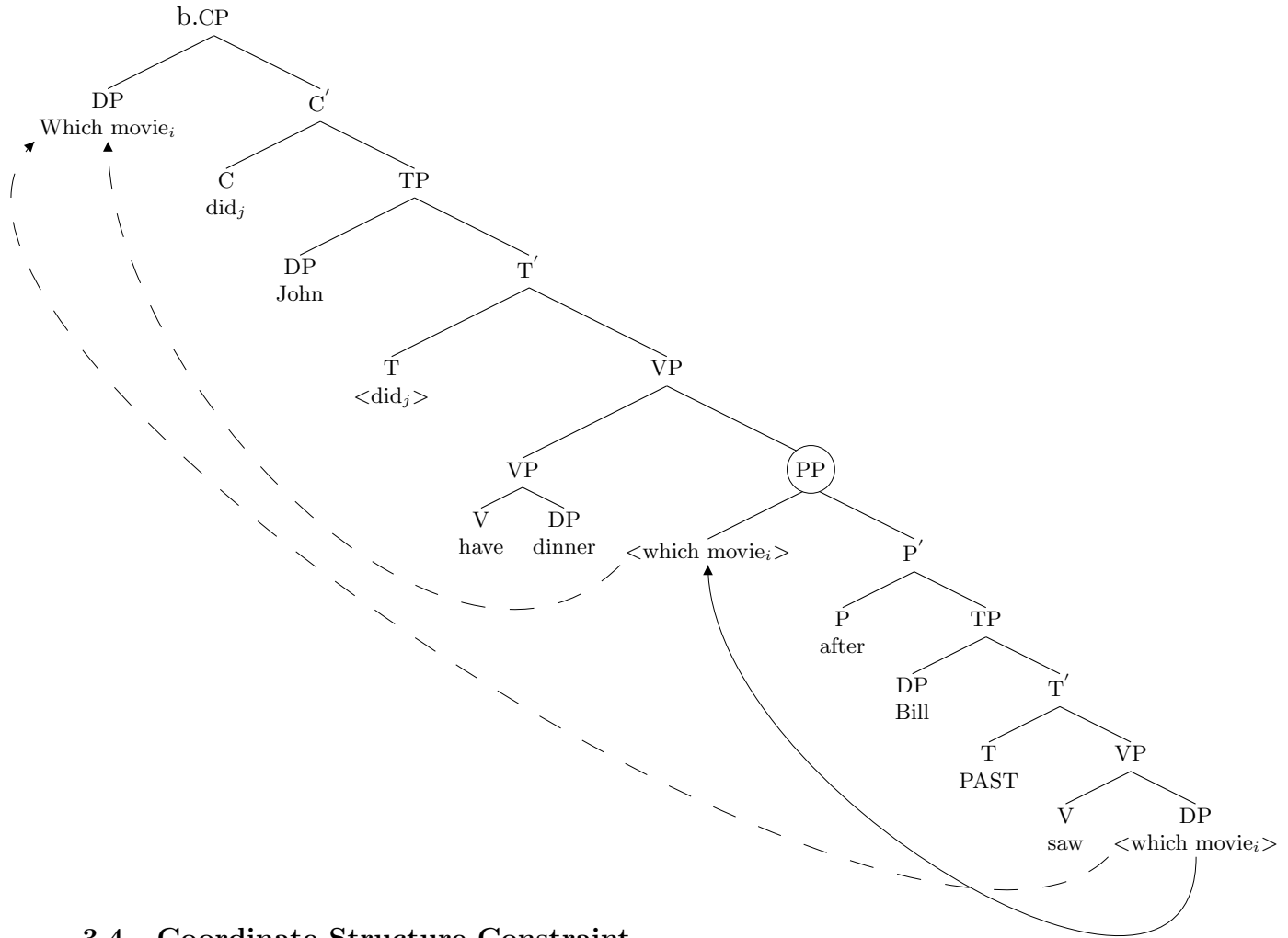
Although movement out of a clause is usually possible if the clause is not +WH, movement out of a clause which is an adjunct position is not permitted. This can be seen by the contrast in (10).

- (10) a. Which movie did John say Bill saw?
 b. *Which movie did John have dinner before Bill saw

The relevant structural difference can be seen by comparing the two trees in (12). In principle, movement to the [Spec, PP] position should be allowed, if the P behaves like a complementizer. This means that it is the movement out of the adjoined PP that is problematic. We can state the constraint in the following way:

- (11) *Adjunct Island Constraint*
 Nothing may be moved out of a clausal adjunct.





3.4 Coordinate Structure Constraint

Another island is formed by any structure that involves movement out of a phrases that are conjoined by *and*, *or*, or *but*, as the examples in (13) show. To show clearly what the sentences are supposed to mean, each ungrammatical example is preceded by a grammatical sentence with no movement.

- (13) a. John bought a book and a CD.
 b. *What_i did John buy a book and <what_i>?
 c. John will read a book and listen to the radio.
 d. *What_i will John read <what_i> listen to the radio?
 e. John will photograph Mary and Sue will interview Fred.
 f. *Who_i will John photograph Mary and Sue interview <who_i>?

Although movement is generally disallowed out of a coordinate structure, movement of the same element out of every conjunct is allowed. This is called the “Across-the-board” (ATB) exception, and is illustrated in (14).

- (14) a. Which book_i did John write <which book_i> and Bill review <which book_i>?
 b. What_i will John buy <which book_i> on Tuesday and sell <which book_i> on Wednesday?

The Coordinate Structure constraint can thus be stated as in (15). Formally it has 2 parts, plus the ATB exception.

- (15) *Coordinate Structure Constraint (CSC)*
 a. A conjunct may not be moved.¹
 b. Nothing may be moved out of a coordinate structure, unless the same element is moved out of every conjunct.

3.5 Subject Condition

Consider the contrasts in (16):

- (16) a. Who_i did John write a story about <who_i>?
 b. *Who_i was a story about <who_i> written by John?
 c. Who_i was it obvious that Bill liked <who_i>?
 d. *Who_i was that Bill liked <who_i> obvious?

In the first two examples, *who* has been moved out of the DP *a story about*; in the second two examples, *who* has been moved out of the CP *that Bill liked*. The only difference between the grammatical and ungrammatical examples is the syntactic position of the DP and the CP is that they are in object position in the grammatical examples and in subject position in the ungrammatical examples.² We can thus state the Subject Condition in the following way:

- (17) *Subject Condition*

Nothing may be moved out of a phrase in Subject position ([Spec, TP]).

It is very important to note that this does NOT say that a SUBJECT may not be moved. For example, we can move the whole subject in both (16b/d): *What_i <what_i> was written by John* and *What_i <what_i> was obvious*. Trees for (16a/b) are given below:

¹This part of the constraint is designed to rule out examples like (13b) which are not saved by the ATB exception (as can be seen by the ungrammaticality of **What did John buy <what_i> and <what_i>?*).

²This makes the simplifying assumption that subject clauses are in [Spec, TP]; Adger has arguments against this analysis and places them in [Spec, CP]. Under this analysis, (16d) is simply underivable, since the whole clause is in Spec CP and there is therefore no place for a WH-phrase to move to.

