

Robert Kluender (2004): Are Subject Islands Subject to a Processing Account?

WCCFL 23 Proceedings, ed. B. Schmeiser, V. Chand, A. Kelleher, A. Rodriguez, pp. 101-125,
Somerville, MA: Cascadilla Press.

Summary of Kluender (1998): Accounts for *wh*-islands and relative clause islands in processing terms.

Elements of processing model:

- Verbal working memory has capacity constraints. In filler-gap structure, activation level of filler decreases the longer it is held in working memory.
- Referential elements differ in the amount of processing resources that they consume (affects both fillers and intervening elements).
- Clause boundaries (and transporting fillers across clause boundaries) are especially demanding on processor resources.

Evidence that these processing constraints are what is responsible for *wh*-islands and relative clause islands:

- Acceptability judgments: Manipulations that should make processing easier or more difficult affect acceptability of island violations as predicted.
- Acceptability judgments: Holding a filler in working memory, carrying it across a clause boundary, and doing additional referential processing at clause boundary can each be shown to affect acceptability.
- ERP studies: Holding a filler in working memory, carrying it across a clause boundary, and doing additional referential processing at clause boundary are each evident in ERPs: N400 for referential processing and LAN for filler-gap dependency. These interact in *wh*-islands.

Claim: Subjects are already difficult to process (because of their internal complexity and because of increased referential processing load at beginning of clause), so maintaining a filler-gap dependency on top of this may push the verbal working memory system over threshold. This could plausibly account for subject islands.

Evidence that processing subjects is costly to working memory

1. Child language production

- Tradeoff between subject length and verb phrase length (the longer the subject, the shorter the verb phrase, and vice-versa)
- Children omit subjects or try to reduce them however they can.

2. Adult production

- Same tradeoff between subject length and verb phrase length in adult Italian and Japanese.
- More disfluencies with subjects than with objects, and more with complex NPs than with simple NPs.
- Adults write embedded sentences more often within VP than within subject.

3. Language processing in the elderly

- Elderly produce fewer complex subjects, and have more difficulty repeating them (compared to complex objects).
- Use of complex subjects impedes comprehension in reading (ages 60-92).

Subject islands can be manipulated, with effects on acceptability as predicted.

1. Extraction out of non-finite clause with no overt subject is better:

(9) Who does [that she can bake ginger cookies for _] give her great pleasure?

(10) Who does [being able to bake ginger cookies for _] give her great pleasure?

2. Gaps closer to right edge of subject seem better:

(12) b. Who does [baking ginger cookies for _] tire you out?

c. What does [baking _ for your grandchildren] tire you out?

(13) b. What will [providing the troops with _] guarantee the success of the mission?

b. What will [providing _ with adequate training] guarantee the success of the mission?

(14) b. What does [cutting meat for her kids with _] drive her crazy?

c. Who does [cutting meat for _ with a dull knife] drive her crazy?

d. What does [cutting _ for her kids with a dull knife] drive her crazy?