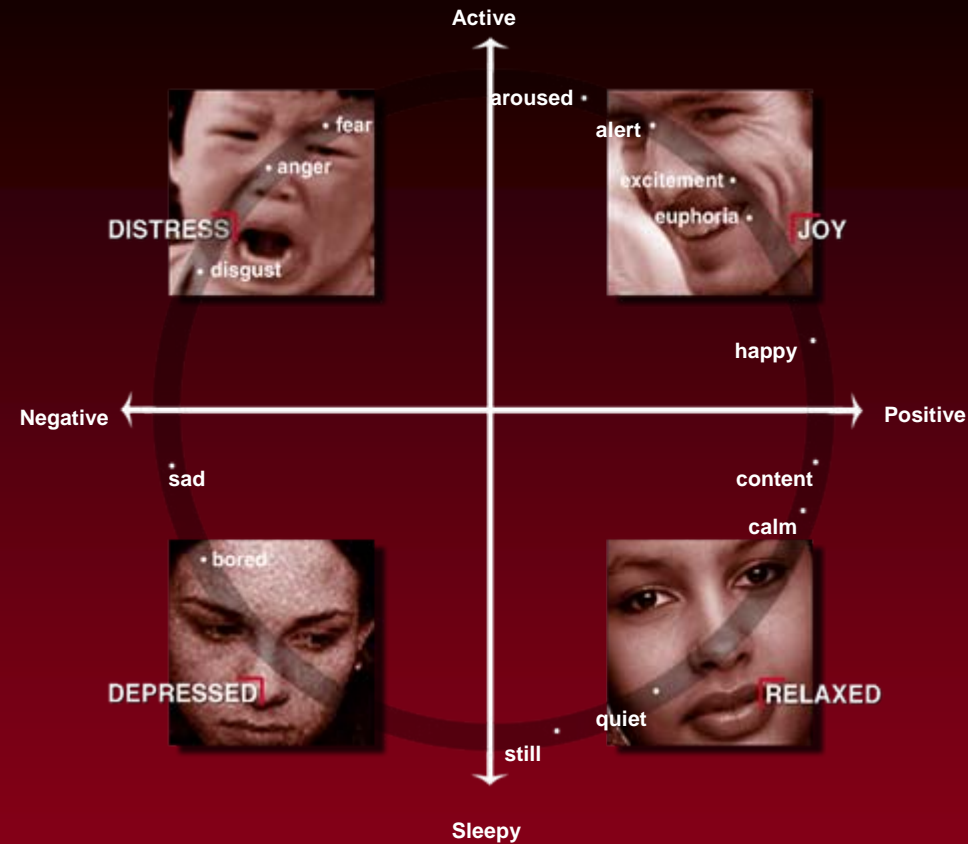


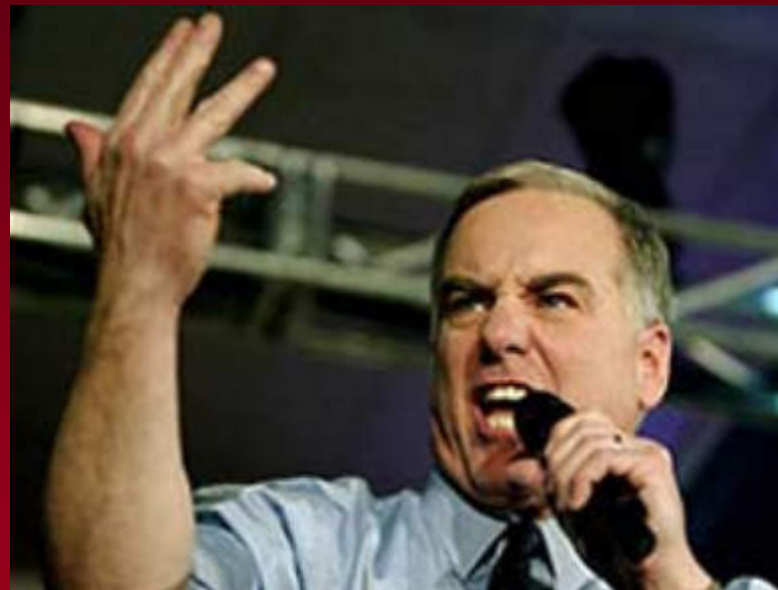
What is an Emotion?



