Syntactic Islands

Based on Pearl 2021, Chomsky Handbook, 1.4.2
Pearl 2021, JoCL UG+Stats, 3.6

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1.4.2: Linguistic knowledge for syntactic islands

Statistical Learning and Constraints on Wh-Dependencies

- Based on work by Lisa Pearl and Sprouse
- Focus: how children learn syntactic constraints in English

"there are specific syntactic structures that long-distance dependencies can't cross, known as syntactic islands"

1.4.2: Linguistic knowledge for syntactic islands

The core linguistic problem

- How do children learn which sentence structures are grammatical?

Specifically:

- Which long-distance dependencies are allowed?
- Which are blocked by syntactic constraints?

Professor Pearl compares:

- traditional Universal Grammar approaches
- statistical learning approaches

> “children simply need to learn which long-distance dependencies have licit syntactic paths and which don’t.”

What is a Wh- Dependency

Long-distance relationships in sentences

Example:

“What does Jack think Lily stole ___?”

- “What” is interpreted later in the sentence
- This creates a dependency between:
  - the fronted wh-word
  - its understood position

Key idea:

- dependencies can stretch across multiple clauses

What are syntactic islands?

Some sentence structures block these dependencies.

4 Types of Islands:

- Whether island
- Complex NP island
- Subject island
- Adjunct island

Traditional Theory: Subjacency

Older theories proposed:

- dependencies cannot cross too many “bounding nodes”
- based heavily on Universal Grammar (UG)

Bounding nodes:

- NP
- IP
- CP

Key idea:

- children are born with strong grammatical constraints

“This constraint basically says that dependencies can’t cross two or more bounding nodes”

Pearl & Sprouse's Proposal

Instead of hardwired rules:

- children track syntactic patterns statistically
- they learn which dependency paths are likely or unlikely

Island violations become:
low-probability structural patterns
rather than absolute prohibitions

"There's no need for the child to know about a hard constraint prohibiting the crossing of two bounding nodes"

Syntactic Paths

Children may learn syntax through:

- phrase structure building blocks
- repeated structural patterns

Example path:

IP → VP → CP → IP → VP

Key idea:

- syntax learning may emerge from probabilistic structural learning

Why This Matters

The proposal suggests:

- less innate grammatical knowledge may be needed
- statistical learning plays a larger role in language acquisition

This challenges strongly UG-based explanations.

“their linguistic hypothesis space doesn’t have to be as constrained by UG as the original Subjacency approach assumed it was.”

Thank You So Much!