



The Emergence of Moods in Infants and Young Children

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May 6, 2011

Severe Mood Dysregulation

- ***Becoming a Teacher in New York***
- ***No Training!***
- ***No Experience!***
- ***No Books!***
- ***No Chalk!***
- ***No Pencils or Pens!***
- ***Nothing on the Walls!***
- ***18 Angry Children!!!***

Why Study Moods

- I. If we look at the census beginning in 1940, the number of children being diagnosed with a pattern of severe mood dysregulation and bipolar disorder has increased every ten years and the age at which the diagnosis is being made is earlier.

[At What Age Are We Diagnosing Bipolar Disorder in Children?]

■ Faedda, Glovinsky, Austin, & Baldessarini (2004)		
■ Measure	Males (N=54)	Females (N=28)
■ Age of 1 st Symptom	3.2	2.2
■ Age of 1 st Treatment	6.6	7.3
■ Age of 1 st Bipolar Dx	9.2	10.4
■ Age of Clinic Assessment	10.1	11.5
■ Family History Present	90.7	89.3
■ Adopted	16.7	21.4
■ Special Education	20.4	14.3

Childhood Onset Bipolar Disorder: A Disaster in the Making

- I. What is the source of the disaster?
 - A. Early onset is not uncommon;
 - B. The treatment of the disorder is often delayed and/or inappropriate;
 - C. Takes $\frac{3}{4}$ to year remit;
 - D. Relapses are common;
 - E. Children continue to remain symptomatic;
 - F. Social and educational development is impaired;
 - G. Substance abuse is a complication of the disorder;
 - H. Episodes and stressors accumulate;
 - I. Dysfunction and disability emerges;
 - J. Children are at high risk for suicide.
- (Robert Post, 2011)
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What Do We Mean By “Mood”?

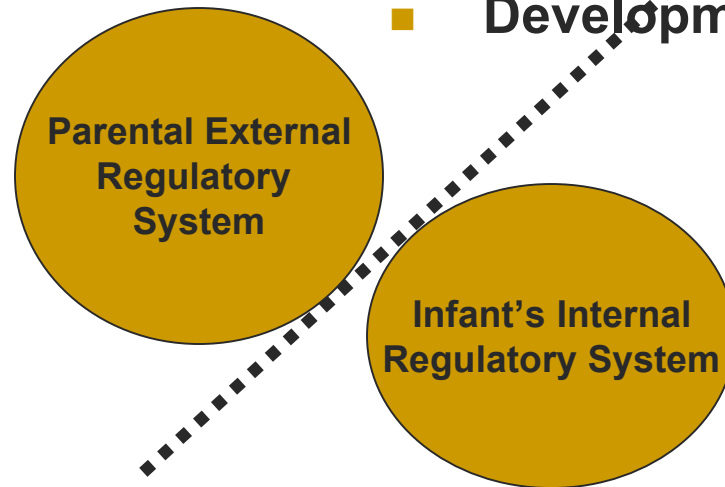
- I. Moods are **affective reactions** distinct from emotions.
- A. Emotions are usually considered responses to a **distinct** event.
- B. They are **intentional states**:
 - 1. They are ‘about’ some object or event.
- C. ‘Mood’ is an appropriate designation for affective states that are about nothing specific or about everything- the world in general.
- II. Mood is often defined as an affective state of **long duration**, **low intensity**, and a **certain diffuseness**.

What are the Complicating Factors?

- A. Diagnosis is controversial;
- B. Treatment is difficult and complex (“It takes a Village”);
- C. Appropriate family education and therapy is often unavailable;
- D. There is a shortage of child psychiatrists who are the hub of the treatment process;
- E. Little treatment literature beyond FDA approved atypical antipsychotics;
- F. Stigma and adversarial press are prominent.