Lisa Feldman Barrett
Boston College





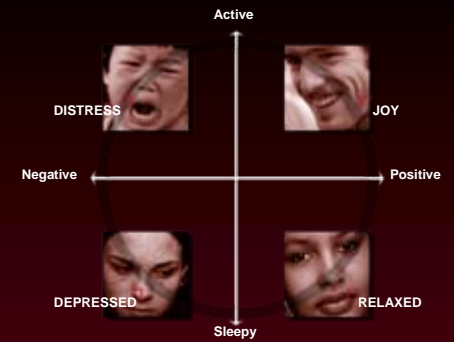


Outline



- Dominant scientific paradigm

Outline



- Dominant scientific paradigm
- An alternative model

Outline

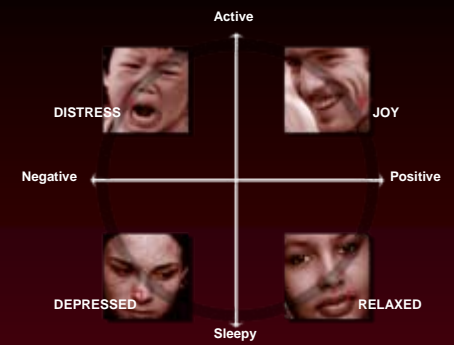


- Dominant scientific paradigm
- An alternative model
- A new scientific agenda

Commonsense



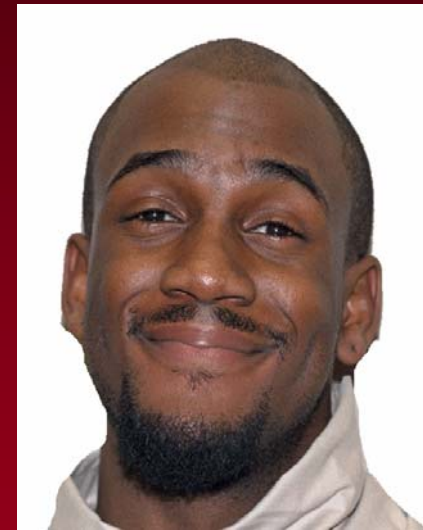
Commonsense



Sadness

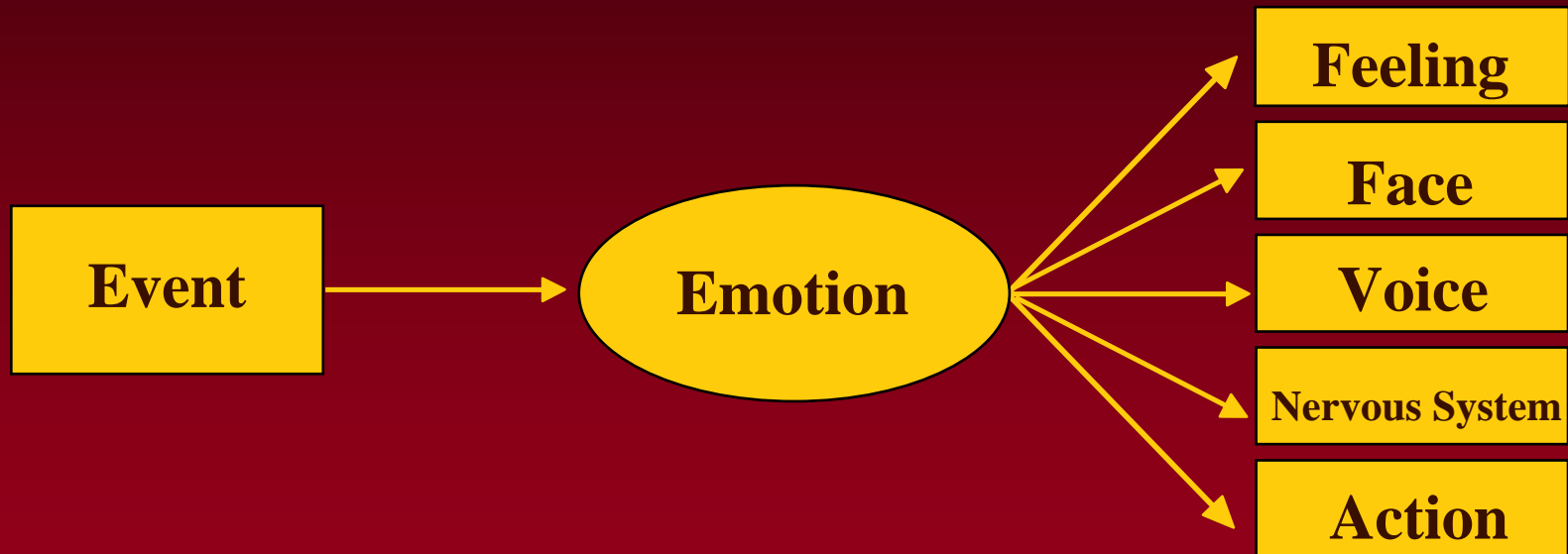


Anger



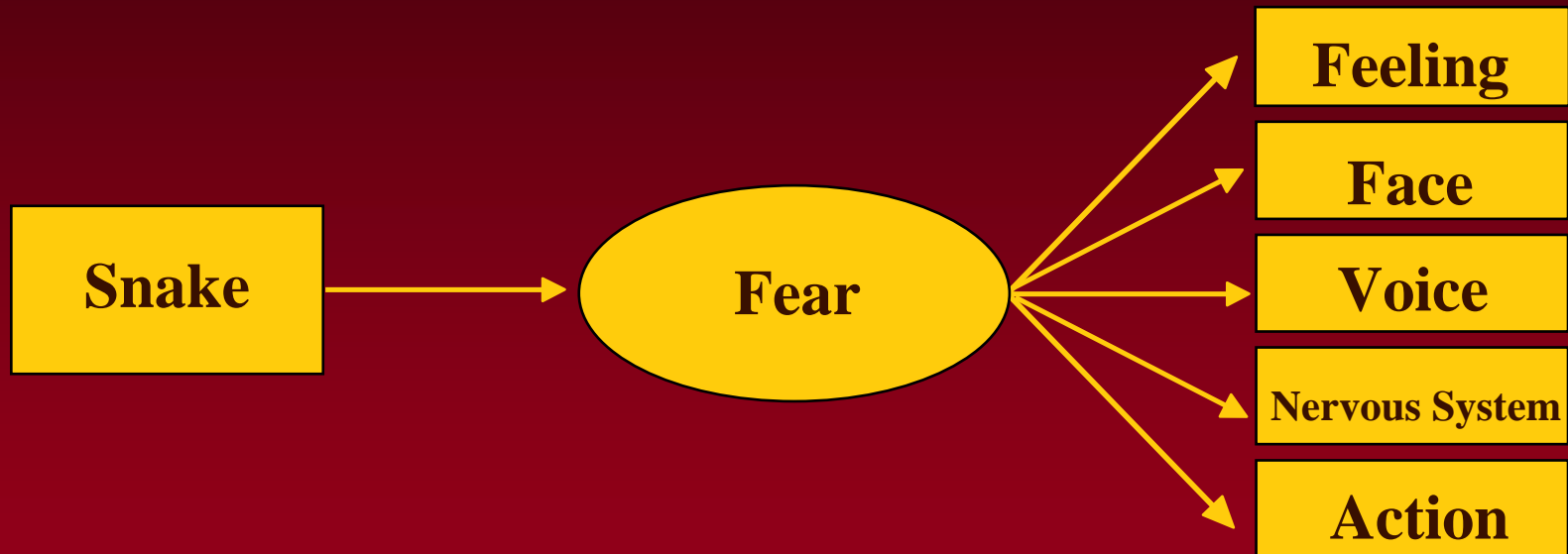
Happiness

The “Natural Kind” View



Barrett (2006). Emotions as Natural Kinds? *Perspectives on Psychological Science*, 1, 28-58.

The “Natural Kind” View



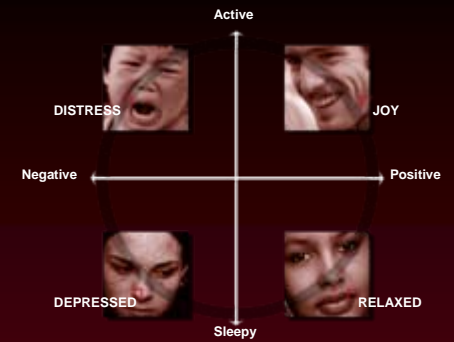
Barrett (2006). Emotions as Natural Kinds? *Perspectives on Psychological Science*, 1, 28-58.

Emotions are (?):



- Evolved reflexes

Emotions are (?):



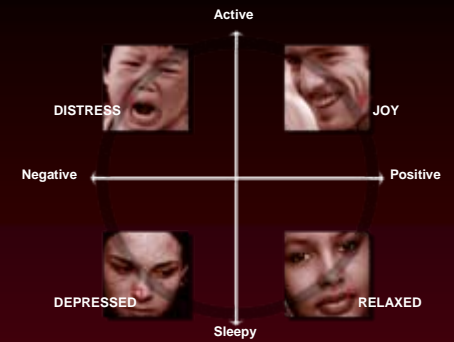
- Evolved reflexes
- Distinct and recognizable

Emotions are (?):



- Evolved reflexes
- Distinct and recognizable
- Universal in humans

Emotions are (?):



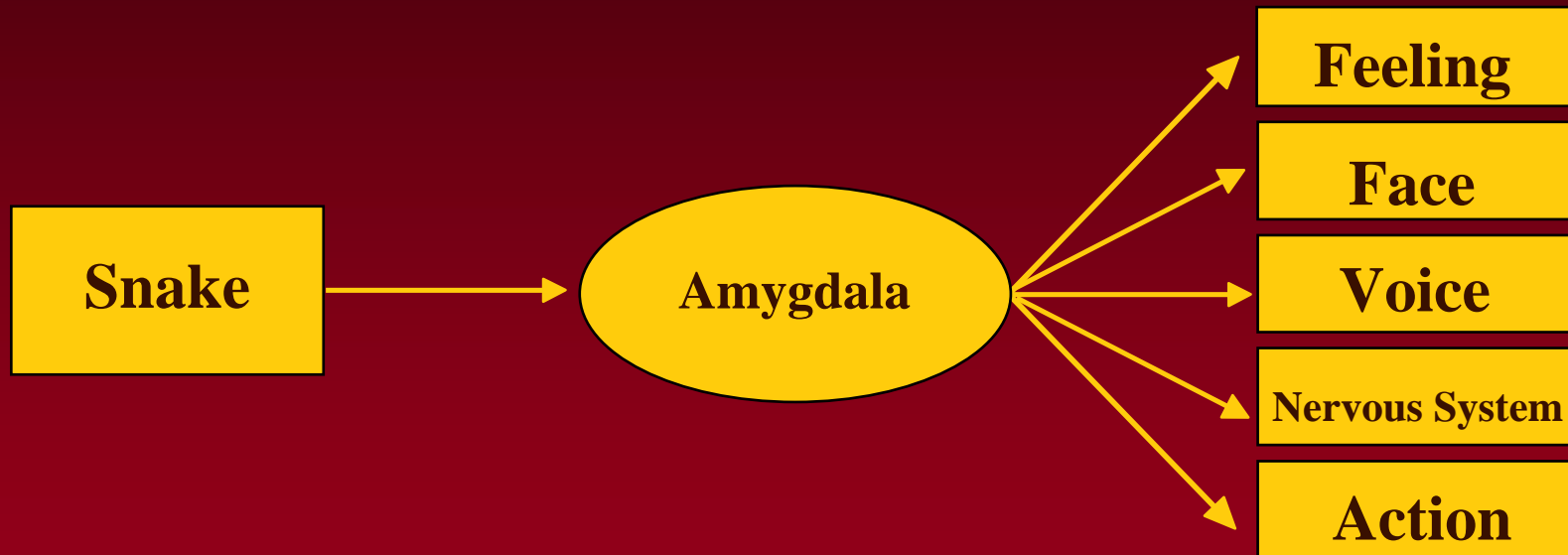
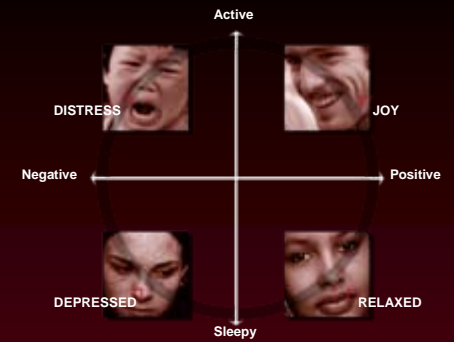
- Evolved reflexes
- Distinct and recognizable
- Universal in humans
- Also found in non-human animals

Amygdala

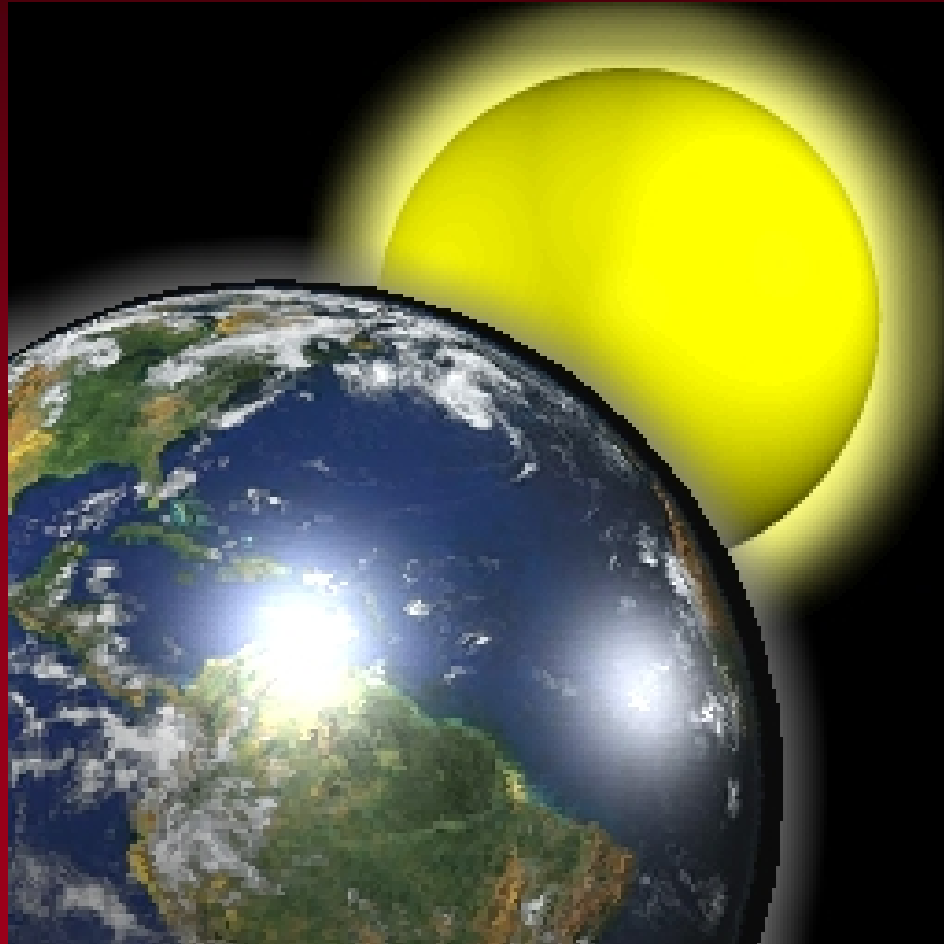


QuickTime™ and a
Cinepak decompressor
are needed to see this picture.

