

the book [which the student thinks the teacher said the librarian put on the shelf]

The way this is usually conceptualized is:

- *put*: selects an NP before it and an NP and PP after it. (Unlike in Hebrew, this is an absolute requirement in English. Even under discourse conditions, the elements after *put* are obligatory.)
- There is no NP after *put* in this sentence. That is to say, there is a **gap** in this sentence, in the position right after the verb *put*.
- The NP *which* occupies an unusual position at the beginning of the sentence, one in which stuff isn't normally licenced.
- *Which* is interpreted as if it belonged in the gap. It can be thought of as having the ability to fill the gap. It is a **filler**.
- So this is a **filler-gap construction**.

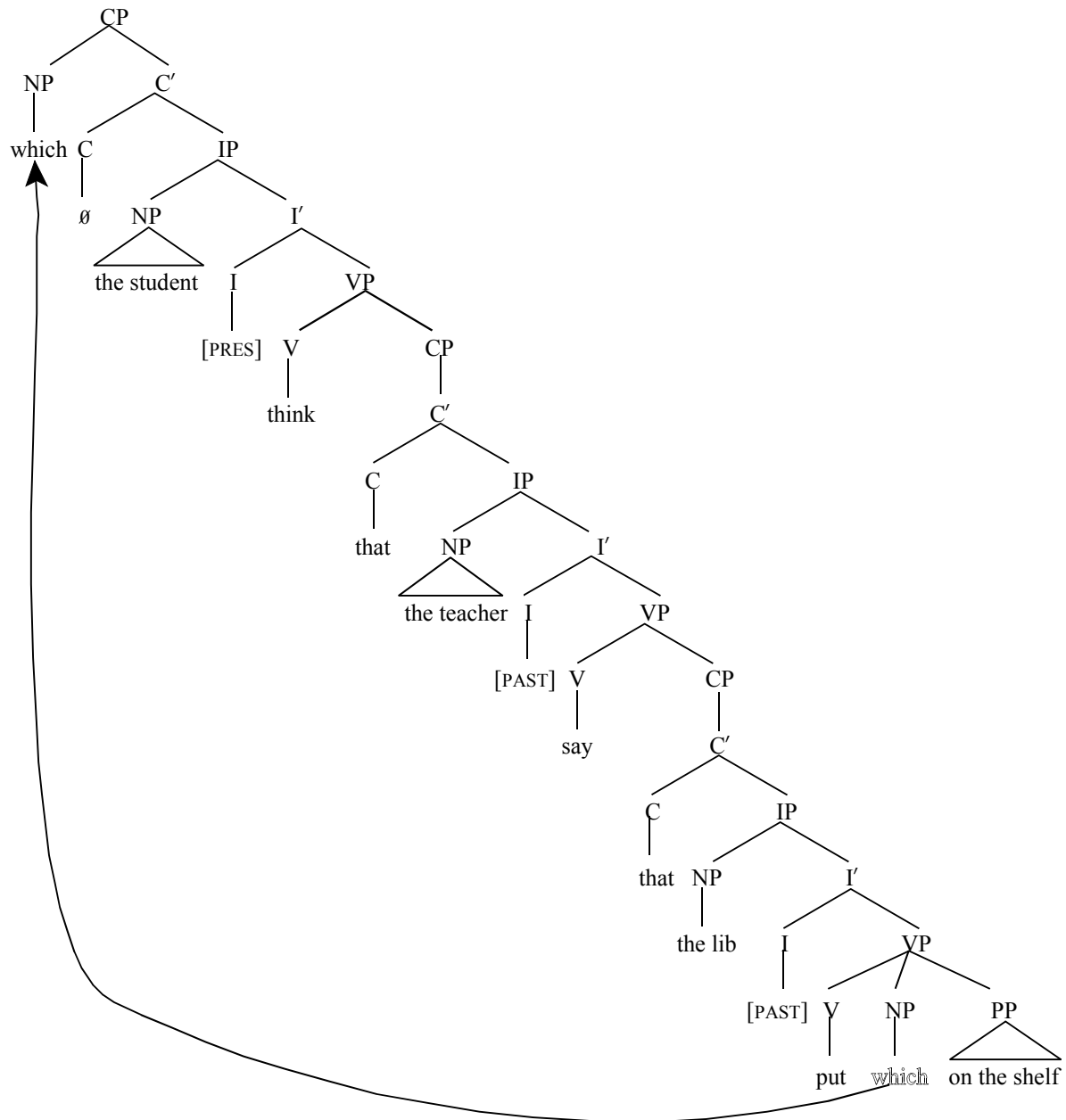
the book [which the student thinks that the teacher said that the librarian put \_\_\_\_\_ on the shelf]

↑                          ↑  
filler                      gap

Transformational theory is based on the concept of displacement (“a relation between a ‘displaced element’ and the position in which such an element is standardly interpreted... Such displacement relations are a fundamental feature of human language, which must be captured somehow. Apparent differences among alternative formulations often dissolve, on inquiry, to notational questions about how this property is expressed...” Chomsky and Lasnik 1993: 525/49. “Such phenomena are pervasive. They have to be accommodated by some device in any adequate theory of language, whether it is called ‘transformational’ or something else.” Chomsky 2000: 119–120). The “interpreted” position is the gap position, and the movement is to the filler position.

