Lexical-conceptual structure
(Ray Jackendoff)

Course
Semantics: The Structure of Concepts

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Phonological formation rules → Syntactic formation rules → Conceptual formation rules

Phonological structures → Syntactic structures → Conceptual structures

PS-SS correspondence rules → SS-CS correspondence rules
The conceptual structure

- Jackendoff (2002): “Conceptual structure is not a part of language per se – it is a part of thought. It is the locus for the understanding of linguistic utterances in context, incorporating pragmatic considerations and “world knowledge”; it is cognitive structure in terms of which reasoning and planning take place”.

- Syntactically transparent semantic composition

  All elements of content in the meaning of a sentence are found in the lexical conceptual structures (LCSs) of the lexical items composing the sentence. **Semantic decomposition** can be used to investigate the mapping between semantics and grammatical processes.
Conceptual structure elements: categories, functions, arguments

- Universal semantic categories: Event, State, Object (Thing), Path, Place, Property.

a. Syntax and phonology:

\[ \text{[John]}_i \text{ went}_j \text{ [into}_k \text{ [the room]}_m \text{]} \]

b. Conceptual structure:

\[ [\text{Event GO ([Thing JOHN]}_i, \text{ Path TO ([Place IN ([Thing ROOM]}_m))]_k)]_j \]

![Diagram of conceptual structure elements]

- Semantic categories are built up by combination of functions and arguments.
Localist approach to semantics

- Spatial terms are used to structure non-spatial domains: time, possession, property, etc.

1. a. Carl is in the pub. (Loc)
   b. $[\text{State BE}_{\text{Loc}} ([\text{Thing CARL}], [\text{Place IN} ([\text{Thing PUB}]))])$

2. a. The party is on Saturday. (Temp)
   b. $[\text{State BE}_{\text{Temp}} ([\text{Thing PARTY}], [\text{Place AT} ([\text{Time SATURDAY}]))])$

3. a. The theatre is full. (Property)
   b. $[\text{State BE}_{\text{Ident}} ([\text{THEATRE}], [\text{Place AT} ([\text{Property FULL}]))])$

4. a. This book belongs to John. (Poss)
   b. $[\text{State BE}_{\text{Poss}} ([\text{Thing BOOK}], [\text{Place AT} ([\text{Thing JOHN}]))])$
Types of events

a. $[\text{EVENT}] \rightarrow \begin{cases} [\text{Event GO ([THING], [PATH])}] \\ [\text{Event STAY ([THING], [PLACE])}] \end{cases}$

b. $[\text{EVENT}] \rightarrow \begin{cases} \text{CAUSE} \left( \begin{cases} \text{THING EVENT} \end{cases} \right) \end{cases}$

b. $[\text{STATE}] \rightarrow \begin{cases} [\text{State BE ([THING], [PLACE])}] \\ [\text{State ORIENT ([THING], [PATH])}] \\ [\text{State EXT ([THING], [PATH])}] \end{cases}$

a. John ran into the room.
   Bill stayed in the kitchen

b. Harry prevented Sam from going away.
   The crash caused hundreds of victims.

c. Bill is in the kitchen.
   The sign points towards New York.  
   The road goes from New York to San Francisco.
Aspectual functions

• CAUSE, INCH (state→event), PERF (resultant phase)

a. \([_{Event} \text{ INC } ([_{State} \ ])])\]
   
   Snow covered the hills.

b. \([_{State} \text{ PERF } ([_{Event} \ ])])\]
   
   Sue has eaten lunch.
Transcategorial semantic features

Allow to describe entities and events.

[±bounded] [±internal structure]

a. +b, -i: individuals (a pig)
   delimited events with duration (John ran to the shop);

b. +b, +i: groups (committee, government)
   delimited iterative events (The light flashed until dawn);

c. -b, -i: substances (pork, sand)
   homogeneous non-delimited events (John slept);

d. -b, +i: aggregates (cars, cattle)
   iterative non-delimited events (The light was flashing).
Semantic functions

• PL (plural) – ELT (element of)

  \[[+b] \rightarrow [-b, +i]; [-b, +i] \rightarrow [+b, -i]\\]

  chair ↔ chairs; rice ↔ grain of rice

  *The light flashed (once) → The light flashed (continuously)*

• COMP (composed of) - (GR) universal grinder

  \[[-b, -i] \rightarrow [+b, -i], [+b, -i] \rightarrow [-b, -i]]

  a pig ↔ pig, a coffee ↔ coffee

  *John ran to the store ↔ John was running to the store*

• (CONT) containing – (PART) partitive

  \[[+b, -i] \rightarrow [+b, -i], [-b, -i] \rightarrow [-b, -i]\\]

  table ↔ leg of the table, stew ↔ beef stew

  *John broke the chair ↔ The chair broke*
Semantic algebra: putting it all together

- *The light flashed until dawn*

\[
\begin{aligned}
\text{COMP}^{+b, +i} \\
\text{PL}^{-b, +i} \\
\text{Sit}^{+b, -i} \\
\text{DBY}^+ ([\text{Time Dawn}])
\end{aligned}
\]
Bibliography