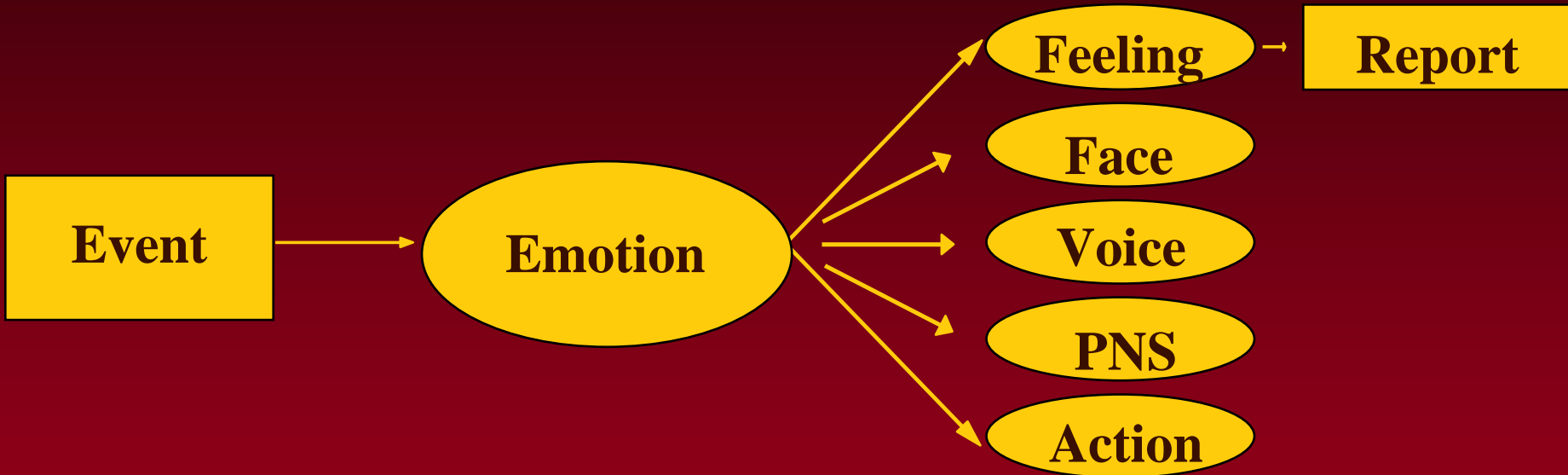
The “Natural Kind” View



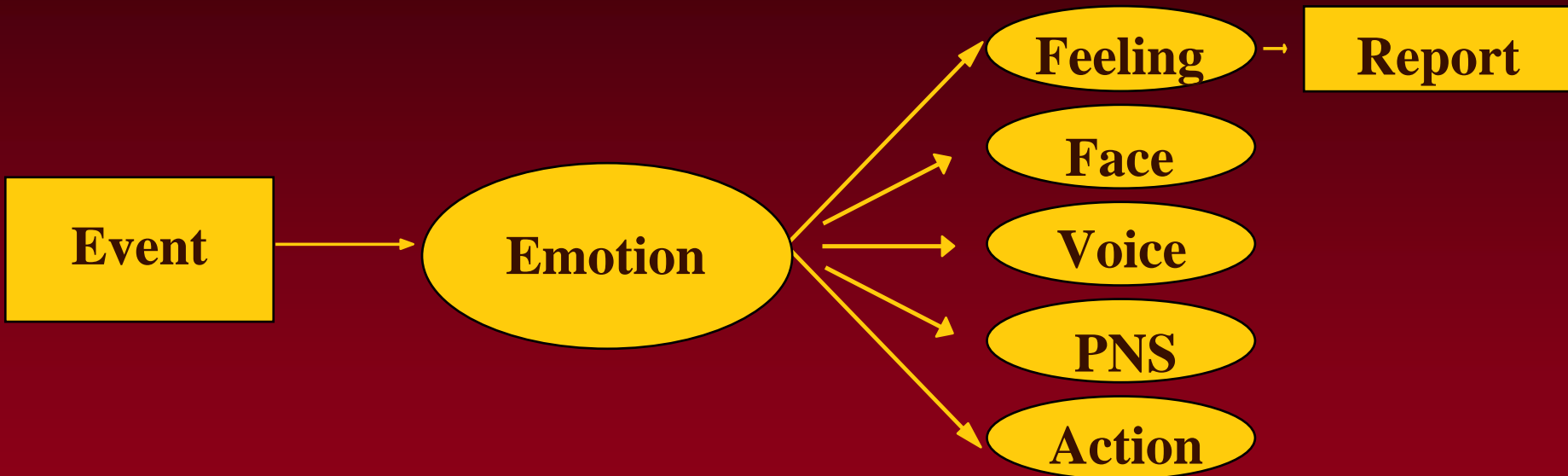
Barrett (2006). Emotions as Natural Kinds? *Perspectives on Psychological Science*, 1, 28-58.



The Evidence



The Evidence



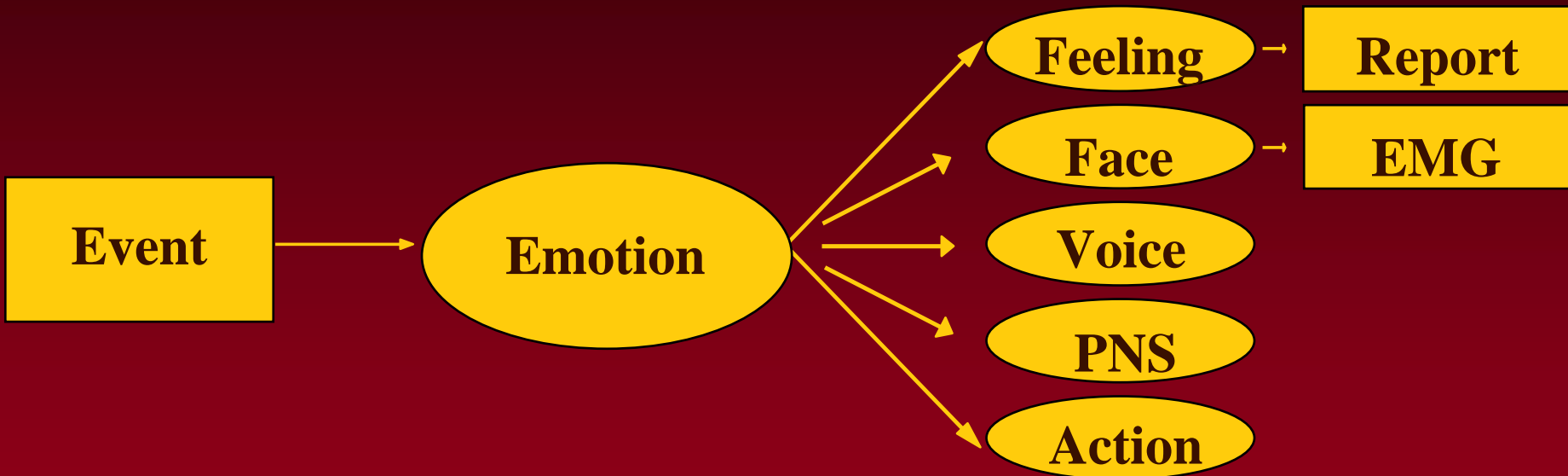
- Self-reports **do not** consistently give evidence of discrete emotion categories

Feldman (1995). *Journal of Personality and Social Psychology*, 69, 153-166.

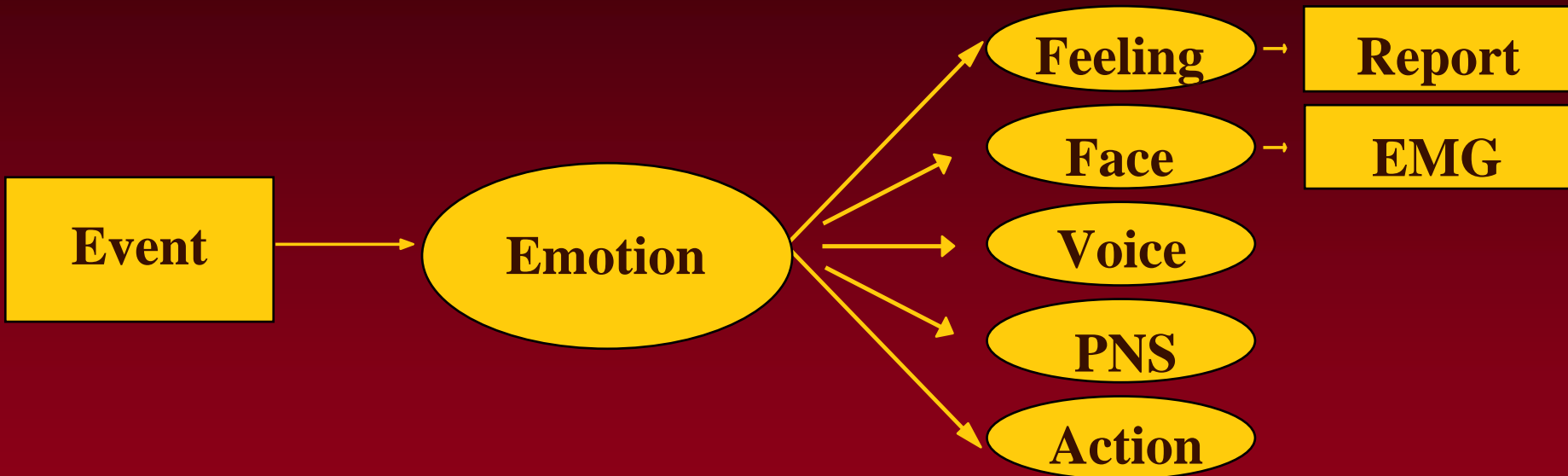
Barrett (1998). *Cognition and Emotion*, 12, 579-599.

Barrett (2004). *Journal of Personality and Social Psychology*, 87, 266-281.

