

## Cogs 102A \* READING PROMPT

Norman (1994). *Things that make us smart*. Chapt 3: The Power of Representation. NY: Perseus Books

1) Using objects (designed or found) as “cognitive artifacts” helps people share and jointly reason about information. Give an example of this from this, or the other, readings.

2) According to Norman, representations are selective - retaining (supposedly) critical information while eliminating that which is (supposedly) unimportant. While this can work to direct our attention and make problem solving easier, it can also be misleading. Can you think of an example from your own experience where a selective representation biased its use?

3) Norman repeatedly contrasts what he calls “experiential” vs. “reflective” cognition. Describe the difference between them, and give an example of each.

4) While perceptual/spatial tasks are generally easier than those that require more conceptual effort, Norman also makes the point that any one type of representation (e.g. graphic vs. linguistic) is not inherently easier, but instead depends on the task at hand. Give an example of the same information represented in two different ways, each of which makes a different task performed on that information easier.

5) In what he calls the “Naturalness Principle”, Norman argues that “experiential cognition is aided when the properties of the representation match the properties of the thing being represented”. (In this class, we will often refer to such representations as “iconic”.) Explain, with an example, why a “substitutive” representation, versus an “additive” one, is more likely to violate this principle.