Macro-development of Moods: Brazelton, 1994

- Three Processes Regulate
- Development



- Genetic &
- Maturational Regulation

Neurophysiology Affects Moods

- I. Neuro-regulatory and Physiological Mechanisms
 - (A) ANS/CNS Reactivity (Behavioral Activation/Behavioral Inhibition)
 - (B) Endocrine activity (H-P-A System)
 - (C) Sensory Functioning
 - 1. Sensory Processing
 - 2. Sensory Reactivity
 - 3. Sensory Affective Processing
 - 4. Motor planning and sequencing
 - 5. Tone
 - (D) Temperament factors- Individual Differences in reactivity and self-regulation.
 - (E) States of arousal

Temperament Affects Moods

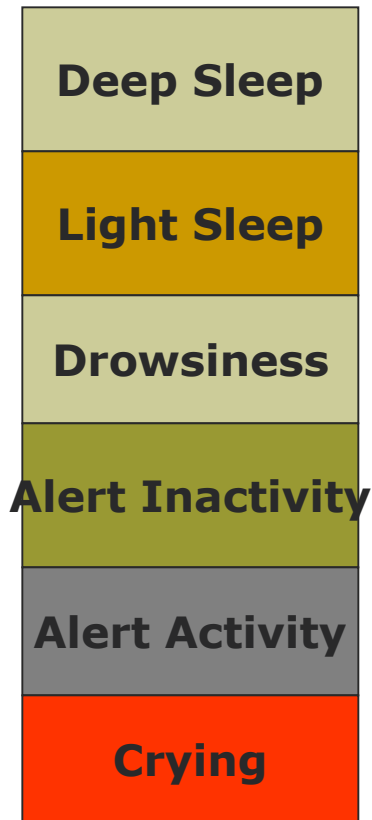
■ Surgency

- **Approach-** Rapid approach, excitement and positive anticipation of positive activities.
- **Vocal Reactivity-** Amount of vocalization exhibited by the baby in daily activities.
- **High intensity pleasure-** Pleasure or enjoyment related to high stimulus intensity, rate, complexity, novelty, and incongruity.
- **Smiling and laughter-** Smiling or laughter during general caretaking and play.
- **Activity Level-** Gross motor activity, including movement of arms and legs, squirming and locomotor activity.
- **Perceptual sensitivity-** Detection of slight, low intensity stimuli from the external environment.

■ Negative Reactivity

- **Sadness-** Lowered mood and activity related to personal suffering, physical state. Object loss, or inability to perform a desired action; general low mood.
- **Distress to limitations; anger/frustration-** Fussing, crying, or showing distress while (1) in a confining place or position; (2) in caretaking activities; (3) unable to perform a desired action.
- **Fear-** Startle or distress to sudden changes in stimulation, novel physical objects, or social stimuli; inhibited approach to novelty.
- **Falling reactivity/rate of recovery-**
- Rate of recovery from peak distress, excitement, or general arousal; ease of falling asleep.

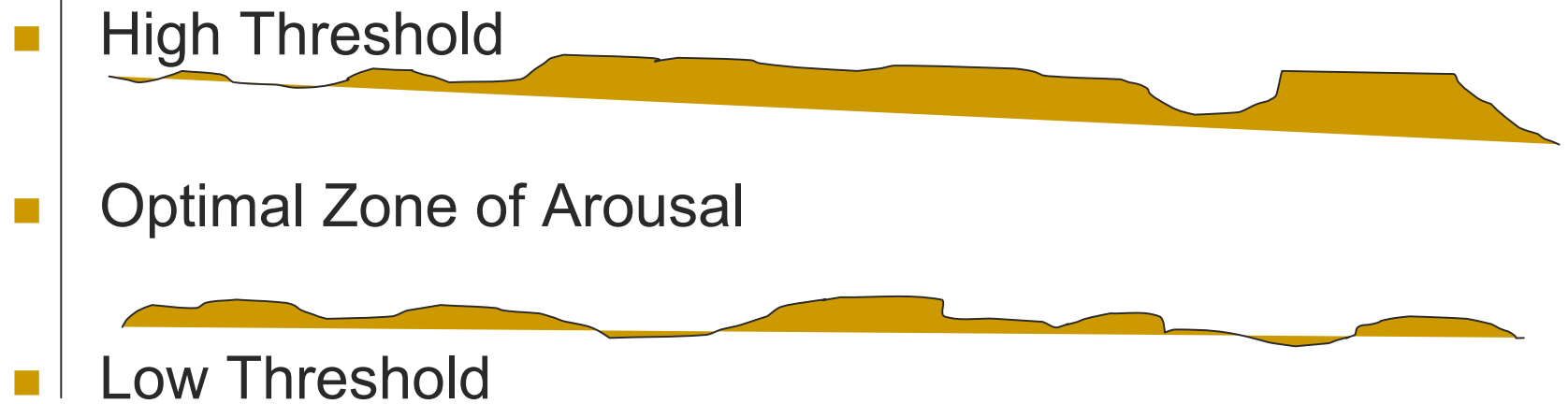
[States of Arousal Affect Moods]