The Evidence

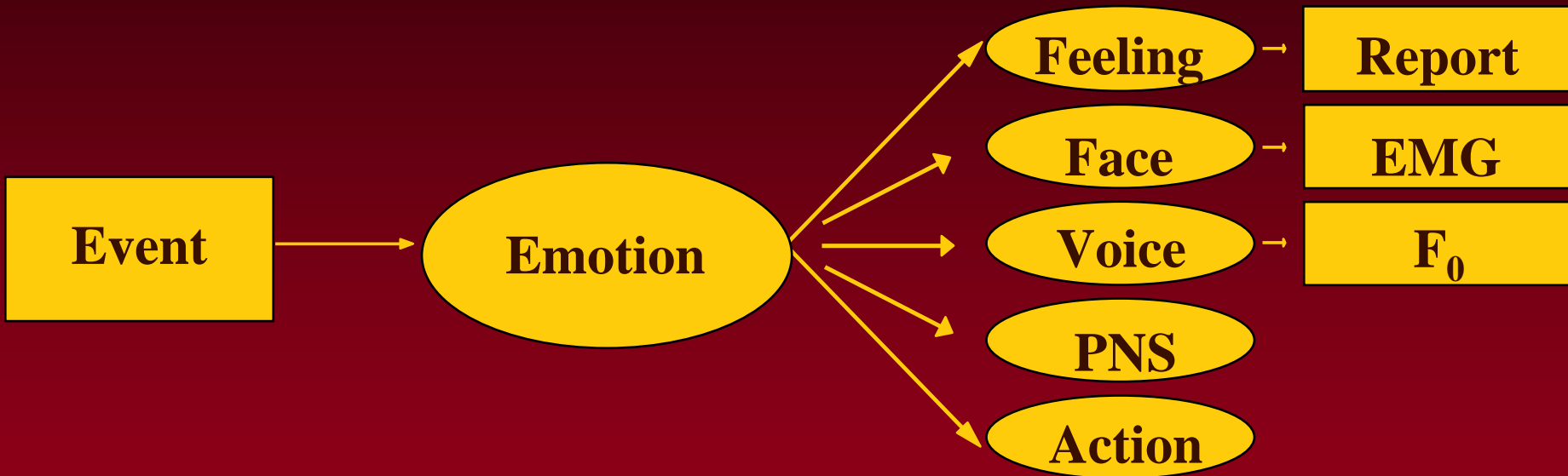
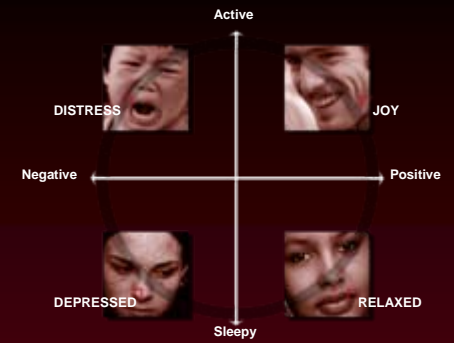


The Evidence

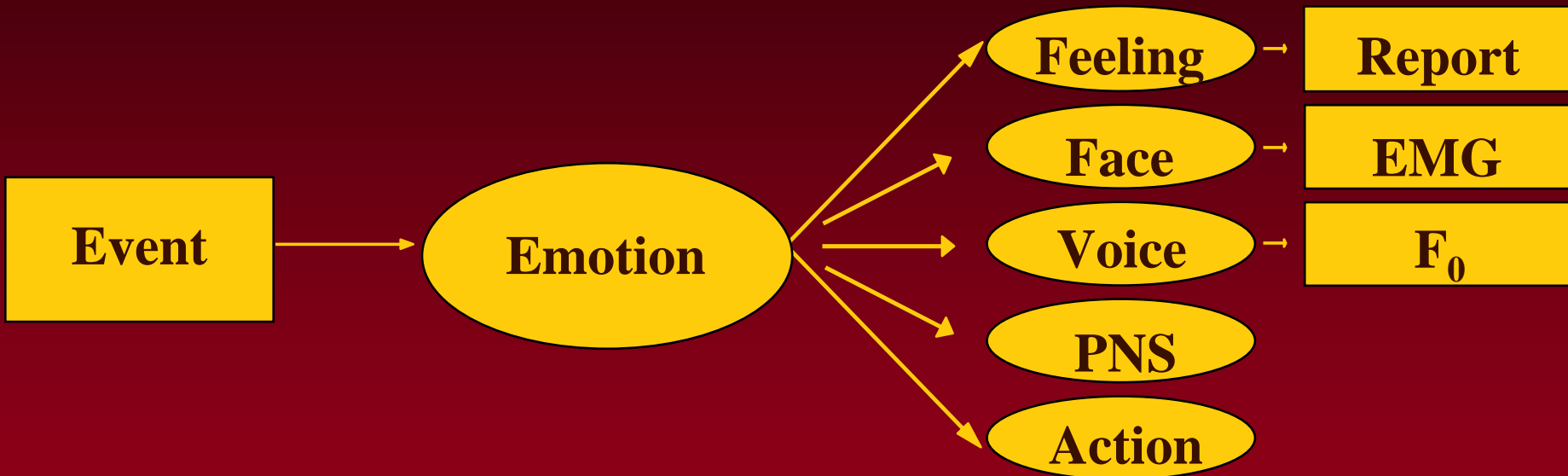


- Facial movements **do not** consistently give evidence of discrete emotion categories (Cacioppo et al, 2000; Russell, Bachorowski, & Fernandez-Dols, 2003)

The Evidence

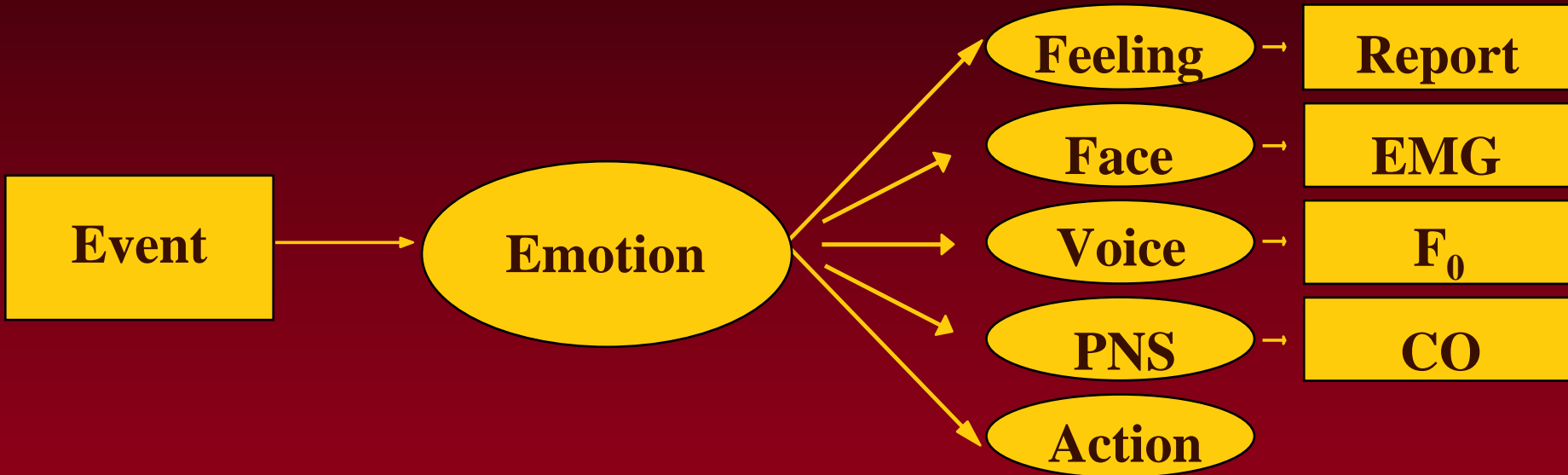
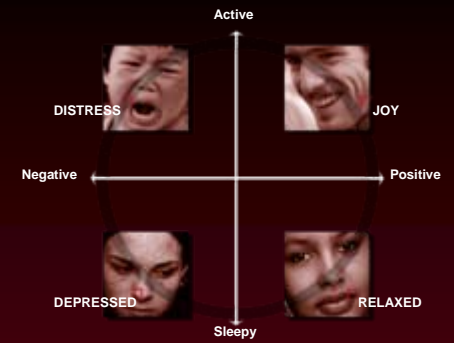


The Evidence

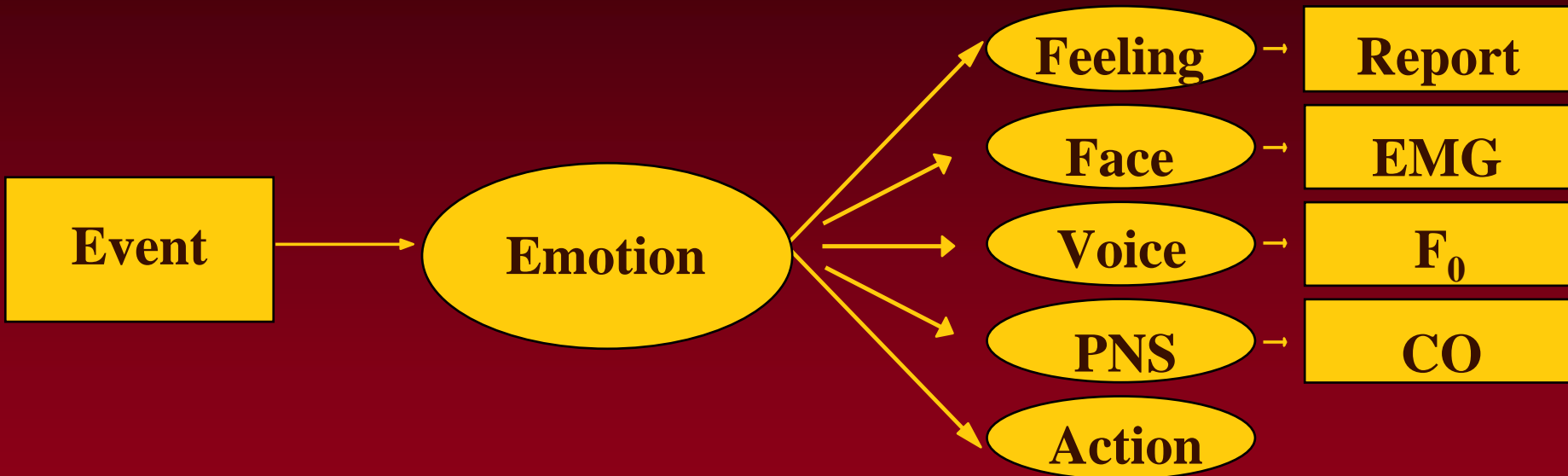


- Vocal behaviors **do not** consistently give evidence of discrete emotion categories (Bachorowski, 2000; Russell, Bachorowski, & Fernandez-Dols, 2003)

