

A deeper functional explanation of island constraints

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Introduction

An island is a syntactic constituent which contains an element that cannot be extracted out of it.

Many constructions are islands:⁷

- 1) **What did he give a book to [the man who likes ___]?*
- 2) **What did you eat [beans and ___]?*
- 3) **What [that Mary solved ___] is likely?*
- 4) **Whose did Sue borrow [___ pencil]?*

Any kind of extraction is prohibited, not only questions:

- 5) **Our problem, [that Mary solved ___] is likely*
- 6) **I met a man whose Sue borrowed [___ pencil]*

What makes a constituent an island?
Why do they exist?



Structural account

Ross⁸ (1967) proposed certain constraints on syntactic categories for movement:

1. Complex NP Constraint
2. Coordinated Structure Constraint
3. Sentential Subject Constraint
4. Left Branch Condition

Chomsky's Principle of Subjacency² (1973):

- Crossing two bounding (S, NP) nodes is prohibited

Huang⁵ (1982) discovered adjunct islands:

- 7) **What were you happy [because John bought ___]?*

The variation of empirical data (both within a language and cross-linguistically) escape any purely syntactic generalization:

- 8) *The money which I have [hopes that Bill earned ___]*

Weak islands:

- 9) ??*What did he wonder [whether John read ___]?*
- 10) *Which book did he wonder [whether John read ___]?*

Functional account

Relies on information structure, i.e. semantic-pragmatic constraints rather than syntactic ones.

Erteschik-Shir³ (1973):

- Extract only from a *dominant* part of the sentence (not presupposed and without a contextual reference)

Test for dominance:

- 11) *Tom said: "John rejoices that they came to the party" ... which is a lie, he does not ... *which is a lie, they did not*

Ambridge & Goldberg¹ (2008):

- Backgrounded constituents are islands (BCI)

The question still remains:

- Why are backgrounded constituents islands?



Instructional semantics

- Dynamic semantics⁴ theory based on DRT⁶.
- Sentence is a set of instructions to *find*, *create* or *update* mental referents in the hearer's mental database.
- Instructions reflect the speaker's intentions to add certain information to the corresponding hearer's mental file.
- Instructions are dependent of one another.
- Their dependency hierarchy forms a tree which is then realized into the syntactic tree of the sentence.
- Each instruction (with its dependencies) is realized into a syntactic constituent.

12) *Bill saw a picture of John, a friend of mine*

update *b*: see (*b*, *p*)

find *b*: bill (*b*)

create *p*: picture (*p*)
of (*p*, *j*)

update *j*: friend (*i*, *j*)

find *j*: john (*j*)

Islands explanation

Hypothesis:

- Every instruction is an island

Island violations occur when at least one of the two principles of building the instruction set is violated:

1. **Coherence.** It must be possible to execute the set of instructions sequentially. In particular:
 - a. Circular dependencies are prohibited.
 - b. Discourse referents must be initialized (via *find* or *create*) before used elsewhere.
 - c. Each discourse referent used in the content of an instruction must be traceable to the head referent of that instruction through the path of predicate-argument relations.
2. **Relevance.** An instruction marked with a certain discourse referent should not contain the content which is unrelated to that referent.

Coherence violation

13) *John loves [the sister who lives in Paris]*

update *j*: love (*j*, *s*)

find *j*: john (*j*)

find *s*: sister (*s*, *j*)
lives (*s*, *p*)

find *p*: paris (*p*)

14) **Where does John love [the sister who lives in ___]?*

request *p*: love (*j*, *s*)

find *j*: john (*j*)

find *s*: sister (*s*, *j*)
lives (*s*, *p*)

15) *Where does the sister live which John loves?*

request *p*: lives (*s*, *p*)

find *s*: sister (*s*, *j*)

find *j*: john (*j*)

Relevance violation

16) *John [planted a tree and raised a child]*

update *j*: plant (*j*, *t*)
raise (*j*, *c*)

find *x*: john (*x*)

create *t*: tree (*t*)

create *c*: child (*c*, *j*)

17) **What did John [plant ___ and raised a child]?*

request *t*: plant (*j*, *t*)
raise (*j*, *c*)

find *x*: john (*x*)

create *c*: child (*c*, *j*)

Summary

- An island is a constituent which prohibits extraction
- Generativists suggested certain syntactic constraints
- But they could not account for all empirical data
- Information structure approaches sound more promising
- They suggest that backgrounded constituents are islands
- This is very insightful, but the question still remains:
 - Why are backgrounded constituents islands?
- I approach it in the framework of instructional semantics,
 - where the sentence is a sequence of instructions
 - for the hearer to update her mental database
- Each instruction corresponds to a syntactic constituent
- Each instruction is an island
- The set of instructions follows two principles:
 - *Coherence* and *Relevance*
- Violating either principle results in island violation

Further research

- Check whether this approach can account for all types of syntactic islands
- Explore which instruction types correspond to which syntactic categories, when and why



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Further information

Any questions, claims or blames?

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