

C SC 620  
Advanced Topics in Natural  
Language Processing

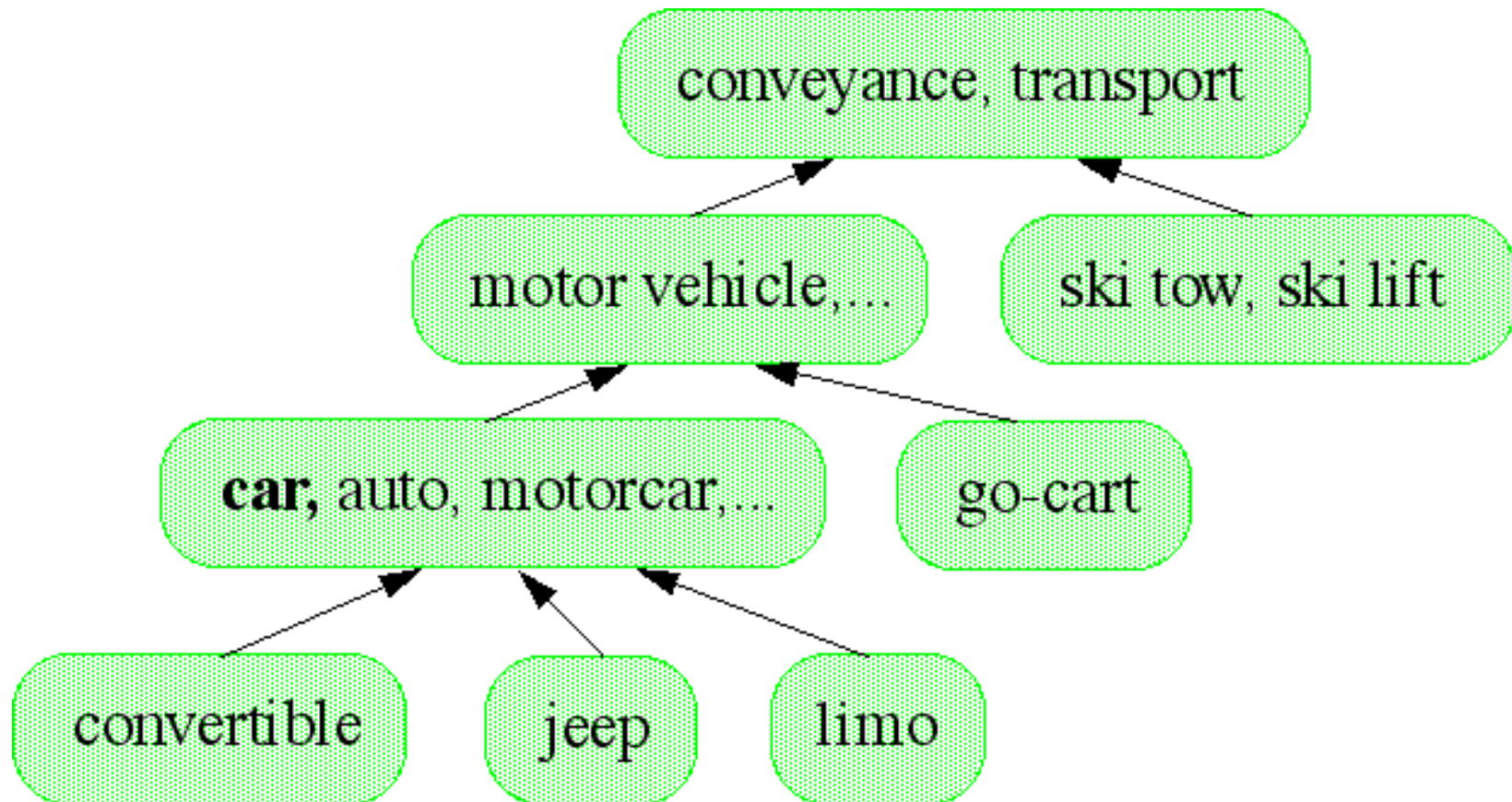
Lecture Notes 2

1/20/04

# WordNet

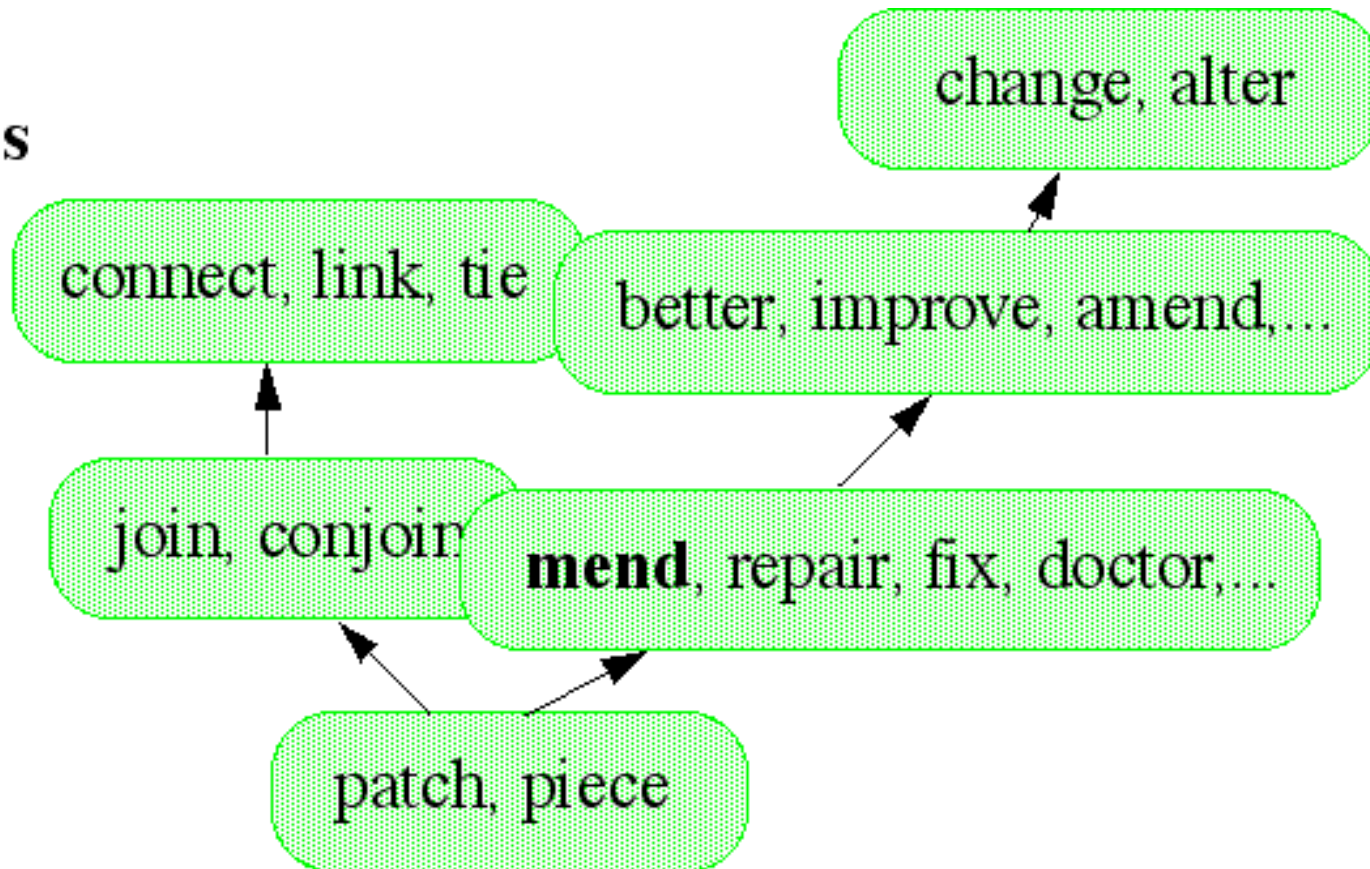
- What is it?
  - Synonym set (*synset*) network
    - for nouns, verbs, adjectives and adverbs
  - Synsets connected by semantic relations
    - E.g. isa, antonymy, etc.
  - It's big!
    - 139,000 entries (word senses)
    - 10,000 verbs (polysemy 2)
    - 20,000 adjectives (1.5)
  - Originally designed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

