HG2002 Semantics and Pragmatics

Meaning Components

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Lecture 9
Location: SPMS LT-2

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HG2002 (2019)
Overview

- Revision: Speech as Action (skip)
  - Austin’s Speech Act Theory (skip)
  - Categorizing Speech Acts (skip)
  - Indirect Speech Acts (skip)

- Componential Analysis

- Katz’s Semantic Theory

- Levin’s Verbal Alternations

- Talmy’s Cognitive Structure

- Jackendoff’s (Lexical) Conceptual Structure

- Pustejovsky’s Generative Lexicon

- Next Lecture: Chapter 10 — Formal Semantics
Componential Analysis
Break word meaning into its components

For example:

- **woman**  [FEMALE]  [ADULT]  [HUMAN]
- **spinster**  [FEMALE]  [ADULT]  [HUMAN]  [UNMARRIED]
- **bachelor**  [MALE]  [ADULT]  [HUMAN]  [UNMARRIED]
- **wife**  [FEMALE]  [ADULT]  [HUMAN]  [MARRIED]
- **girl**  [FEMALE]  [CHILD]  [HUMAN]
- **boy**  [MALE]  [CHILD]  [HUMAN]

**semantic components/primitives** shown as [COMPONENT]

Reasons to indulge Componential Analysis:

- components allow a compact description
- interact with morphology/syntax
- form part of our cognitive architecture

Inspired by work on phonetics in the Prague School
Using Lexical Relations to find Components

> **hyponymy**

A lexical item P is a hyponym of Q if all the components of Q are also in P.

- **woman**  [FEMALE]  [ADULT]  [HUMAN]
- **spinster**  [FEMALE]  [ADULT]  [HUMAN]  [UNMARRIED]
- **wife**  [FEMALE]  [ADULT]  [HUMAN]  [MARRIED]

spinster ⊆ woman; wife ⊆ woman

> **incompatibility**

A lexical item P is incompatible with Q if they share some components but differ in one or more contrasting components

spinster ∉ wife
We can make things more economical (fewer components):

- **woman** [+FEMALE] [+ADULT] [+HUMAN]
- **spinster** [+FEMALE] [+ADULT] [+HUMAN] [−MARRIED]
- **bachelor** [−FEMALE] [+ADULT] [+HUMAN] [−MARRIED]
- **wife** [+FEMALE] [+ADULT] [+HUMAN] [+MARRIED]
- **girl** [+FEMALE] [−ADULT] [+HUMAN]

- Which should be +? [+FEMALE] or [−MALE]
- Presumably also [−ELECTRIC], [−CONICAL], …
  Only show relevant features
- **antonyms** differ in only one binary component
We can add relations between components:

\[ [+\text{HUMAN}] \rightarrow [+\text{ANIMATE}] \]
\[ [+\text{ADULT}] \rightarrow [+\text{ANIMATE}] \]
\[ [+\text{ANIMATE}] \rightarrow [+\text{CONCRETE}] \]
\[ [+\text{MARRIED}] \rightarrow [+\text{ADULT}] \]
\[ [+\text{MARRIED}] \rightarrow [+\text{HUMAN}] \]

Which allows us to write:

- **woman** [+FEMALE] [+ADULT] [+HUMAN]
- **spinster** [+FEMALE] [+ADULT] [+HUMAN] [+MARRIED]
- **bachelor** [+FEMALE] [+ADULT] [+HUMAN] [+MARRIED]
- **wife** [+FEMALE] [+HUMAN] [+MARRIED]

?? Can we say \([-\text{MARRIED}] \rightarrow [+\text{HUMAN}]\)?
More Complex Breakdowns

➤ We can add relations between components:

\[ [+\text{FATHER}] \rightarrow [+\text{MALE}] [+\text{PARENT}] \]
\[ [+\text{FATHER}](x,y) \rightarrow [+\text{MALE}](x) [+\text{PARENT}](x,y) \]
\[ [+\text{SON}](x,y) \rightarrow [+\text{MALE}](x) [+\text{PARENT}](y,x) \]
\[ [+\text{BROTHER}](x,y) \rightarrow [+\text{MALE}](x) [+\text{PARENT}](z,x) [+\text{PARENT}](z,y) \]
\[ [+\text{GRANDFATHER}](x,y) \rightarrow [+\text{MALE}](x) [+\text{PARENT}](x,z) [+\text{PARENT}](z,y) \]

➤ Assume \([+\text{PARENT}](x,y)\) means “x is the parent of y”

➤ There are various ways you can formalize such relationships

➤ Many parts of language can be formalized in such a way

??? Can you do this for demonstratives?