The Evidence

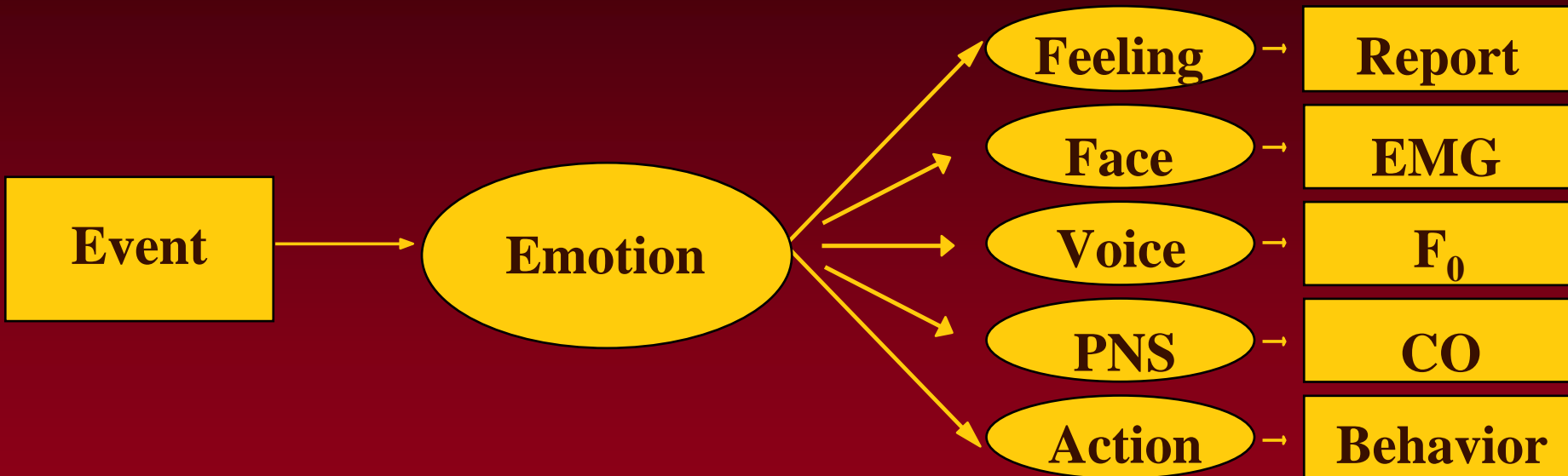


The Evidence

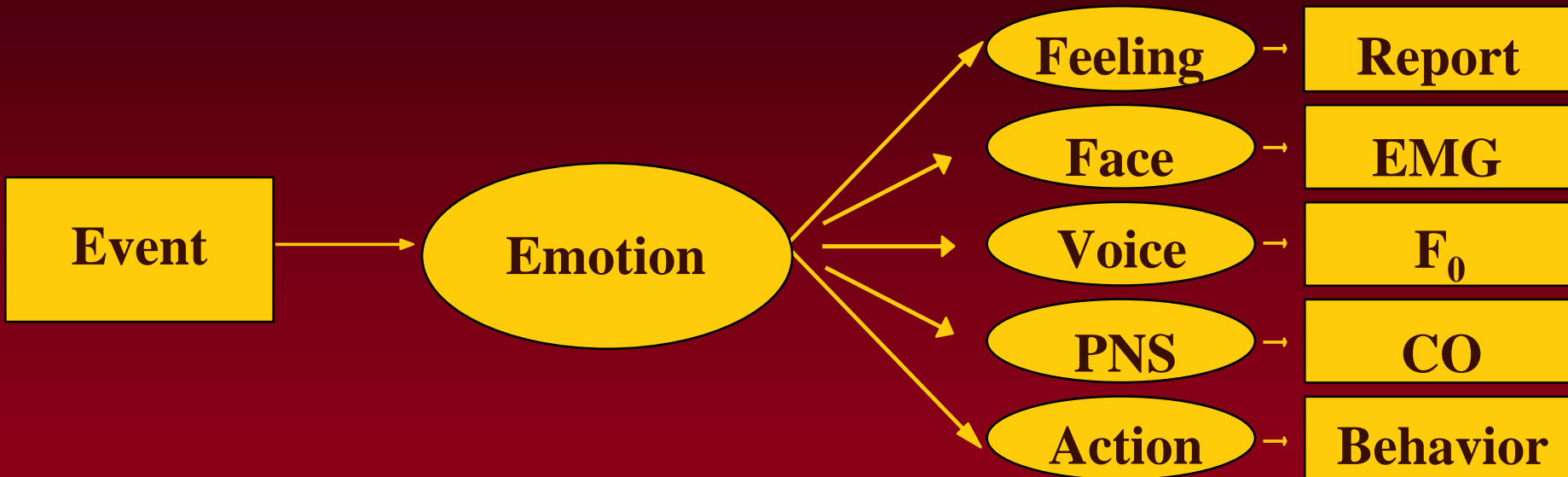


- PNS responses **do not** produce distinct patterns for each emotion category (Cacioppo et al., 2000)

The Evidence

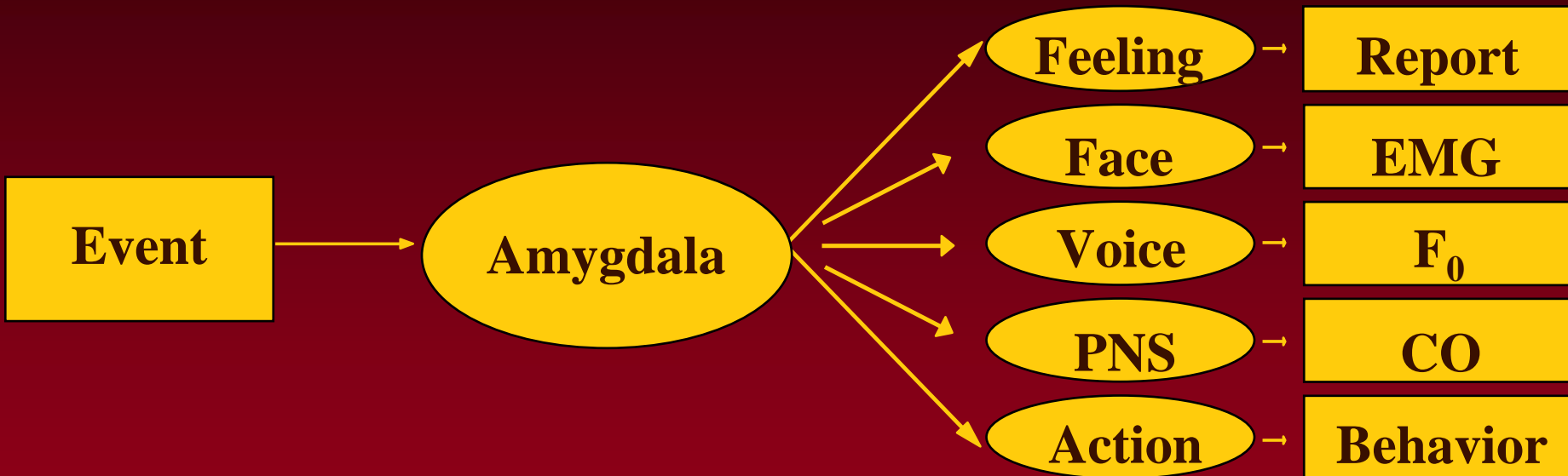
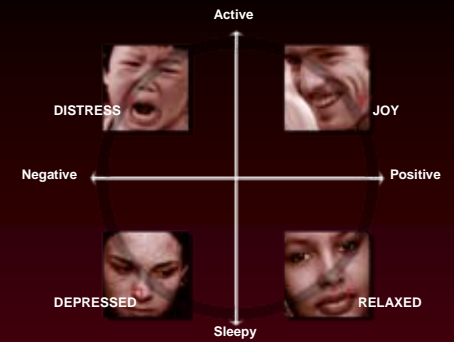


The Evidence

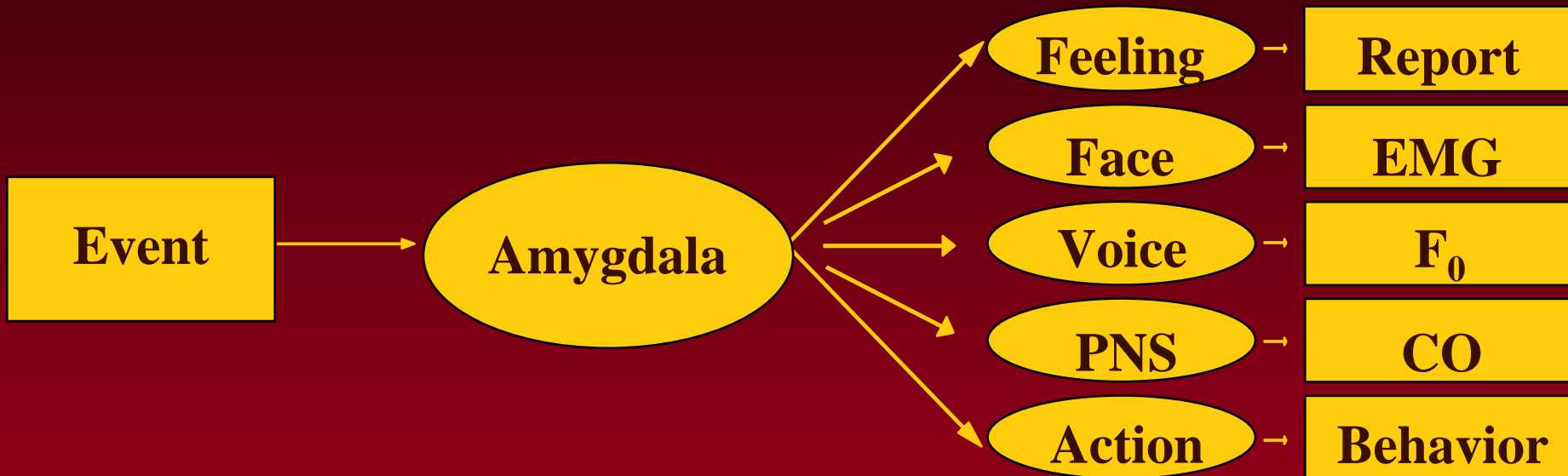


- Behaviors **vary** according to situational demands (e.g., Bouton, 2005; Fanselow & Lester, 1988)

The Evidence



The Evidence



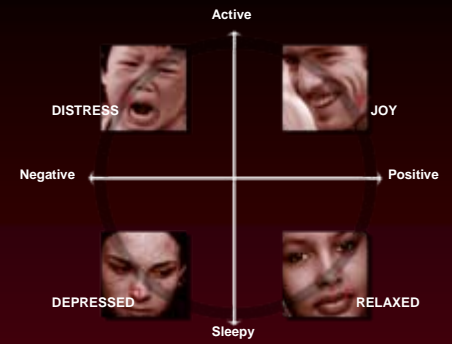
- Experience and perception of different emotions **do not** produce distinct patterns of neural activity