(The displacement analysis is not unique to long-distance dependencies in transformational work. Displacement is also used to analyze constructions like passive, raising, unaccusatives, etc.)

## Wh Movement as Movement, p. 2



Early transformational grammar also had long-distance deletion rules. In the non-*wh* relative clause, where there is no filler, the gap was analyzed as representing a deleted position. The rules responsible for long-distance movement and long-distance deletion were conceived of as literally long-distance, or unbounded. That is to say, they were non-local rules, formulated with a variable representing an indefinite string of elements. Ross (1967) observed that there are “island” constraints, which he interpreted as constraints on how the variable in long-distance movement and deletion rules is to be interpreted (note the title of Ross 1967: *Constraints on Variables in Syntax*).

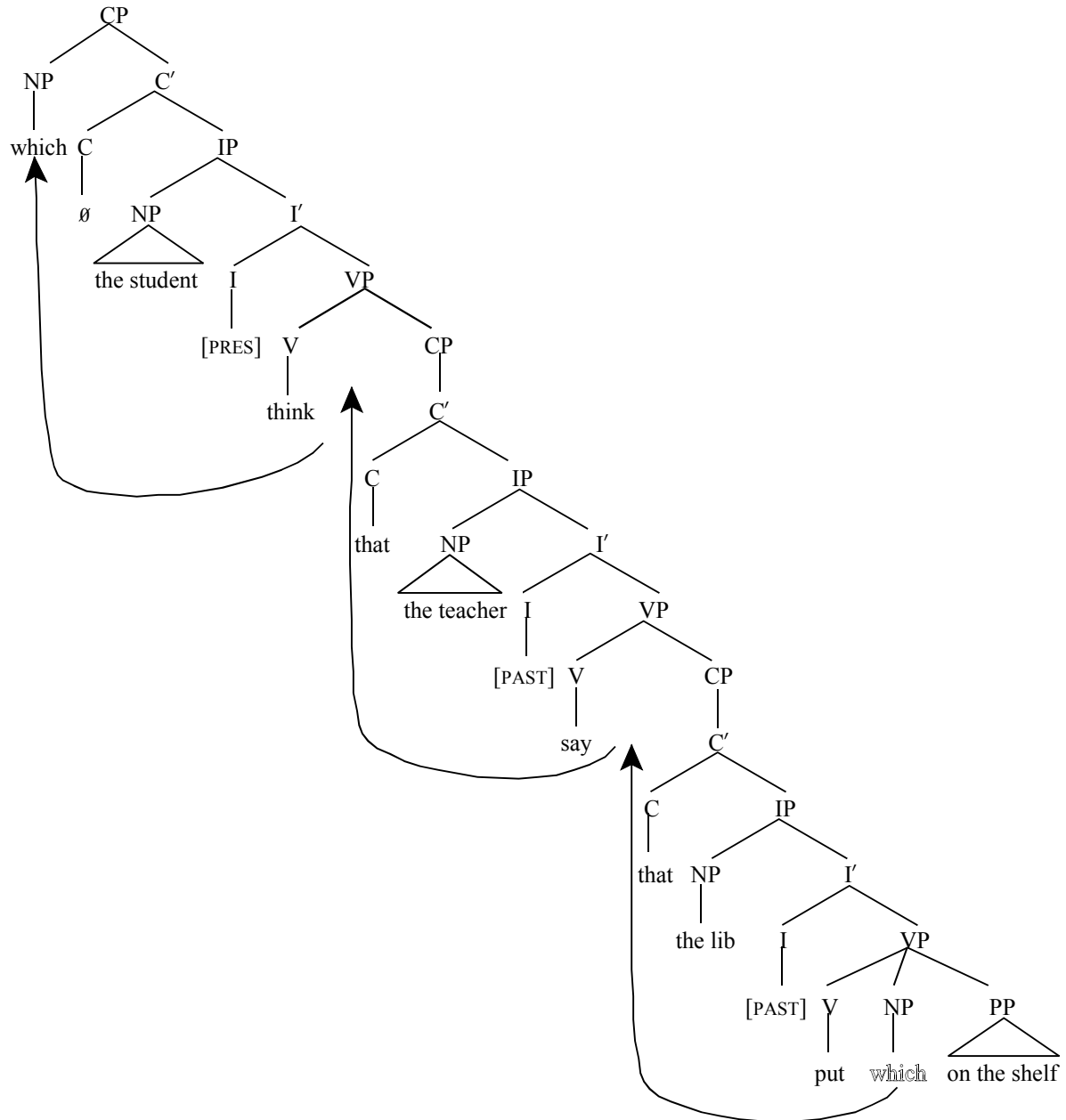
## ***Wh* Movement as Movement, p. 3**

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The picture changed with work done in the 1970s; inter alia Chomsky (1973), Chomsky (1977), and Chomsky (1980). These changes were subjacency, a single rule “Move *wh*”, and traces. The revised picture is also the one assumed in Government/Binding theory and the Minimalist Program.

- Subjacency: Originally introduced by Chomsky (1973) to deal with the fact that LDD constructions seemed to violate two conditions that he proposed on rules of grammar (interpretive and transformational): the Specified Subject Condition and the Tensed-S Condition (the ancestors of GB’s Binding Principles). Having LDD rules apply locally, and then COMP-to-COMP, provided a solution to this problem. Chomsky also observed that certain island constraints resulted as consequences of Subjacency, such as the *Wh* Island Constraint and the Complex NP Constraint.
- Single rule: The idea that there is a single *wh*-movement rule responsible for all LDDs comes from Chomsky (1977). In part, this was a response to criticism of Subjacency. Since Subjacency was supposed to account for island constraints, it was observed (primarily by Joan Bresnan) that whatever is responsible for island constraints has to also apply in the case of also long-distance deletions. A Subjacency account of islands won’t work: there can’t be successive cyclic deletion. Chomsky’s response was that all LDD constructions involve movement of a *wh* element, but that *wh* element is then deleted. This is the ancestor of what in GB came to be called an empty operator. In the development of transformational theory, this was an important step towards the concept of a single movement rule “Move  $\alpha$ ” (or “Move”). It also changed the