*this, that, these, those, what, here, there, where*
Katz’s Semantic Theory
Katz’s Semantic Theory

Two Central Ideas:

- Semantic rules must be recursive to deal with infinite meaning
- Semantic rules interact with syntactic rules to build up meaning, which is **compositional**

Two major components:

- A dictionary pairing lexical items with semantic representations
- A set of **projection rules** that show how meaning is built up

‘Sam kissed Kim’ vs. ‘Kim kissed Sam’
The dictionary

➤ bachelor {N}

  1. (human) (male) [one who has never been married]
  2. (human) (male) [young knight serving under the standard of another knight]
  3. (human) [one who has the lowest academic degree]
  4. (animal) (male) [young fur seal without a mate in the breeding season]

➤ (semantic markers) are the links that bind lexical items together in lexical relations

➤ [distinguishers] serve to identify this particular lexical item
  this information is not relevant to syntax

Similar to genus and differentiae.
Projection Rules

1. Projection rules combine with syntactic rules to produce the meaning of a sentence
   - Information is passed up the tree and collected at the top.
   - Information is only added, never deleted
   - It must come from words or rules (or constructions)

2. **Selectional restrictions** \(〈\) help to reduce ambiguity and limit the possible readings

   - Accounts for entailment of some (**semantic markers**)

There is a chair in the room.
There is a (**physical object**) in the room.
There is a (**piece of furniture**) in the room.
There is (**something having legs**) in the room.

More about this in Theories of Syntax/HPSG
Selectional restrictions

1. **colorful** {adj}
   (a) *(color)* [abounding in contrast or variety of bright colors] \((\text{physical object}) \text{ or } (\text{social activity}))\)
   (b) *(evaluative)* [having distinctive character, vividness or picturesqueness] \((\text{aesthetic object}) \text{ or } (\text{social activity}))\)

2. **ball** {N}
   (a) *(social activity)* *(large)* *(assembly)* [for the purpose of social dancing]
   (b) *(physical object)* [having globular shape]
   (c) *(physical object)* [solid missile for project by engine of war]

> **colorful ball**: The selectional restrictions rule out: 1b + 2b, 1b + 2c

Modern theories prefer **selectional preferences**: probabilities not categories.
Katz presents some of the earliest efforts in componential semantics within generative grammar (through projection rules and selection restrictions).
Grammatical Rules and Semantic Components
We can investigate the meaning of a verb by looking at its grammatical behavior.

(1) Consider the following transitive verbs:
   a. *Margaret cut the bread*
   b. *Janet broke the vase*
   c. *Terry touched the cat*
   d. *Carla hit the door*

These do not all allow the same argument structure alternations.
Diathesis Alternations

- **Causative/inchoative** alternation:
  
  \[Kim \text{ broke the window} \leftrightarrow \text{The window broke}\]
  
  also  \[the \text{ window is broken}\] (state)

- **Middle construction** alternation:
  
  \[Kim \text{ cut the bread} \leftrightarrow \text{The bread cut easily}\]

- **Conative** alternation:
  
  \[Kim \text{ hit the door} \leftrightarrow Kim \text{ hit at the door}\]

- **Body-part possessor ascension** alternation:
  
  \[Kim \text{ cut Sandy’s arm} \leftrightarrow Kim \text{ cut Sandy on the arm}\]
A verb’s (in)compatibility with different alternations is a strong predictor of its lexical semantics:

<table>
<thead>
<tr>
<th></th>
<th>break</th>
<th>cut</th>
<th>hit</th>
<th>touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causative</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Middle</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Conative</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Body-part</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

\begin{align*}
\text{break} &= \{ \text{break, chip, crack, crash, crush, ...} \} \\
\text{cut} &= \{ \text{chip, clip, cut, hack, hew, saw, ...} \} \\
\text{hit} &= \{ \text{bang, bash, batter, beat, bump, ...} \} \\
\text{touch} &= \{ \text{caress, graze, kiss, lick, nudge, ...} \}
\end{align*}

Can you give me some other examples?

