Knowledge of language and how it is put into use

Comp-Lang discussion
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What should be taken as critical evidence in the study of language?

• Critical evidence = evidence that guides our research about the language faculty
• Evidence from how language is put into use (psycholinguistic evidence)?
• Properties of the structure of language (e.g. constituency, sisterhood)?
What should be taken as critical evidence in the study of language?
Minimalist vs. HPSG

- Minimalist linguists:
  - Start from observed properties of the structure of language
  - A linguistic theory should be compatible with psycholinguistic evidence

- HPSG linguists:
  - Start from both evidence of the structure of language and psycholinguistic evidence
Competence vs. Performance

- Noisy environment
- Memory limitations

Competence

Performance
Competence vs. Performance

• How is competence linked to performance?
  • Directly / one-to-one (assumed in HPSG texts): performance has property X → competence must have property X → a theory about competence must have property X
  • Alternatives?
What is language processing like?

• Incremental, integrative and rapid
  • Garden Path
  • Use all available information as it is needed
• Processing ≈ production
• Choice of words is important
<table>
<thead>
<tr>
<th>Language processing</th>
<th>HPSG</th>
<th>Transformational grammar</th>
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</thead>
<tbody>
<tr>
<td>• Incremental and integrative</td>
<td>• Surface-oriented</td>
<td>• Transformational</td>
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<tr>
<td>• Order of access is flexible</td>
<td>• Constraint-based</td>
<td>• Empty categories</td>
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<td>• Neutral between processes</td>
<td>• Strong lexicalism</td>
<td>• Derivational</td>
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<td>• Choice of words matters</td>
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<td>• Little focus on lexicon</td>
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Incrementality

• Each word provides information about the structure of the sentence and does so incrementally
• Partial analysis of partial information (‘who did you’)

Incrementality ~ Surface-orientation

• Only surface structures are involved in processing -> transformational derivations are irrelevant
• A full derivation cannot be available incrementally because it involves all elements in a sentence
Flexible order of access

• Order of presentation of words determines the order of listeners’ mental operations

(1) The sheep that was sleeping in the pen stood up.
(2) The sheep in the pen had been sleeping.

• World information / morphological information
Flexible order of access ~ Constraint-based

• Order of presentation of words determines the order of listeners’ mental operations
• Constraints are order-independent
• Incompatible with a theory that posits fixed order of access
Process-neutrality

• Produced sentences ≈ comprehended sentences
Process-neutrality ~ Constraint-based

• We need a process-neutral grammar -> HPSG!
• Transformational grammars have directionality built in
Lexical choice

• Choice of words makes a big difference in processing
  (1) a. Lou forgot the umbrella
      b. Lou forgot the umbrella was broken.
      c. Lou forgot the umbrella in the closet.
  (2) a. Lou hoped the umbrella ...
      b. Lou hoped the umbrella was broken.
      c. *Lou hoped the umbrella in the closet.
  (3) a. Lou put the umbrella ...
      b. *Lou put the umbrella was broken.
      c. Lou put the umbrella in the closet.
Lexical choice

• Choice of words makes a big difference in processing

(1) a. Dana learned the umbrella was broken.
b. Dana learned a new theorem.

• Semantic and pragmatic information of the verb is used incrementally in sentence processing.
Lexical choice ~ Strong Lexicalism

• Information that needs to be lexically specified to account for psycholinguistic results
  • Valence
  • ‘Coarse-grained semantic information’ (i.e. who did what to whom)
  • ‘Grammatically relevant features’ (e.g. tense, finiteness, voice, person, number, gender)
Summary

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