1.7: Evidence

“Madman: One who reasons correctly from erroneous premises…” —John Locke

What influences the reliability of the evidence that is given for an argument?

a) Sociological factors. Was the study that obtained the evidence really solid?
   - why should you believe this person / group?
     - does the source have a good reputation (reputation is important)
     - how careful are they?
       - do they make good use of available information?
       - do they have any biases? Any conflicts of interest? (nonconscious influences) Often affects reasoning process as well

b) Cognitive factors
   - humans don’t handle uncertainty well - generally discarded whenever possible
     - simply collapse to “yes” or “no”
     - poor at integrating uncertainty estimates
   - humans tend to put undue weight on concrete examples (vividness heuristic)
     - can happen in case studies
   - individual perspective / case studies is not generally sufficient
     - personal biases / selectivity (more about this later)
       - see what you’re prepared to see
       - insufficient information
       - variation in standards – often implicit (researchers too)
       - not enough sampling - overgeneralization

c) Statistical factors
   - issues of sample
     - specify scope - types of items sampled
     - specify size – standard error
     - specify how it was collected (randomly, stratified, etc) – selection bias
   - use of particular statistic
     - average: ambiguous word (cf. ambiguity)
     - range is also important
   - issues of context
     - need to compare with appropriate other conditions
     - make sure all relevant factors have been taken into account
     - what’s the appropriate level of group for analysis?
       - Simpson’s paradox
Real-World Segment: Debating III—Advanced  (also see COGS303-Debates.pdf)

1. Use definitions that help the discussion
   - ball-pushing analogy: push the metaphorical ball to the other teams’s side
   - aim to have the ball somewhat on one side or other. But it shouldn’t be extreme—it should still be possible for the other team to argue back.
   - changes in the position of the ball should arise from argument (reason), not (re)definitions.

2. Make explicit the connections between the positions
   - explicitly relate your reasons to those of the other side
     - what reasons might counteract these?
     - why might your reasons be better?
   - articulate what the other side is trying to say
     - find (and explain) what is being assumed
     - find (and explain) what is being traded off

3. Use concrete examples often
   - as in the case of writing, these can be highly effective:
     - easier to understand
     - easier to remember
     - easier to relate to
     - provide more emotional impact.