(Levin, 1993)
We can analyze components that correlate with the alternations

- **break**: CAUSE, CHANGE
- **cut**: CAUSE, CHANGE, CONTACT, MOTION
- **hit**: CONTACT, MOTION
- **touch**: CONTACT

The semantic class/components predicts the syntax of novel words

Not all parts of meaning are relevant to syntax

<table>
<thead>
<tr>
<th>has an affect</th>
<th>has no affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semantic Markers</td>
<td>Semantic Distinguishers</td>
</tr>
<tr>
<td>Grammatically Relevant Subsystem</td>
<td>Unrestricted Conceptual Representation</td>
</tr>
<tr>
<td>Semantic Structure</td>
<td>Semantic Content</td>
</tr>
<tr>
<td>Semantic Form</td>
<td>Conceptual Structure</td>
</tr>
<tr>
<td>Semantic Structure</td>
<td>Conceptual Structure</td>
</tr>
</tbody>
</table>

(Levin, 1993)
Thematic Roles and Linking Rules

➤ Semantics-Syntax interface is even more ‘satisfactory’ with thematic roles

➤ Verbs often link their thematic roles to arguments in different ways (locative alternation)

(2)  
a. *He loaded newspapers onto the van*  \(\langle\text{AGENT, THEME}\rangle\)

b. *He loaded the van with newspapers*  \(\langle\text{AGENT, GOAL}\rangle\)

➤ But the meanings are not identical: (2b) implies completion, and the theta-grid does not deal with the adjuncts

➤ We need more than just theta-grids/roles
Movement-to-location verbs

> locative alternation

(3)  a. *Andy poured oil into the pan
     b. *Andy poured the pan with oil
(4)  a. *Andy filled oil into the pan
     b. Andy filled the pan with oil
(5)  a. Andy brushed oil onto the pan
     b. Andy brushed the pan with oil
(6)  a. ⟨AGENT, THEME, PP:GOAL⟩
     b. ⟨AGENT, PATIENT/GOAL, PP:INSTRUMENT/THEME?⟩

> Clearly not all movement verbs can use this alternation

> How fine-grained should verb classification be?
Explain with verb classes

Verbs of movement: ‘X causes Y to move into/onto Z’

1. Simple motion verbs: put, push
2. Manner specified: pour, drip, slosh

\[ X \text{ puts } Y \text{ on } Z \]

Verbs of change of state: ‘X causes Z to change state by means of moving Y into/onto Z’: fill, coat, cover

\[ X \text{ fills } Z \text{ with } Y \]

Verbs of movement ‘X causes Y to move into/onto Z’ which also describe a kind of motion which causes an effect on the entity Z: spray, paint (?), brush

\[ X \text{ sprays } Z \text{ with } Y \]

※Slightly circular: alternations motivate classes which explain alternations
Components
and Conflation Patterns
Cognitive Semantics

Research programme by Talmy (similar to Levin’s & Pinker’s)

Major semantic components of Verbs of Motion:

- **Figure**: object moving or located with respect to the **ground**
- **Ground**: reference object
- **Motion**: the presence of movement or location in the event
- **Path**: the course followed or site occupied by the Figure w.r.t. the Ground.
- **Manner**: the type of motion

(7) *Kim swam away from the crocodile*

Figure Manner Path Ground

(8) *The banana hung from the tree*

Figure Manner Path Ground

English: Manner in verb, Path as adjunct
Find: Figure? Ground? Path? Manner?

(9) *The bottle floated into the cave*

(10) *They rolled the keg into the party*

How about **Motion**? (where is Talmy’s **Motion** component?)
Different Lexicalizations of Movement

(11) The bottle floated into the cave
(12) They rolled the keg into the party

These are lexicalized differently in different languages.

Spanish: Path in verb, Manner as adjunct

(13) La botella entró a la cueva flotando
the bottle moved-in to the cave floating
“The bottle entered the cave, floating”

(14) Metí el barril a la bodega rodandolo
I-moved-in the barrel to the storeroom rolling-it
“I put the keg into the storeroom, rolling (it)”

??? What’s the difference?
## Typology of Motion in Languages

<table>
<thead>
<tr>
<th>Language (Family)</th>
<th>Verb Conflation Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romance, Semitic, Polynesian, ...</td>
<td>Path + fact-of-Motion</td>
</tr>
<tr>
<td>Indo-European (¬ Romance), Chinese, Navajo, Atsuwegei, ...</td>
<td>Manner/Cause + fact-of-Motion, Figure + fact-of-Motion</td>
</tr>
</tbody>
</table>

- **verb-framed** (Motion with Path)
- **satellite-framed** (Motion with Manner)

### Which group is Japanese from?

(15) 樽 を 倉庫 に 転がして 入れた
taru-wo souko-ni korogasite ireta
barrel-acc storeroom-to rolling put-in
“I put the keg into the storeroom, rolling”

HG2002 (2019)
Katz presents some of the earliest efforts in componential semantics within generative grammar (through projection rules and selection restrictions).