States of Arousal

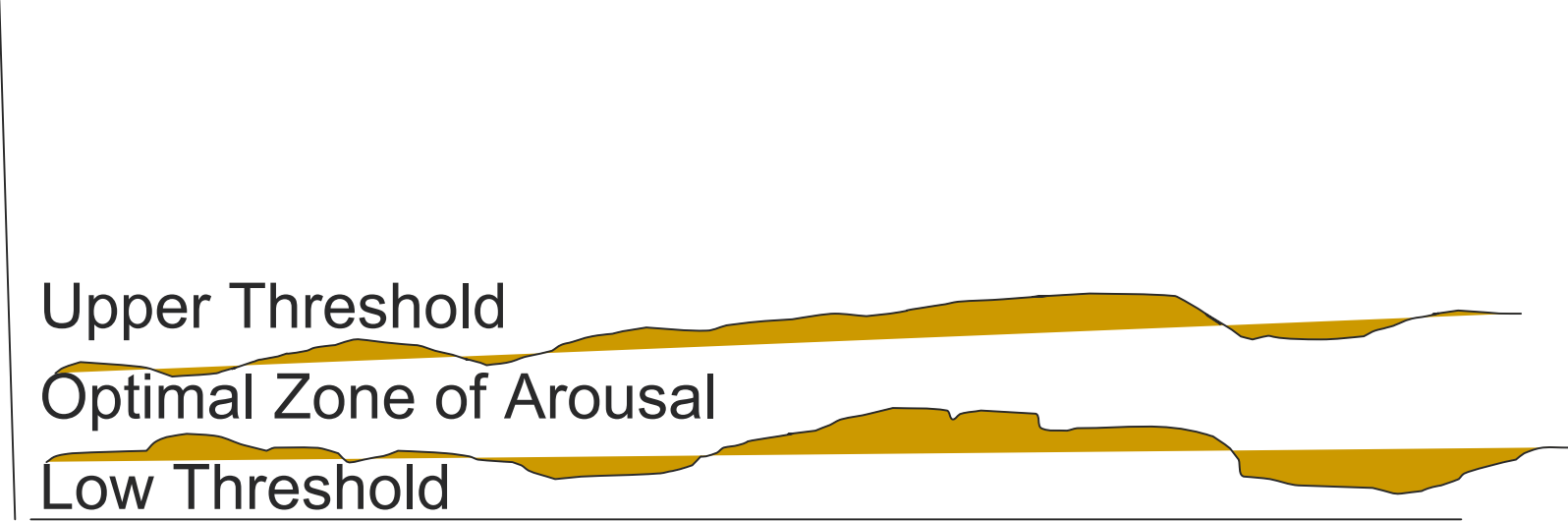
- 1. Are all states available?
- 2. What is the length of time of each state?
- 3. Frequency and length of alert inactivity: an index of availability to external stimuli.
- 4. Shifting from one state to another?
- 5. Problems in any particular state?
- 6. Influence of internal state on sensory responsiveness.
- 7. Distinctness of state.
- 8. Self-consistency.