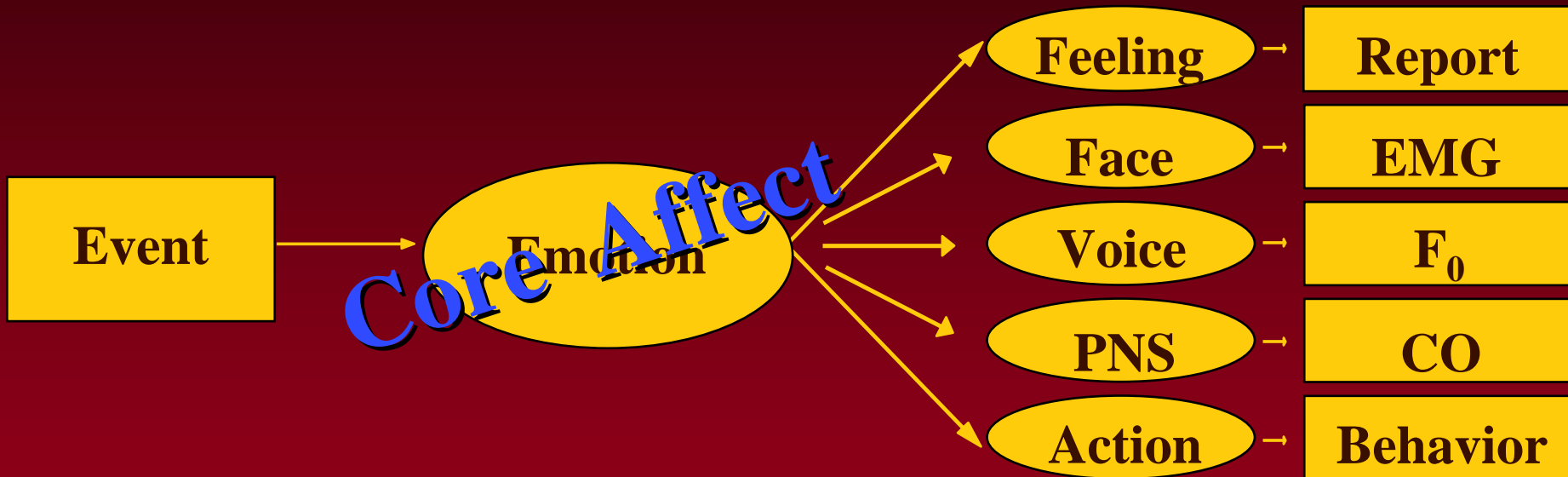
Summary



No **coherent** patterns
of response
that **consistently**
identify discrete emotions

Disconfirming Evidence



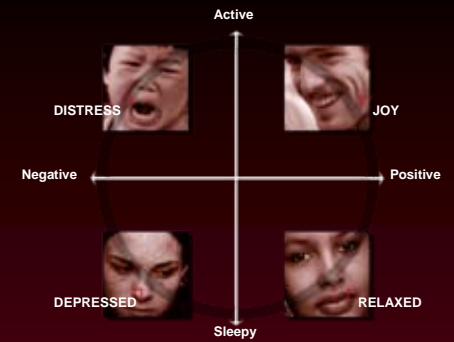


Core Affect



- Pleasant or unpleasant state

Core Affect



- Pleasant or unpleasant state
- Continuous

Core Affect



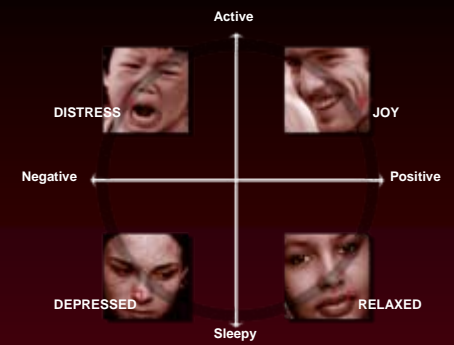
- Pleasant or unpleasant state
- Continuous
- Can be consciously experienced
(but need not be)

Core Affect



- Pleasant or unpleasant state
- Continuous
- Can be consciously experienced
(but need not be)
- Neurophysiological barometer
 - Feelings of pleasure/displeasure are the barometer readings

Core?



Core?



- Core knowledge

Core?



- Core knowledge
- Hardwiring is present at birth

Core?



- Core knowledge
- Hardwiring is present at birth
- Homologous in other mammalian species

Core?



- Core knowledge
- Hardwiring is present at birth
- Homologous in other mammalian species
- Universal across cultures

Core?



- Core knowledge
- Hardwiring is present at birth
- Homologous in other mammalian species
- Universal across cultures
- Is evident in all instrument-measures of emotion

Core?



- Core knowledge
- Hardwiring is present at birth
- Homologous in other mammalian species
- Universal across cultures
- Is evident in all instrument-measures of emotion
- An intrinsic aspect of consciousness

Paradox



Paradox



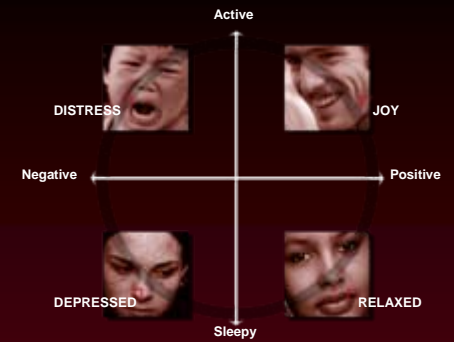
We effortlessly see emotions in others and often experience them ourselves,

Paradox



We effortlessly see emotions in others and often experience them ourselves,
yet,
the only **consistent** biological evidence is for valenced affect.

Emotion?



- How does valenced affect translate into the individual emotions that we feel and perceive in others?

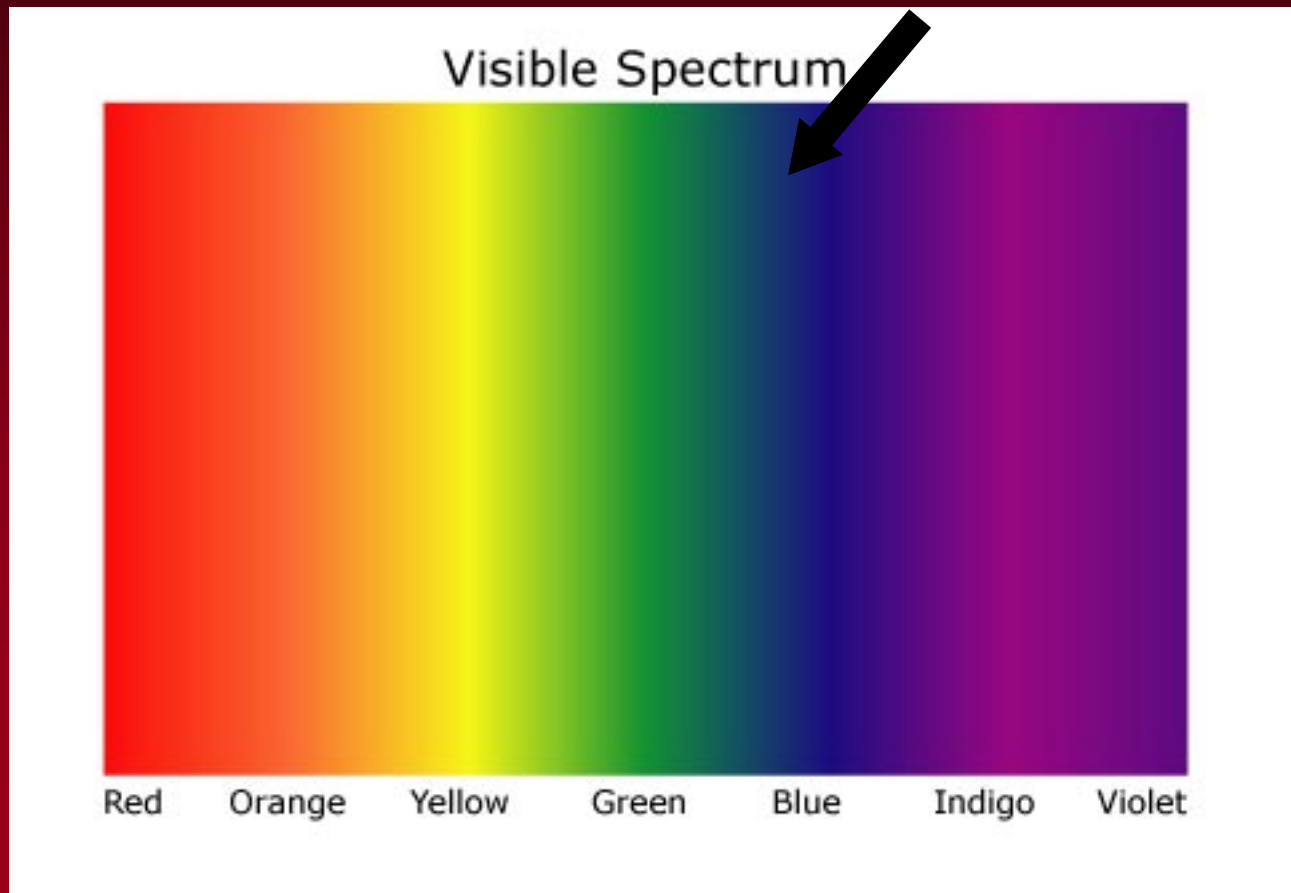
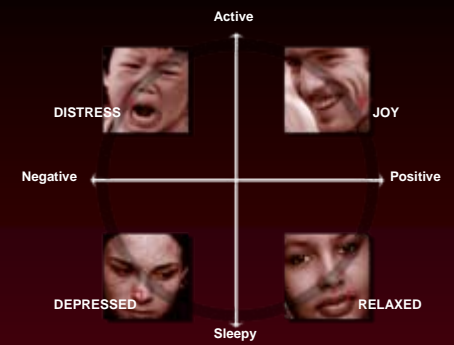
Emotion?



