Cognitive Systems 303
Instructor: Ron Rensink

1.3. Meanings of Terms

“If terms are not correct then statements do not accord with facts. And when statements and facts do not accord, then business cannot be properly executed. When business is not properly executed, order and harmony do not flourish…”

—Confucius, Analects, xiii:3

The three biggest problems in regards to terms: ambiguity, connotation, and reference.

1. **Ambiguity** is a huge problem in research. All words are ambiguous to some degree. Need to focus only on those variations that would affect the willingness to accept the conclusion
   - **key term — ambiguous in the given context; need to specify in order to know if you agree with the argument**
   - the more abstract, the greater the opportunity to be ambiguous
   - establish likely meaning via context
     - cf situated cognition
   If significant ambiguity remains— cannot evaluate

2. **Connotations** are often important in real life arguments. (Often political, but also scientific)
   - extra (sometimes misleading) power via emotional associations (*loaded language*)
     - e.g., value of “freedom”
     - e.g. “global warming” vs “climate change”

3. **Reference**. In research, important to look at how something is defined
   - e.g., attention, memory, etc

   *Operational definition* – definition in terms of how something is measured
   - need to define terms in a meaningful way — *includes public accessibility*
     - ideally, capture something of the meaning it has in common language
     - e.g., “what is a planet?”
   - one kind of measurement is not necessarily the same as others—will have different implications
     - e.g. intelligence can be defined in many different ways
   - sometimes need *surrogate measures*
     - generally used to stand in for quantities that can’t be easily measured directly or easily (e.g., "health")

Real-World Segment: Debating II – Details

See “COGS303-debates.pdf” on the website
Also see [http://www.sfu.ca/cmns/130d1/HOWTODEBATE.htm](http://www.sfu.ca/cmns/130d1/HOWTODEBATE.htm)