Thresholds and Optimal Zones of Arousal



Thresholds and Optimal Zones of Arousal

- I. Low low threshold and low upper threshold. Narrow zone of optimal arousal

- Upper Threshold
 - Optimal Zone of Arousal
 - Low Threshold
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Thresholds and Optimal Zones of Arousal

- I. High lower threshold

- Upper threshold

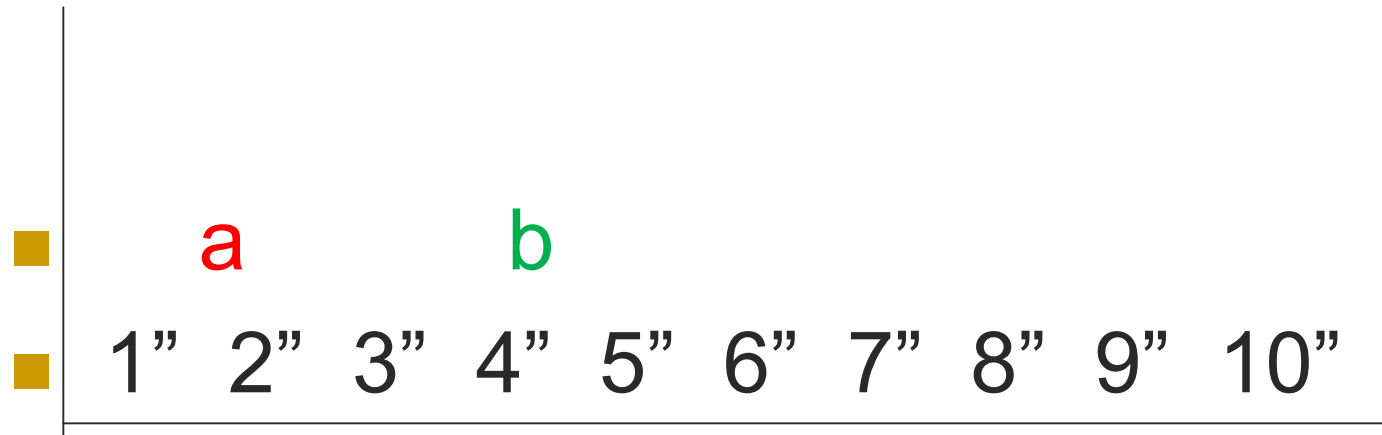


- Zone of Optimal Arousal