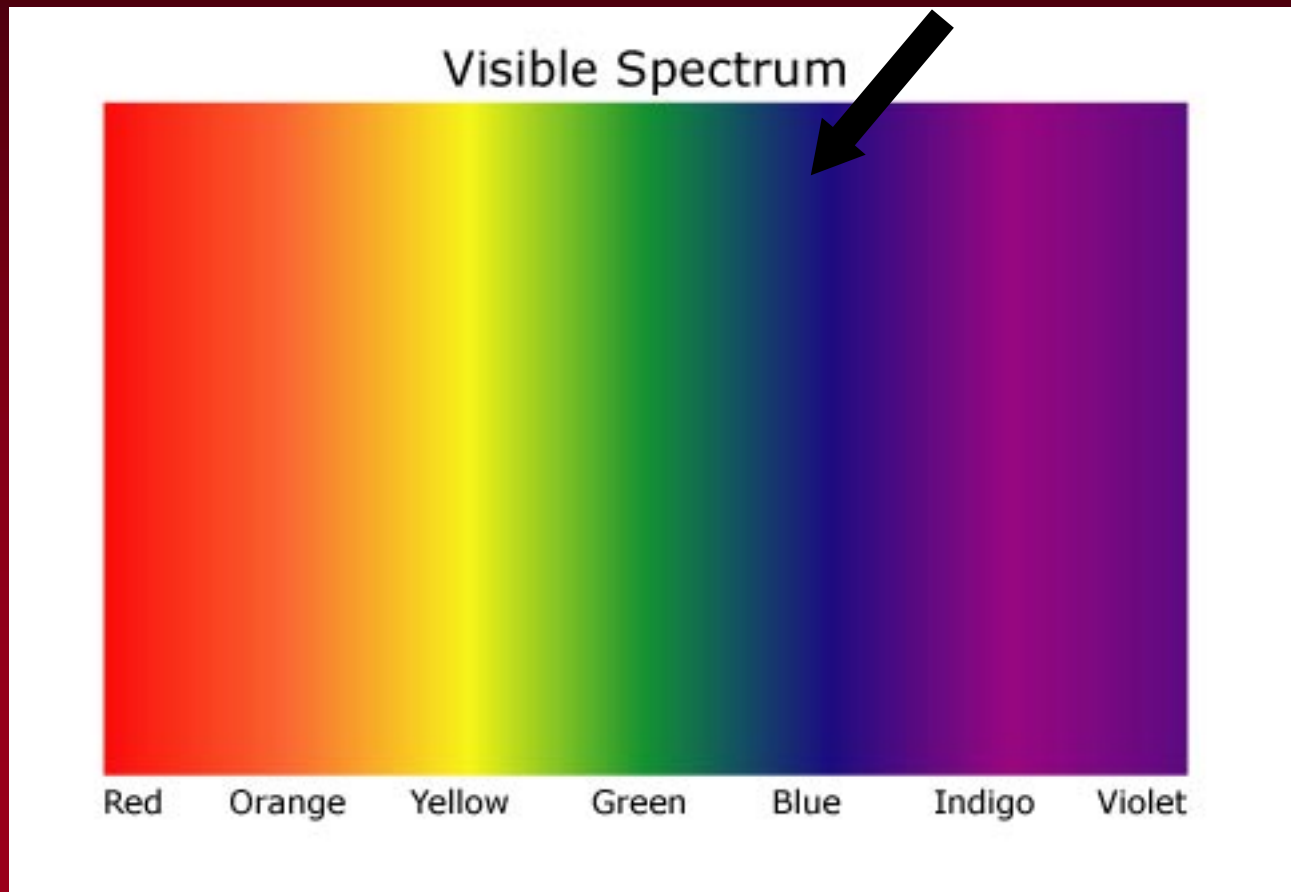
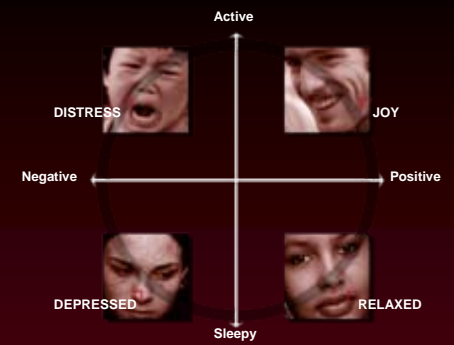
- How does valenced affect translate into the individual emotions that we feel and perceive in others?

Conceptual knowledge
about emotion

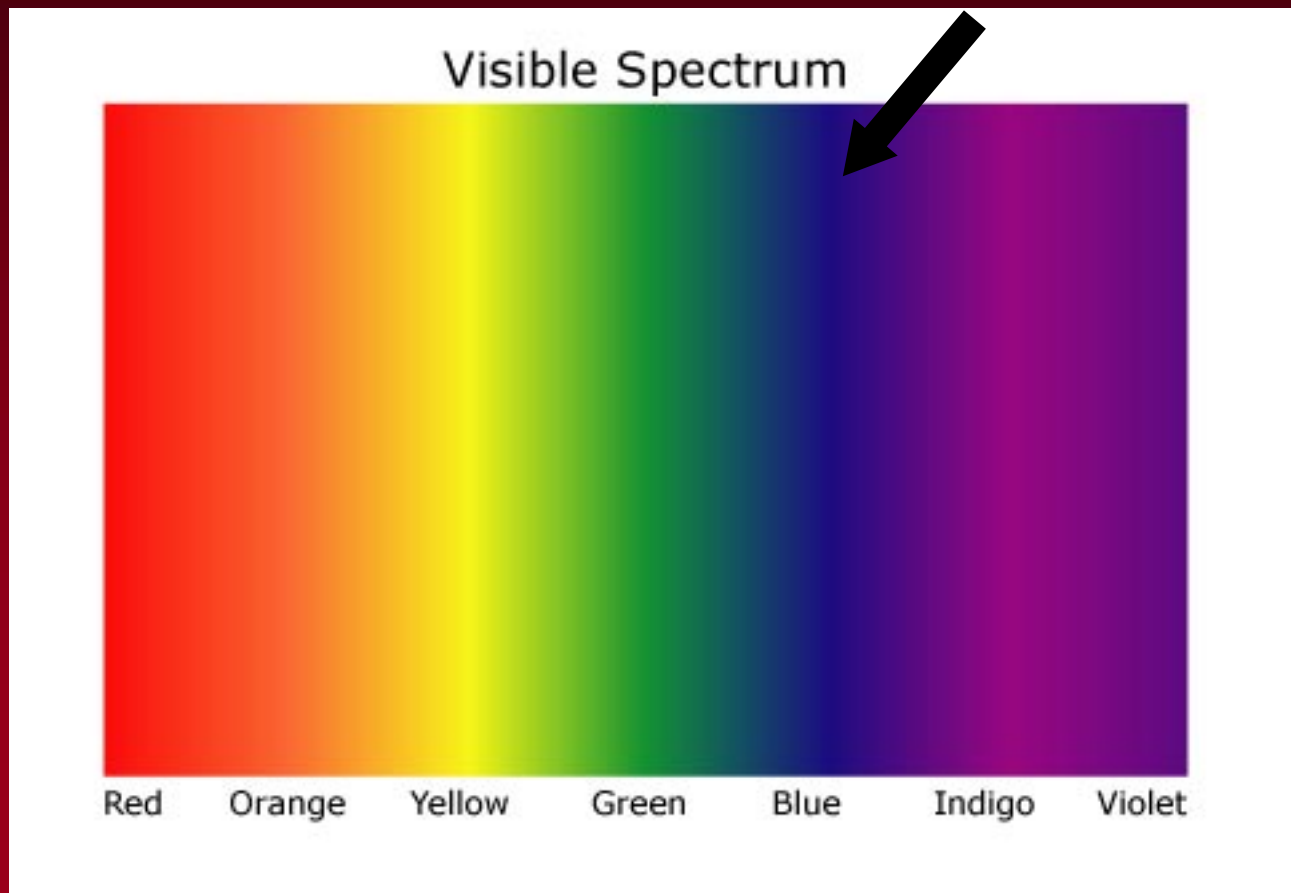
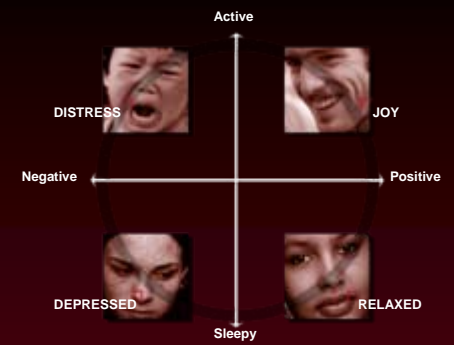
Color Perception



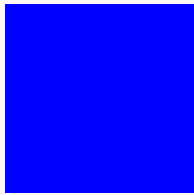
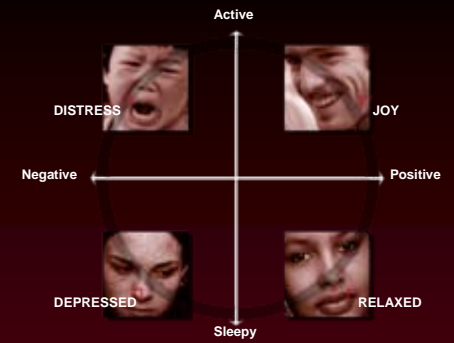
Color Perception



Color Perception



Color Perception



440 nm



510 nm



680 nm



750 nm



What you experience
is shaped
by what you know



	Color	Emotion
Biological Given	Wavelengths of Light	
Conceptual Knowledge		



	Color	Emotion
Biological Given	Wavelengths of Light	
Conceptual Knowledge	Red, Blue, Yellow, Green	

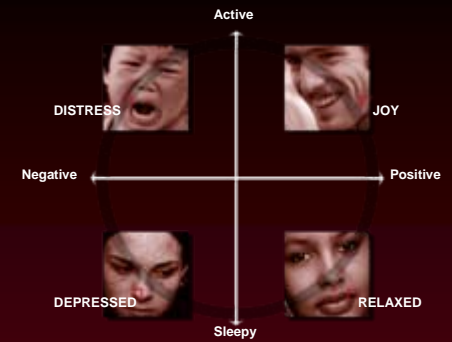


	Color	Emotion
Biological Given	Wavelengths of Light	Core Affect
Conceptual Knowledge	Red, Blue, Yellow, Green	



	Color	Emotion
Biological Given	Wavelengths of Light	Core Affect
Conceptual Knowledge	Red, Blue, Yellow, Green	Anger, Sadness, Fear, Guilt

The Psychological Construction of Emotion



**Core
Affect**

+

**Conceptual
Knowledge**



**Perception and
Experience
of Emotion**

**An instance of emotion is a conceptual
act**

“Having an Emotion”



Categorizing
continuous core affect
into a
discrete experience

Scientific Agenda



- Neurobiology and functions of core affect

Scientific Agenda



- Neurobiology and functions of core affect
- Which emotion categories and what's in them