# WordNet: Noun *isa* hierarchy

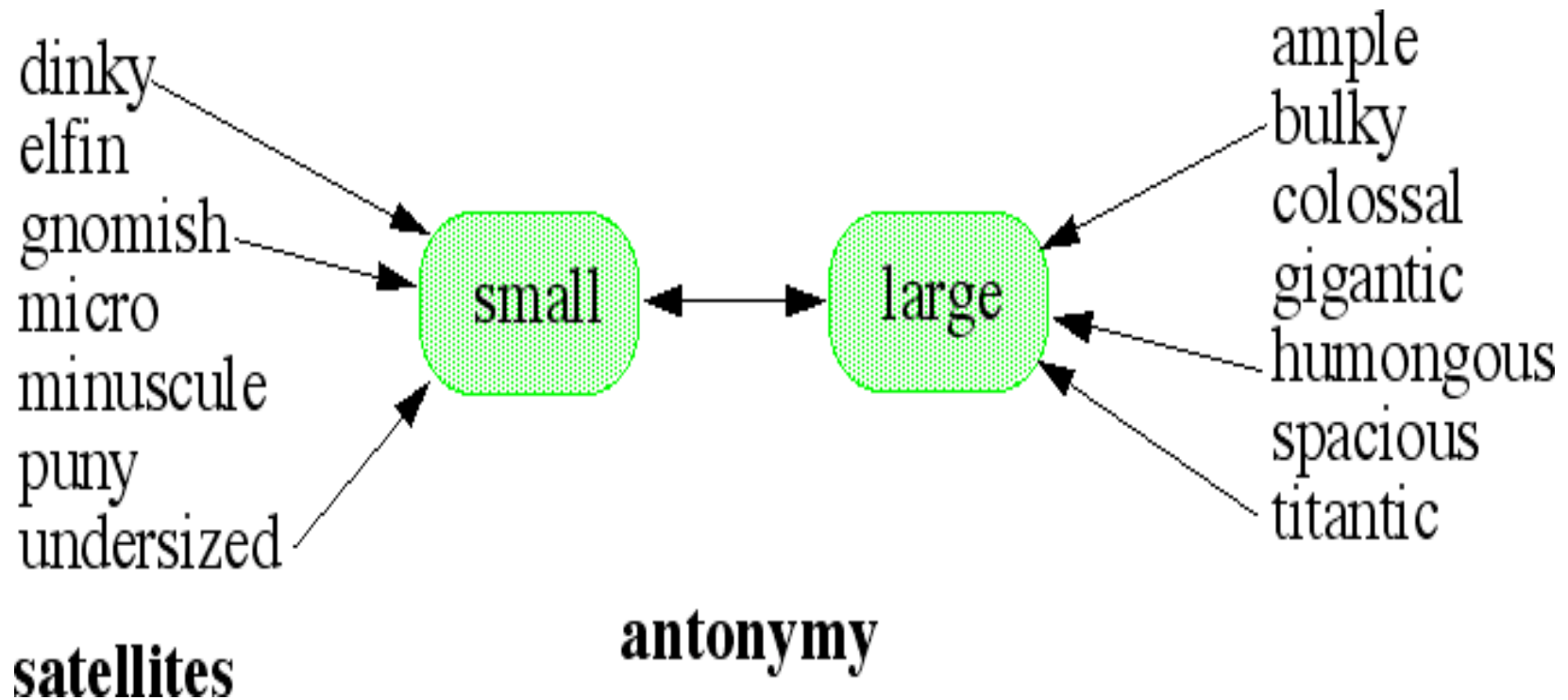


# WordNet: Verb *isa* Hierarchy

**Verbs**



# WordNet: Adjective *dumbbell* Model



# WordNet: Semantic Relations

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