- Lower Threshold

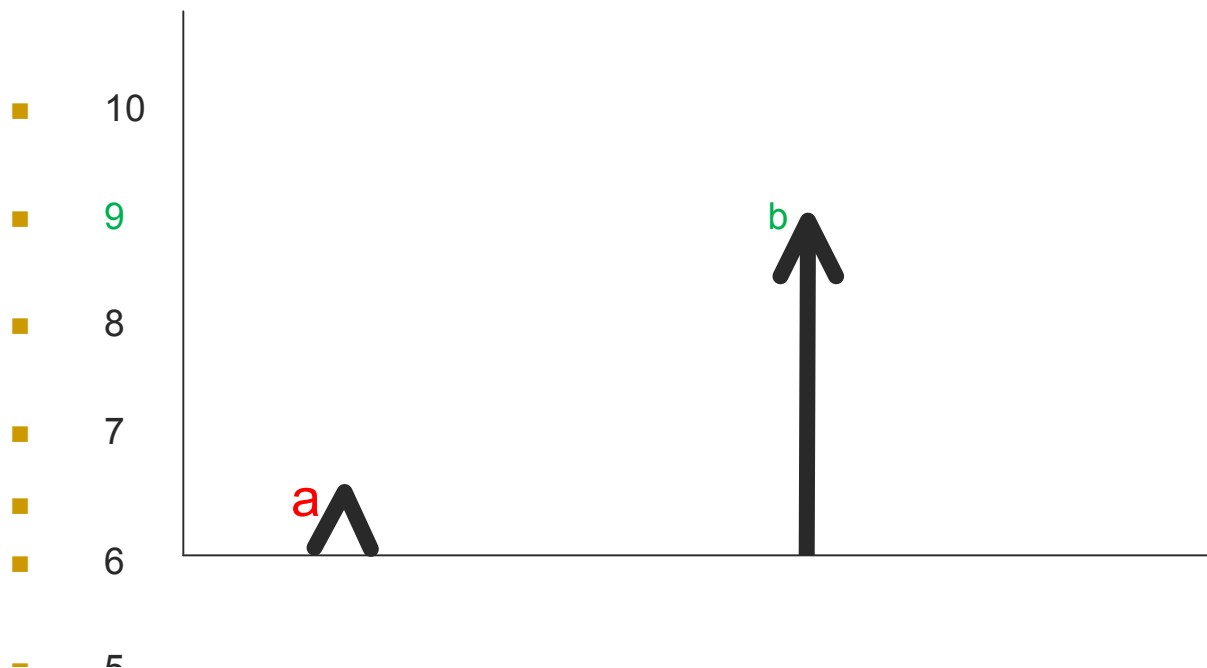
Emotional Dynamics

- 1. Latency of response- The time between the onset of an eliciting stimulus and the emotional reaction.



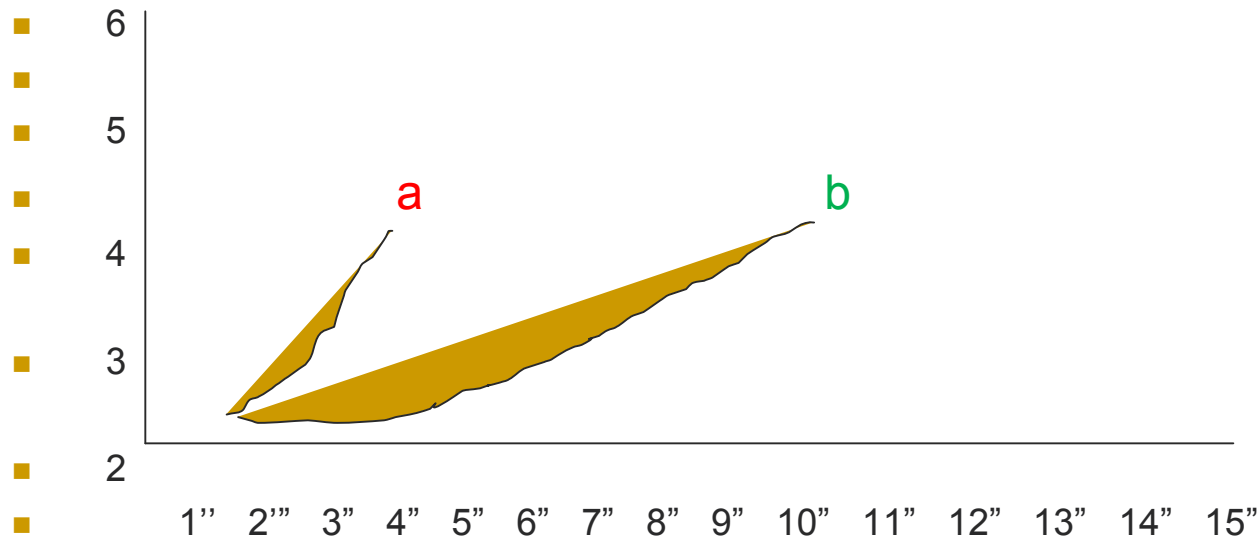
Emotional Dynamics

- 2. Intensity- Intensity of an emotional reaction (either positive or negative). Intensity can be appraised either as ***onset intensity*** or as ***peak intensity***.