With Levin, Pinker, and Talmy (the last two sections) we looked at how certain semantic theories argue the interdependence between semantics and syntax (i.e. how semantic components are necessary for the proper description of syntactic processes).
Break
Jackendoff’s Conceptual Semantics: Lexical Conceptual Structure
Describing Mental Representations

➤ An attempt to explain how we think

➤ **Mentalist Postulate**

  Meaning in natural language is an information structure that is mentally encoded by human beings – so, describing meaning involves describing mental representations;

➤ The goal is to capture generalizations:

  - \( x \) lifted \( y \) entails \( y \) rose
  - \( x \) gave \( z \) to \( y \) entails \( y \) received \( z \)
  - \( x \) persuaded \( y \) that \( P \) entails \( y \) came to believe \( P \)

  \( x \) cause \( E \) to occur \hspace{1cm} \text{entails} \hspace{1cm} E \) occurs

➤ There should be a component \textit{cause} in these and many other lexical items

(Jackendoff, 1990, 1997)
Semiotic Components

- Universal Semantic Categories/Concepts
  - **Event, State** [the basic conceptual situations]
  - **Material Thing/Object, Path, Place, Property**

(16) a. \( [S [NP \text{ Bobby}] [VP [V \text{ went}] [PP [P \text{ into}] [NP \text{ the house}]]]] \)

b. \( [\text{Event GO ([Thing BOBBY], [Path TO ([Place IN ([Thing house])]])]}] \)

- focus is Motion – ‘house’ is not fully analyzed

- Jackendoff also works under the assumption that Syntax and Semantics constrain one another
(17) *Bobby went into the house*

(18) \[\text{Event GO ([Thing BOBBY], [Path TO ([Place IN ([Thing house])])])}\]

(19) “Bobby traverses a path that terminates at the interior of the house”

(20) \[
\begin{array}{c}
\text{Event}
\\
\text{GO} \quad \text{Thing} \quad \text{Path}
\\
\text{BOBBY} \quad \text{TO} \quad \text{Place}
\\
\text{IN} \quad \text{Thing}
\\
\text{HOUSE}
\end{array}
\]
(21) *The car is in the garage*

(22) \[\text{State BE}\text{Loc} ([\text{Thing CAR}], [\text{Place IN ([\text{Thing GARAGE}]]))])\]

(23) “The car is in the state located in the interior of the garage”

(24) \[
\text{State} \\
\text{BE-LOC} \text{ Thing} \text{ Place} \\
\text{CAR} \text{ IN} \text{ Thing} \\
\text{GARAGE}
\]
Extend Location in three ways

Location is also used, among others, to ascertain properties (in conjunction with a special $\text{BE}_{\text{Ident}}$)

<table>
<thead>
<tr>
<th>Semantic Field</th>
<th>BE (state)</th>
<th>GO (event)</th>
</tr>
</thead>
<tbody>
<tr>
<td>spatial location</td>
<td>$\text{Jo is in the club}$</td>
<td>$\text{Alex went into the house}$</td>
</tr>
<tr>
<td>temporal location</td>
<td>$\text{The exam is on Wednesday}$</td>
<td>$\text{The exam moved to Thursday}$</td>
</tr>
<tr>
<td>property ascription</td>
<td>$\text{The class is full}$</td>
<td>$\text{The class went from full to empty}$</td>
</tr>
<tr>
<td>possession</td>
<td>$\text{This theory belongs to Ann Elk}$</td>
<td>$\text{The prize went to JC}$</td>
</tr>
</tbody>
</table>

(25)  
a. *The pool emptied*  
b. $\text{Event INCH ([$\text{State BE-IDENT ([$\text{Thing POOL}, [$\text{Place AT ([$\text{Property EMPTY}])])])}$])}$

