Breazeal & Brooks’ “Kismet”
Model of Social Emotions

Fellous & Arbib
Ch. 10 Breazeal & Brooks - Robot emotion (functional)

Topics covered:
- Future rampant with Robots
- Social usefulness of emotion (in people & robots)
- Kismet’s abilities — vision, speech, tone analysis, facial expressions, turning head, attract attention with sounds,
- Architecture: hierarchy of “nodes”, each node being a set of IF-THEM rules [“subsumption”]
- Computing emotions as function of current state & perceptions
- No real cognition (thinking)
- People’s reaction to Kismet
- Newer robots: Leonardo, Nexi, Jibo

The “IF” parts of the rules check (a) current perceptions (b) current internal state

“Sophia” (Hanson Robotics)  “Pepper” (SoftBank Robotics)
Fellous & Arbib
Ch. 9, Ronald Arkin, Moving up the food chain

Topics covered:

- Behavioral robotics (Brooks, etc.)
- Mapping percepts + current state $\rightarrow$ affect & behavior (new state)
- Emotion vs motivation
  - "Sawbug"
  - "Mantid"
- Aibo & attachment theory
- Later robots - ORIO, ASIMO, etc.
- OCEAN model of personality (future work) [based on factor analysis of English adjectives]

"The more theories the better"
Primal emotions as a function of time and external situation:

Mantid, AIBO

"Mantid": if-then rules compete, check for endogenous & exogenous variables

- hunger
- sex drive
- fear
- food
- male
- predator

Intensity

Hunger

Sex drive

Time

Satisfied

"AIBO"

Simulated robot attachment

- attraction to parent
- strength of bond (high in infancy)
- distance from parent
- comfort level

Product governs exploratory behavior