Emotional Dynamics

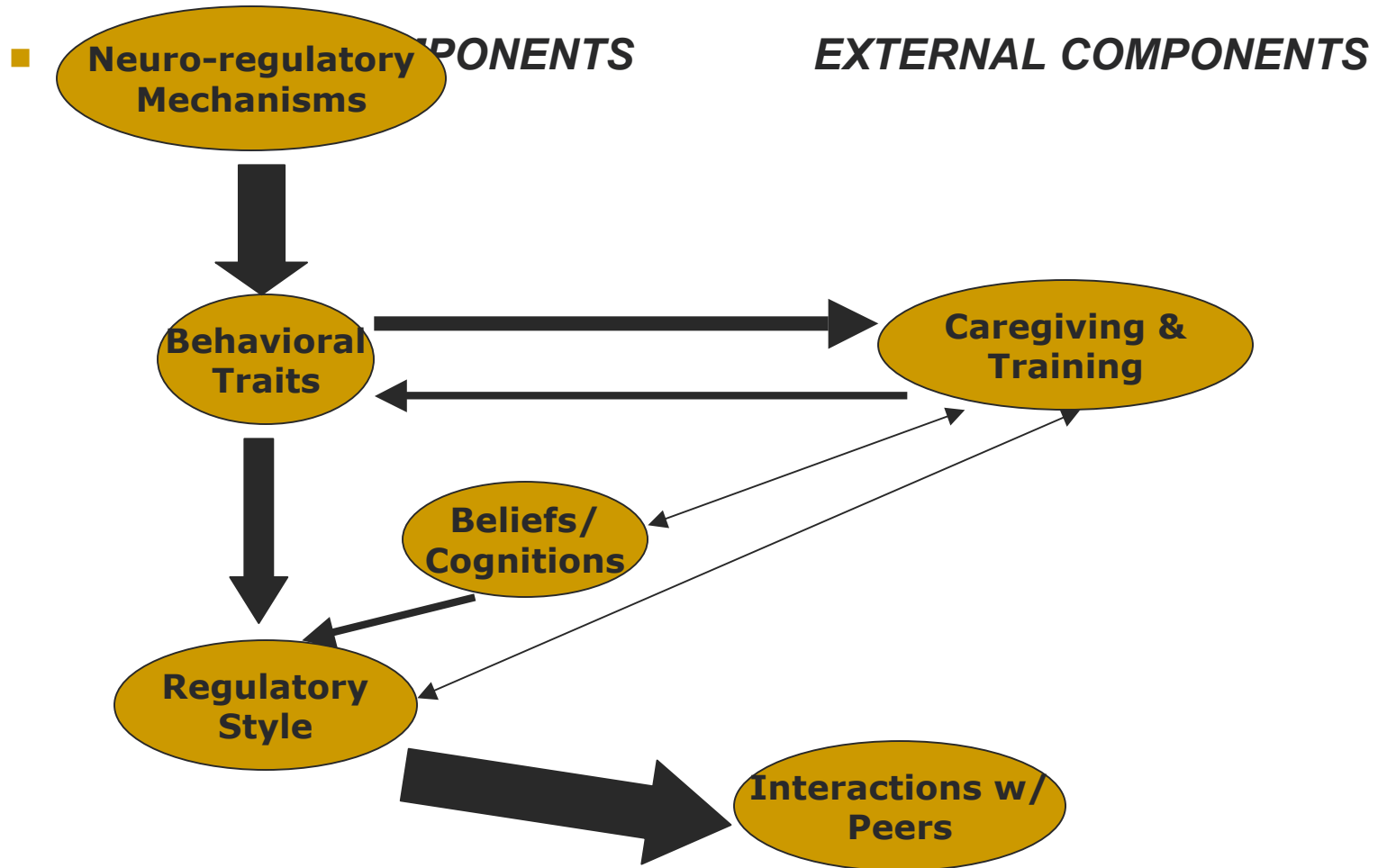
- 3. Rise Time- Between the initial emotional response and the attainment of peak intensity.



Emotional Dynamics

- 4. Range- Variations in emotional intensity or tone.
- 5. Lability- Fluctuations between positive and negative hedonic tone, variations in discrete emotions, or variations in emotional intensity.
- 6. Recovery- from the time of stimulus offset to return to baseline.
- 7. Persistence of emotional response throughout the session.

How Do Moods Develop: A Model



A Parallel Between Moods and Sleep States: An Important Study!