(26)  
 a. *Sandy emptied the pool*  
 b. $\text{Event CAUSE ([$\text{Thing SANDY}, [\text{Event INCH ([$\text{State BE-IDENT ([$\text{Thing POOL}, [$\text{Place AT ([$\text{Property EMPTY}])])})}$])}$])}$
Structure of Events

The structure of events and states can be represented as being formed by rules

\[ [EVENT] \rightarrow [Event \ GO ([THING], [PATH])] \]
\[ [STATE] \rightarrow [State \ BE ([THING], [PLACE])] \]
\[ [EVENT] \rightarrow [Event \ CAUSE ([THING], [EVENT])] \]
\[ [EVENT] \rightarrow [Event \ INCH ([STATE])] \]
\[ [PATH] \rightarrow [TO ([PLACE])] \]
\[ [PLACE] \rightarrow [IN ([THING])] \]
\[ [PLACE] \rightarrow [AT ([TIME])] \]
THING: Boundedness and Internal Structure

➢ Two semantic features of [THING]:

<table>
<thead>
<tr>
<th>Boundedness</th>
<th>Internal Struct.</th>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>+b</td>
<td>–i</td>
<td>individuals</td>
<td>a dog/two dogs</td>
</tr>
<tr>
<td>+b</td>
<td>+i</td>
<td>groups</td>
<td>a committee</td>
</tr>
<tr>
<td>–b</td>
<td>–i</td>
<td>substances</td>
<td>water</td>
</tr>
<tr>
<td>–b</td>
<td>+i</td>
<td>aggregates</td>
<td>dogs, cattle</td>
</tr>
</tbody>
</table>

➢ **Boundedness:**
whether a noun is count or mass (if you split a dog in half you don’t get two instances of dog)

➢ **Internal Structure:**
whether a noun is divisible/contains individual units

➢ Two binary features generate four classes of nouns
Cross-category Generalizations

- This can be extended to verb aspect (the verb event is also $[\pm b]$)

- In verbs, $[\pm b]$ is used to differentiate actions bound in time

- This shows syntactic interaction

  (27) Bill ate two hot dogs in two hours.
  (28) *Bill ate hot dogs in two hours.
  (29) #Bill ate two hot dogs for two hours.
  (30) Bill ate hot dogs for two hours.

- sleep $[-b]$, cough $[+b]$, eat $[\pm b]$ 
durative adverbials with bounded verbs generate iterative interpretations (and vice-versa)
Conversion: Boundedness and Internal Structure

- Including
  
  **plural** \([+b, -i] \rightarrow [-b, +i]\)  
  brick \(\rightarrow\) bricks

  **composed of** \([-b, +i] \rightarrow [+b, -i]\)  
  bricks \(\rightarrow\) house of bricks

  **universal packager** \([-b, -i] \rightarrow [+b, -i]\)  
  coffee \(\rightarrow\) a (cup of) coffee

- Excluding
  
  **element** \([-b, +i] \rightarrow [+b, -i]\)  
  grain of rice

  **partitive** \([-b, \pm i] \rightarrow [+b, -i]\)  
  top of the mountain,  
  one of the dogs

  **universal grinder** \([+b, -i] \rightarrow [-b, -i]\)  
  There's dog all over the road

See Bond (2005) for an extension to Japanese and computational implementation.
Quick Summary

Katz presents some of the earliest efforts in componential semantics within generative grammar (through projection rules and selection restrictions).

With Levin, Pinker, and Talmy (the last two sections) we looked at how certain semantic theories argue the interdependence between semantics and syntax (i.e. how semantic components are necessary for the proper description of syntactic processes).

Jackendoff, much like Levin, Pinker, and Talmy, uses lexical decomposition to investigate the semantics-grammar interface. But goes one step further by proposing ‘conceptual structures’ that he believes underlie linguistic behaviour.
Pustejovsky’s Generative Lexicon
This brings in more encyclopedic knowledge

Each lexical entry can have:
- ARGUMENT STRUCTURE
- EVENT STRUCTURE
- LEXICAL INHERITANCE STRUCTURE (lexical network)
- QUALIA STRUCTURE (further lexical properties):
  - CONSTITUTIVE: constituent parts
  - FORMAL: relation to other things
  - TELIC: purpose
  - AGENTIVE: how it is made

Interpretation is generated by combining word meanings
The ideas behind the Generative Lexicon

➤ (often) Computationally tractable

➤ Lexical network that encodes some information

➤ Word meaning is decomposed, so that it can be composed with other words

➤ The range of composition teaches us something about the internal structure of the word