focus of transformational grammar from constructions in a more-or-less traditional sense (one transformation per construction) to a theory in which constructions are epiphenomenal. The older construction-based transformational theory was better suited to accounting for differences between related constructions, while the newer construction-free approach is better suited to accounting for the common features of all related constructions (such as LDDs).
- Trace: Originally proposed in Chomsky (1973) to solve a technical issue. Similar ideas were floating around at the same time in other people’s work. It was most closely related to issues of derived structure and the structure-preserving nature of transformations. The original idea was simply that when something moves, it leaves an empty structural position behind, and that this is coindexed with the thing that moved. The concept of trace came to be more fleshed-out in later work. For example, Chomsky (1977) observes that *wh* trace is interpreted as a variable. Chomsky (1980) explicitly calls trace an anaphor, and says it is subject to “Opacity” ( $\approx$ Binding Condition A). In GB, *wh* trace is considered to be an R-expression, not an anaphor, but it is subject to the Condition A-like Empty Category Principle (ECP). Chomsky and Lasnik (1993) explicitly compare the binding of trace to the binding of a reflexive or reciprocal. This is taken a step further in the Minimalist Program (Chomsky 1993), where a trace is viewed as a copy of the moved element: a copy which is visible to LF but deletes at PF.

# Wh Movement as Movement, p. 4



# ***Wh* Movement as Movement, p. 5**

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## **References**

- Chomsky, Noam (1973) "Conditions on Transformations". In Stephen R. Anderson and Paul Kiparsky, eds., *A Festschrift for Morris Halle*. New York: Holt, Rinehart and Winston. Reprinted in Noam Chomsky, ed. (1977) *Essays on Form and Interpretation*. pp. 81–160. New York: North-Holland. **P 151 C47**
- Chomsky, Noam (1977) "On *Wh*-Movement." in Peter Culicover, Thomas Wasow, and Adrian Akmajian, eds. *Formal Syntax*. pp. 71–132. New York: Academic Press.
- Chomsky, Noam (1980) "On Binding." *Linguistic Inquiry* 11: 1–46.
- Chomsky, Noam (1981) *Lectures on Government and Binding*. Dordrecht: Foris.
- Chomsky, Noam (1995) *The Minimalist Program*. Cambridge, Mass.: MIT Press.
- Chomsky, Noam, and Howard Lasnik (1993) "The Theory of Principles and Parameters." in Joachim Jacobs, Armin von Stechow, Wolfgang Sternefeld, and Theo Vennemann, eds., *Syntax: An International Handbook of Contemporary Research*, Volume 1, pp. 506–569. Berlin: Walter de Gruyter. **Y4: P 291 S93** Reprinted as Chapter 1 of Chomsky 1995.