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.

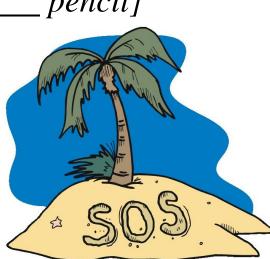
Many constructions are islands:<sup>7</sup>

- 1) \*What did he give a book to [the man who likes \_\_\_ ]?
- ) \*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

Ross<sup>8</sup> (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 Subjacency<sup>2</sup> (1973):

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

Huang<sup>5</sup> (1982) discovered adjunct islands:

7) \*What were you happy [because John bought \_\_\_ ]?
The variation of empirical data (both within a language

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:

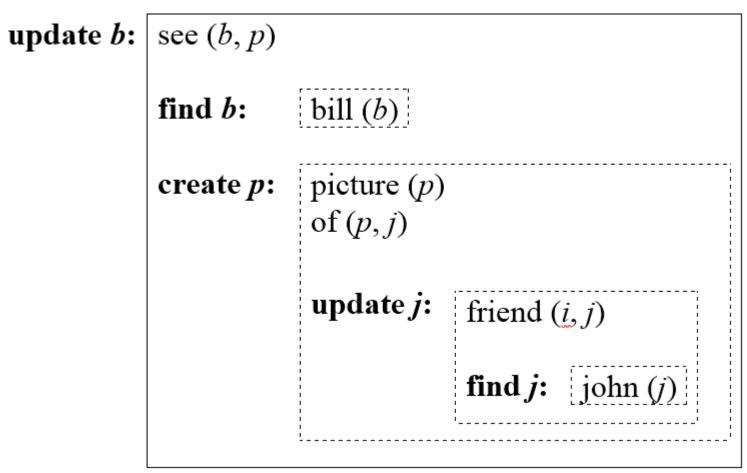
9) ??**What** did he wonder [whether John read \_\_\_ ]?

10) Which book did he wonder [whether John read \_\_\_ ]?

#### Instructional semantics

- Dynamic semantics<sup>4</sup> theory based on DRT<sup>6</sup>.
- 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



### 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 predicateargument 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)<br/>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]?

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

request t: plant (j, t)raise (j, c)find x: john (x)

# **Functional account**

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

Erteschik-Shir<sup>3</sup> (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
- ... "which is a ite, they ata no

Ambridge & Goldberg<sup>1</sup> (2008):
Backgrounded constituents are islands (BCI)



The question still remains:

Why are backgrounded constituents islands?

#### 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 semantic,
  - where the sentence is a sequence of instructions
  - where the sentence is a sequence of instruction
    for the hearer to update her mental database
- Each instruction corresponds to a syntactic constituent
- Each instruction is an islandThe 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



References

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#### **Further information**

Any questions, claims or blames? Feel free to contact me at irygaev@gmail.com.