Scientific Agenda



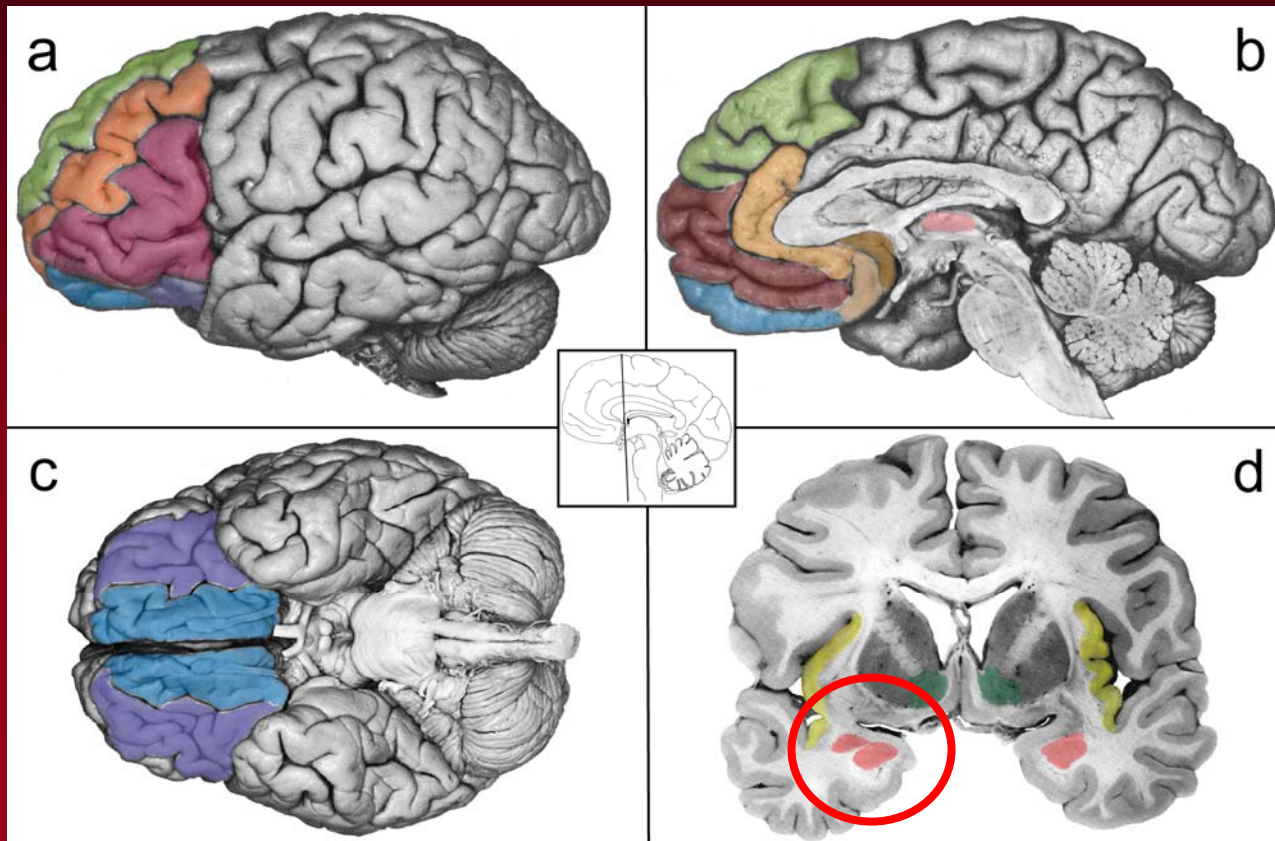
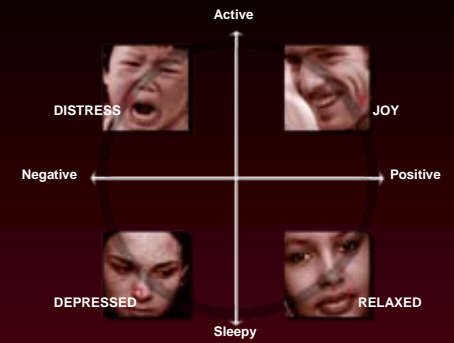
- Neurobiology and functions of core affect
- Which emotion categories and what's in them
- How emotion knowledge is applied to core affect during emotion perception

So What?

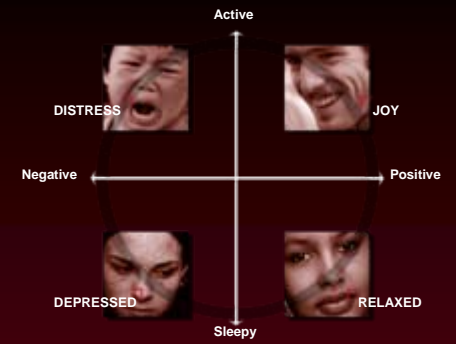


*The pursuit of circuits for
anger, sadness, and fear
may keep us from asking better questions*

Neural Reference Space



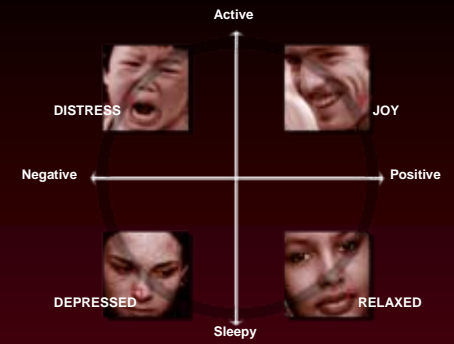
Seeing Threat



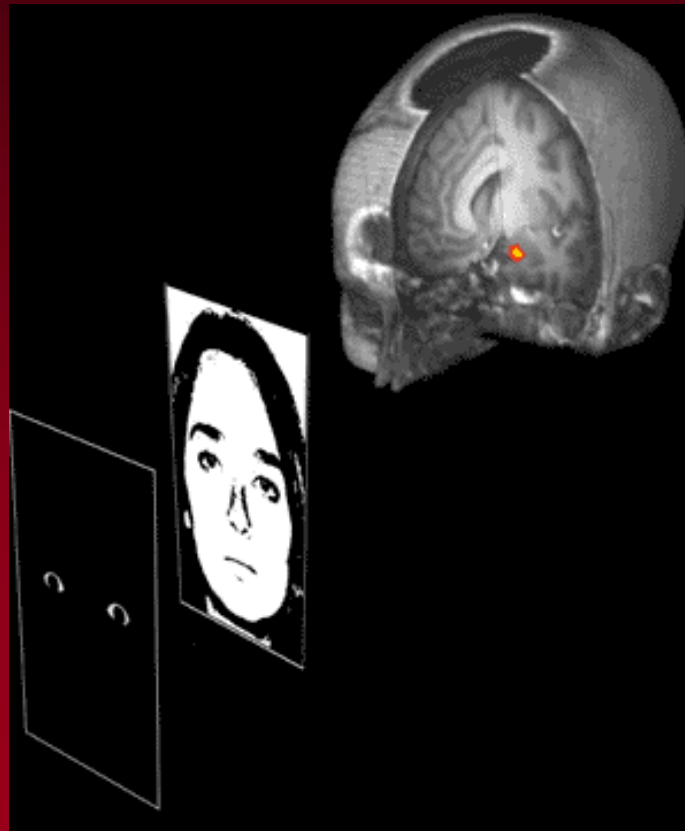
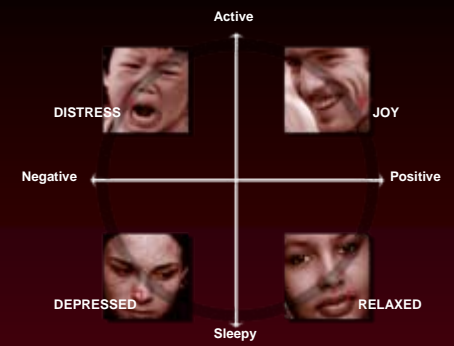
Seeing Threat



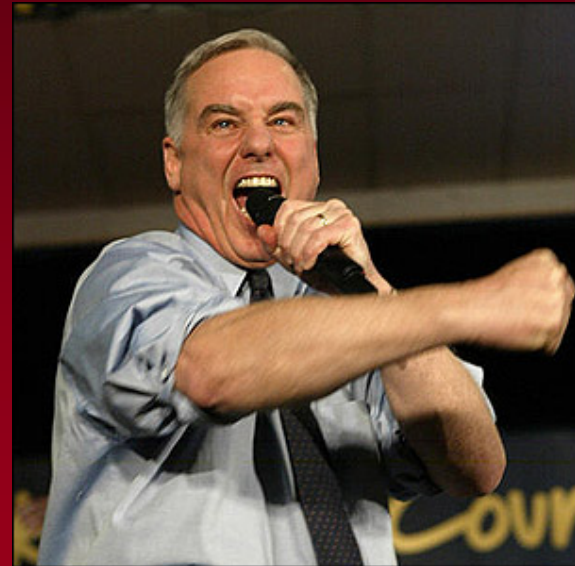
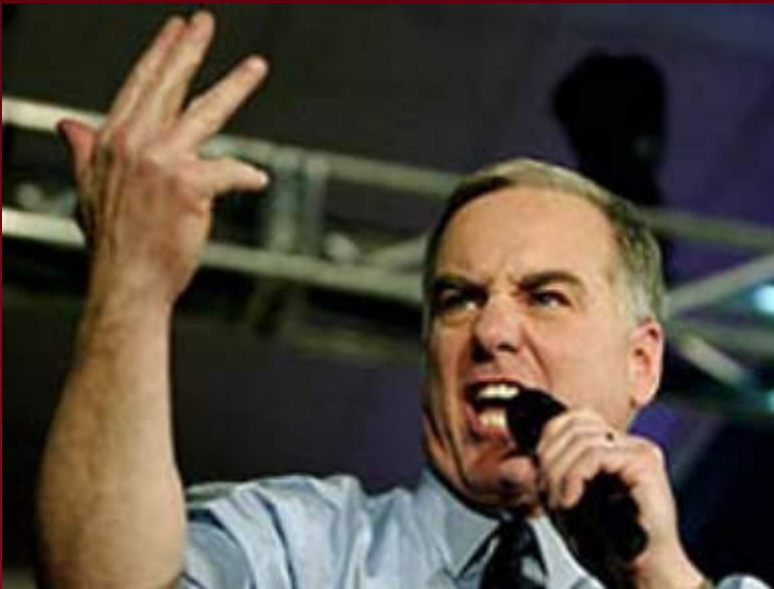
Signaling Importance



Signaling Importance



Anger?



THANK
YOU

