

# Emotions

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# Ortony, Clore and Collins 1988 (OCC)

- Valenced reaction to events, agents or objects, with their particular nature being determined by the way in which the eliciting situation is construed.
- Questions:
  - What is the cognitive structure of emotional system as a whole?
  - What is the cognitive structure of individual emotions?

# OCC – Emotional System

- Events and their consequences: goals
  - Desirability: pleased/displeased
- Agents and their actions: standards
  - Praiseworthiness: approving/disapproving
- Objects, pure and simple: attitudes
  - Appealingness: liking/disliking

**Criteria for  
evaluation,  
appraisals.**



**Aspects of world  
that give rise to emotions.**

# OCC – Individual Emotions

- Eliciting conditions for each emotions
  - Situational descriptions
- Variables that effect the intensity of emotion
  - Desirability, Praiseworthiness, Appealingness

OCC 1988  
taxonomy of  
emotion types

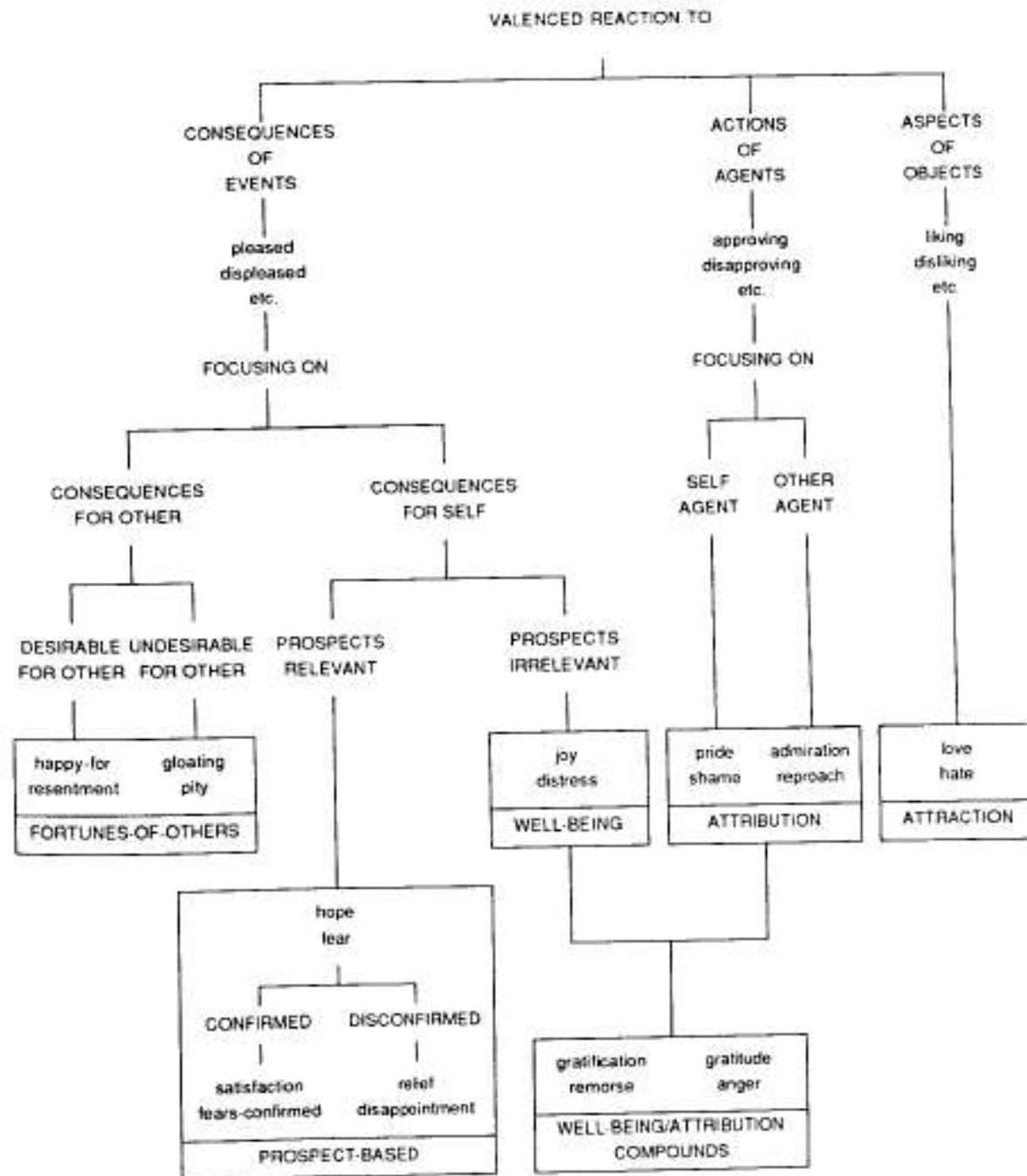
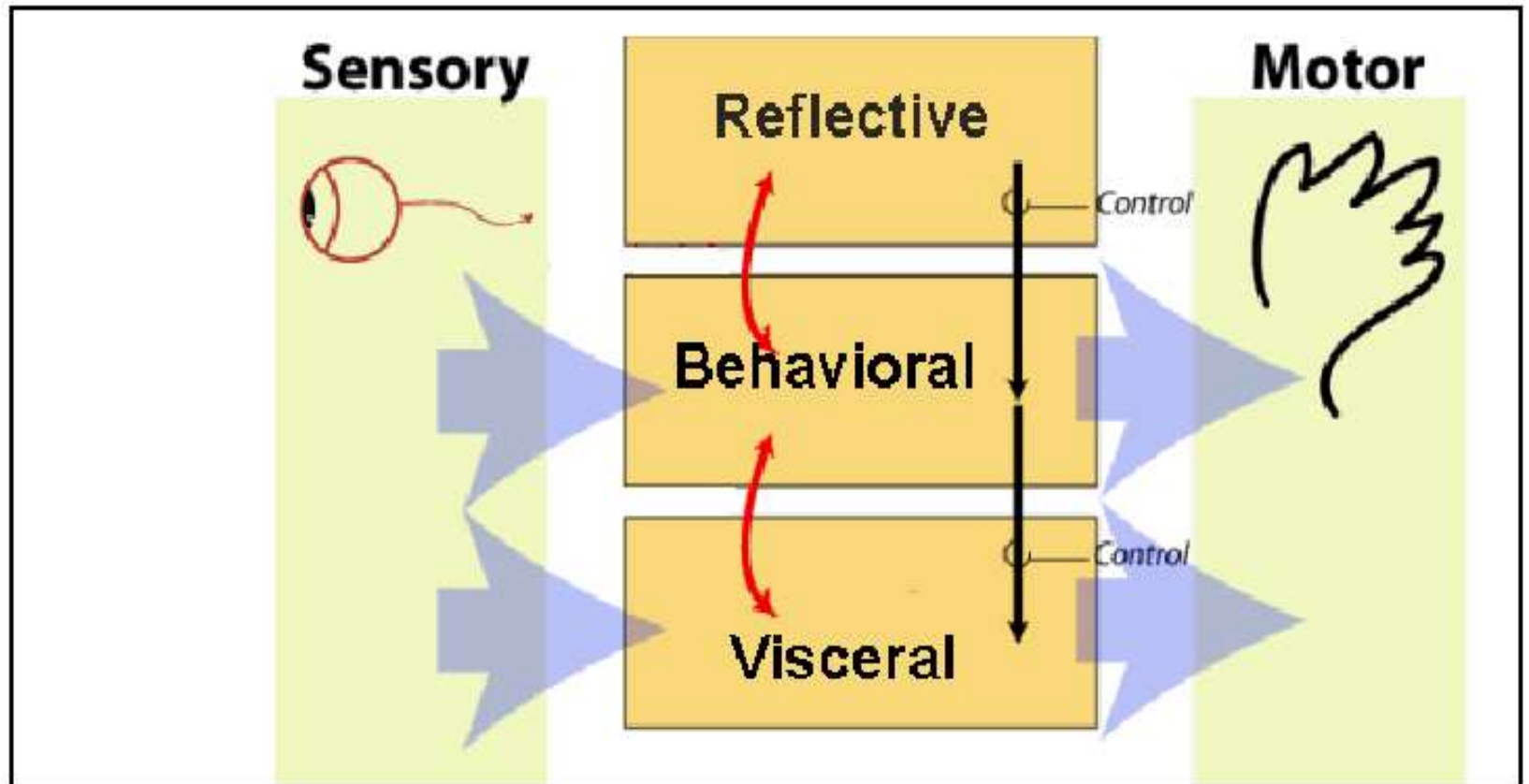


