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# L2 acquisition of constraints on movement

(This presentation summarises parts of chapter 7 in Hawkins [2001])

- Type of movement discussed: Extraction of *wh*-phrases from embedded clauses in information questions. Ungrammaticalities in this process are assumed not to appear in the wild. (e.g. *$[_{CP1}$ What$_i$ did $[_{IP1}$ Bob meet $[_{DP}$ a journalist $[_{CP2}$ who$_j$ e $[_{IP2}$ t$_j$ writes t$_i$]]]]]? )

- Question: Can L2 learners in whose L1 this kind of movement does not appear acquire it? In the absence of ungrammatical examples in the input, this would show access to UG in L2 acquisition.

## Basic assumptions

The question morpheme Q (Complementizer; no phonetic value) indicates that a clause is a question. In English, the *wh*-phrase being questioned (if there is one) moves to the specifier position of the CP with the head Q. This movement does not necessarily produce a grammatical result.

## Subjacency (Chomsky, 1970s)

The *wh*-phrase rises to the nearest unoccupied CP specifier position, leaving a trace in its original position. It can then move again, leaving another trace (cyclic movement). However, it can not move too far in any single movement. "Too far" is defined in terms of **bounding nodes**. A node is a maximal projection in a syntax tree. Some types of nodes (depending on the language) are bounding, i.e. boundaries to constituent movement. Traces must be "subjacent" to (i.e. separated by no more than one bounding node from) their antecedent. In other words, if a constituent moves across more than one bounding node in a single movement the result is ungrammatical. DP and IP are bounding nodes in English.

### Subjacency islands

Certain constructions "isolate" *wh*-phrases below them, blocking their movement. Examples:

- *wh*-island: If a clause is headed by a *wh*-phrase (e.g. indirect questions), its CP specifier position is filled. A second *wh*-phrase cannot move because the nearest unoccupied CP specifier position lies two (bounding) IPs away.
  *$[_{CP1}$ What$_i$ did $[_{IP1}$ Freda discover $[_{CP2}$ who$_j$ e $[_{IP2}$ t$_j$ bought t$_i$]]]]?

- Complex DP: *wh*-phrases cannot be extracted from a clausal complement to a DP because both the DP and its IP would lie between the moved *wh*-phrase and its trace.
  *$[_{CP1}$ What$_i$ did $[_{IP1}$ Freda hear $[_{DP}$ the news $[_{CP2}$ t$_i$ that $[_{IP2}$ Janice had bought t$_i$]]]]]?

### Problems with the subjacency model

In some cases there is a clear difference between "slightly ungrammatical" and "very ungrammatical" extractions from the same initial configuration across the same bounding nodes. Subjacency does not explain this. Example (*wh*-island):

a    They wondered $[_{CP}$ whether e $[_{IP}$ she could mend the puncture very quickly]]
b    ?$[_{CP1}$ What$_i$ did $[_{IP1}$ they wonder $[_{CP2}$ whether e $[_{IP2}$ she could mend t$_i$ very quickly]]]]?
c    *$[_{CP1}$ How quickly$_i$ did $[_{IP1}$ they wonder $[_{CP2}$ whether e $[_{IP2}$ she could mend the puncture t$_i$]]]]?

Hawkins presents two of the suggested principles which could explain this difference.

## Barriers (Chomsky 1986)

I will not discuss the barriers approach in any detail. To give you a brief idea, barriers are similar to bounding nodes, but unlike in the bounding nodes approach, any maximal projection can be a barrier depending on its syntactic situation. This correct some problems in the bounding nodes approach, but it also needs several exceptions to produce the correct grammaticality judgements for certain sentence types.

## Empty Category principle and Relativized Minimality (Rizzi 1990)

This approach focuses on the traces left by the moved *wh*-phrases. Traces (which are a kind of empty category) must be licensed and identified. A trace is licensed ("properly head-governed", as Rizzi calls it) when it is a sister to a lexical head or Infl. A trace is identified either if it has a theta-role *and* is sister to a theta-role assigner, or if an antecedent governs it. In the second case, the distance between antecedent and trace must be minimal, i.e. no category of the same type may intervene.

In example b above, the trace $t_i$ is sister to V *mend* (a lexical category and theta-role assigner) and has a theta-role. It is therefore licensed and identified. The sentence is still slightly ungrammatical because the *wh*-phrase moves to CP1 specifier directly rather than via CP2 specifier (which is already occupied by the *wh*-phrase creating the *wh*-island).

In example c, $t_i$ can not be theta-governed because its sister (N *puncture*) is not a theta-role assigner. It must therefore be antecedent-governed, and Relativized Minimality comes into play. Since a *wh*-phrase intervenes between antecedent and trace, the trace is not antecedent-governed either, thus not identified at all. This is a more serious kind of ungrammaticality.

## Case studies

These movement restrictions, all assumed to come from UG, are exploited in studies trying to determine whether UG is accessible to L2 learners or not. Hawkins presents several studies about L1 speakers of Korean (which has no *wh*-movement at all) and Chinese and Indonesian (which have *wh*-movement in some cases, but not in questions) learning English as an L2. Findings are unclear so far. Although generally the restrictions prove to be difficult to acquire, accuracy is significantly above 50% in some cases, learners are sensitive to the difference between strong and weak islands, and individuals seem able to reach an accuracy similar to that of an L1 speaker.

Hawkins argues that UG is accessible to L2 learners, but it may be difficult for them to reset certain parameters from their L1 setting; in this case, the parameter determining whether *wh*-phrases move at all. He suggests that in a sentence like *\*What did Freda discover who bought?* the complement to *bought* is interpreted not as the trace of a moved *wh*-phrase but rather a zero pronoun bound by the *wh*-phrase (?*What did Freda discover who bought (it)?*). In such a misanalysis, the *wh*-phrase would not have moved at all and thus not be subject to UG constraints on movement. In the studies discussed, the analysis of the control questions testing whether subjects have acquired *wh*-movement do not take this alternative into account.

## Bibliography

Hawkins, Roger: "7: Constraints on Syntactic Representations and Second Language Acquisition". In: *Second Language Syntax: A Generative Introduction.* Oxford: Blackwell, 2001. pp. 267-324.

Rizzi, L.: *Relativized Minimality*. Cambridge, Mass.: MIT Press, 1990.

Chomsky, N.: *Barriers*. Cambridge, Mass.: MIT Press, 1986.