WordNet

• What is it?
  – Synonym set (*synset*) network
    • for nouns, verbs, adjectives and adverbs
  – Synsets connected by semantic relations
    • E.g. isa, antonymy, etc.
  – It’s big!
    • 139,000 entries (word senses)
    • 10,000 verbs (polysemy 2)
    • 20,000 adjectives (1.5)
  – Originally designed as a model of human semantic memory (Miller, 1985)
WordNet: Noun *isa* hierarchy

- *conveyance, transport*
- *motor vehicle, ...*
- *car, auto, motorcar, ...*
- *convertible, jeep, limo, go-cart, ski tow, ski lift*
WordNet: Verb *isa* Hierarchy

**Verbs**

- connect, link, tie
- join, conjoin
- mend, repair, fix, doctor, ...
- patch, piece
- better, improve, amend, ...
- change, alter
WordNet: Adjective *dumbbell* Model

- satellites
- antonymy

**small**
- dinky
- elfin
- gnomish
- micro
- minuscule
- puny
- undersized

**large**
- ample
- bulky
- colossal
- gigantic
- humongous
- spacious
- titantic
## WordNet: Semantic Relations

<table>
<thead>
<tr>
<th>Relation</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>x hyp y</td>
<td>y is a <strong>hypernym</strong> of x</td>
<td>x: repair, y: improve</td>
</tr>
<tr>
<td>x ent y</td>
<td>x <strong>entails</strong> y</td>
<td>x: breathe, y: inhale</td>
</tr>
<tr>
<td>x sim y</td>
<td>y is <strong>similar to</strong> x (A)</td>
<td>x: achromatic, y: white</td>
</tr>
<tr>
<td>x cs y</td>
<td>x <strong>causes</strong> y</td>
<td>x: anesthetize, y: sleep</td>
</tr>
<tr>
<td>x vgp y</td>
<td>y is <strong>similar to</strong> x (V)</td>
<td>x: behave, y: pretend</td>
</tr>
<tr>
<td>x ant y</td>
<td>x and y are <strong>antonyms</strong></td>
<td>x: present, y: absent</td>
</tr>
<tr>
<td>x sa y</td>
<td>x, <strong>see also</strong> y</td>
<td>x: breathe, y: breathe out</td>
</tr>
<tr>
<td>x ppl y</td>
<td>x <strong>participle</strong> of y</td>
<td>x: applied, y: apply</td>
</tr>
<tr>
<td>x per y</td>
<td>x <strong>pertains</strong> to y</td>
<td>x: abaxial, y: axial</td>
</tr>
</tbody>
</table>