Figure 2.1. Global structure of emotion types.

# Norman, Ortony, Russell (NOR) 2003

- Cognition
  - Making sense of the world
    - Interpret/reflect/remember
- Affect
  - Evaluations/judgments
  - Modulation of operating parameters of cognition
  - Warnings/alarms about dangers

**NOR 2003  
levels of  
processing/  
behavior**



**Figure 1.1. Three levels of processing: Visceral, Behavioral, and Reflective.** The visceral level is fast: it makes rapid judgments of what is good or bad, safe or dangerous, and sends appropriate signals to the muscles (the motor system) and alerts the rest of the brain. This is the start of affective processing. These are biologically determined and can be inhibited or enhanced through control signals from above. The behavioral level is the site of most human behavior. Its actions can be enhanced or inhibited by the reflective layer and, in turn, it can enhance or inhibit the visceral layer. The highest layer is that of reflective thought. Note that it does not have direct access either to sensory input or to the control of behavior. Instead it watches over, reflects upon, and tries to bias the behavioral level. (Modified from Norman, Ortony, & Russell, 2003)

# More Emotions research

- Antonio Damasio: neuroscience
- Believable agents: interactive narrative, CMU OZ
- Affective computing: Roz Picard

**So, what do you think?**

# Issues brought up in critiques

- Why affect and not just program it right?
- OCC and reductionism to fewer dimensions, scales.
- Affect might make machines worse.
- Schacter/Singer study
- DMAP to model emotions
- Gender
- Do we want machines to be emotional
- Machine emotions vs human emotions
- Emotions work when cognition fails