➤ Rich Representation: lexical decomposition
➤ Rich Rules: coercion, sub-selection, co-composition
Event Structure

- Events have complex structure (can be composed of smaller sub-events)
  - **State** $S$
  - **Process** $P$
  - **Transition** $T$

- **State** $S$
  - **understand, love, be tall**
- **Process** $P$
  - **sing, walk, swim**
- **Transition** $T$
  - **open, close, build**
  - For an achievement, typically $E_1 = \neg e_1$; $E_2 = e_1$
Different Alternations

(31) *The door closed*  
\[ T \]
\[ P \rightarrow \neg \text{closed(\text{door})} \]
\[ \text{closed(\text{door})} \]

(32) *Jamie closed the door*  
\[ T \]
\[ P \rightarrow \text{act(j, door)} \land \neg \text{closed(\text{door})} \]
\[ \text{closed(\text{door})} \]

(33) *The door is closed*  
\[ S \]
\[ e \rightarrow \text{closed(\text{door})} \]

> Causative and Inchoative are represented by transition (T) – the difference is in the recognition of the acting agent.
Complex Event Structure is also motivated by ambiguity

(34) Jamie closed the door rudely
   a. Jamie closed the door in a rude way [with his foot]
      T
      P [rude(P)] S
      [act(j, door) ∧ ¬ closed(door)] [closed(door)]

   b. It was rude of Jamie to close the door
      T [rude(T)]
      P S
      [act(j, door) ∧ ¬ closed(door)] [closed(door)]
Lexicon and Meaning

Pustejovsky claims:

➤ Just listing senses of words is not enough

➤ It goes against general reasoning

➤ Inferences must rely on linguistic information

➤ Meaning composition must be done through available properties in the lexical items

These properties are called: **Qualia** (all words have it)
Qualia Structure in Nouns

- Links to a concept in a lexical network
- FORMAL properties, e.g. human, animal, yellow
- TELIC properties, e.g. links to the event 'to type'

```
> typist
ARGSTR [ ARG1  x:C123(typist,typewriter operator) ]
QUALIA [ FORMAL [ x [ ⊆ person ] ]
         TELIC  [ type(e,x) ] ]
```

See Bond and Paik (1997) for an account of numeral classifiers using the GL
Qualia Structure and Modifier Ambiguity

(35) *fast typist*

a. a typist who is fast [at running]
b. a typist who types fast

> typist

ARGSTR

ARG1 \[x:\text{C123(typist, typewriter operator)}\]

QUALIA

FORMAL \[x [\subset \text{person}]\]

TELIC \[\text{type}(e,x)\]

> (35a) *fast* modifies \(x\)

> (35b) *fast* modifies \(e\)
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Pustejovsky extents Jackendoff compositional representation, and incorporates general/encyclopaedic knowledge that is better suited to deal with nuanced interpretations (e.g. modification).
Problems with Components of Meaning

➤ Primitives are the same as necessary and sufficient conditions; it is impossible to agree on the definitions, or to validate them but they allow us to state generalizations better

➤ No proposed set can capture all aspects of meaning

➤ It is just markerese which still needs to be explained, there is no grounding (using words to define words is circular)

➤ Psycho-linguistic evidence is weak

➤ Recent work replaces components with inheritance or dimensions

➤ $\text{boy}_1 \subset \text{male}_1 \land \subset \text{child}_1$

➤ $\text{boy}_1$ near $\text{male}_1$ on some dimensions; near $\text{child}_1$ on others

➤ same generalizations, more psychologically plausible
Meaning can be broken up into units smaller than words: components

- These can be combined to make larger meanings
- At least some of them influence syntax
- They may be psychologically real
- Many parts of meaning can be treated in this way

Note: Selectional restrictions are too strict, selectional preferences (giving prototypical arguments and measuring the similarity) are more common in modern approaches: assigning probabilities to interpretations
Assignment 2

➢ Due November 7th
Fry & Laurie: *Language*

- **Series 1 Episode 2**
  [http://abitoffryandlaurie.co.uk/sketches/language_conversation](http://abitoffryandlaurie.co.uk/sketches/language_conversation)

- **Series 2 Episode 6**
  [http://abitoffryandlaurie.co.uk/sketches/beauty_and_ideas](http://abitoffryandlaurie.co.uk/sketches/beauty_and_ideas)

- **Stephen Fry on *Language***
Bibliography