- Goal- How sleep states are organized.
- I. The organization of sleep is not simply related to maturation.
 - A. Sleep is powerfully influenced by temporal and socio-emotional features of caretaking.
 - B. Infants have ongoing, self-generated, biorhythmically organized patterns of sleep and awake states. However...
 - C. Many features of sleep and awake states are modified by the quality and timing of caretaking.
 - D. Sleep organization is the result of an interaction between inside and outside processes.
- **The organization of sleep state is a co-regulated process that involves the parent and the child.**

An Important Study!

- **II. Basic Study- A nursery caretaking routine for newborns that was contingent on the *state* of the infant and another routine that was on a *fixed schedule independent of the infants' state*.**
- **A. Sander hypothesized that the different caretaking routines would modify the temporal organization of the infants' behavioral states.**
- **B. Hypothesis supported:**
- **1. Each infant had an endogenous “diurnal” organization of awake, REM, and non-REM sleep states.**
- **2. The coherence of the organization of the different sleep states and their diurnal cycling was much more rapidly established by state-contingent caretaking than the fixed schedule routine (non-contingent).**
-

An Important Study!

- **3. “Sleep organization did not just mature. Its organization (its maturation) was modified by the temporal quality of the caretaking the infant received in relation to self-organized state cycles of the infant (Tronick, 2007, p. 447).”**
- 4. Organization does not come either from the inside or outside. There were two processes, one in the infant and one in the environment, and in their interaction over time, that led to the emergence of a more coherent state organization. (A PROFOUND INSIGHT ABOUT THE ORGANIZATION AND DEVELOPMENT OF HUMAN BEHAVIOR)!

An Important Study!

- **III. Other Findings:**
- **A. Males and females reacted differently, suggesting females establish diurnal states more quickly.**
- **B. Males and females have different self-organizational capacities.**
- **C. There are individual differences in endogenous organization and receptivity to the environment.**
- **D. Two different caretakers carrying out the same routine were differentially successful in establishing diurnal rhythmicity in their infants.**
- **E. The process of establishing sleep rhythmicity is a mutually regulated process affected and modulated by both participants.**
- **F. If infants were shifted from one routine to the other, their sleep cycles persisted for a time in the face of the new routine, but after awhile it shifted to the new routine. Something had been internalized that was not in the infant already.**
- **G. A change in the behavior of the caretaker disrupted the cycle of the infant.**

Characteristics of Moods

- IV. Like sleep states (REM, non-REM, alert, distress) mood states are “***a set of mutually exclusive states made up of a distinct set (assemblage) of affective behaviors*** (Tronick, 2007, p449).”
- A. During social interactions infants are most often in one of four short-lived affective states:
 - 1. **Sad and withdrawn-** sad facial expression, looking away, slumping, whimpering);
 - 2. **Social engagement-** smiling face, looking at partner, open-handed gestures, positive vocalizations;
 - 3. **Angry configuration**
 - 4. **Interested/ curious configuration**

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What Is a Mood?

- He was just out of sorts **all day!**
- I stood on my head but **nothing** please
- him!
- ***A mood is a long lasting affective state.***
- ***A mood is a dyadic state.***

Characteristics of Moods

- ***B. Moods are...***

- 1. **Sticky**- once an infant (and probably an adult) is in a mood, it is hard to move the infant out of it. When an infant gets out of a mood, she readily falls back into it!

- 2. There is a receptive process bias- the infant's response to affective input is based on that bias.

- a. "She woke up in a cranky mood, and she wouldn't get out of it, even when she smiled at her teddy. She just went back to fussing (Tronick, 2007, p.449)."

- b. "She looked OK, not really happy, and then—bang!— she was screaming. I had no clue why. I sang her favorite song and it even made her worse. Everything annoyed her (Tronick, 2007, p.449)."

Characteristics of Moods

- 3. Moods have a *momentum*- they continue to be manifest even when the triggering event is no longer there. Outside input may have little to do with maintaining a mood state. Moods just “go on and on.”
 - a. She smiled to the rabbit and just kept smiling even when it was gone (Tronick, 2007, p.450.”)
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Characteristics of Moods

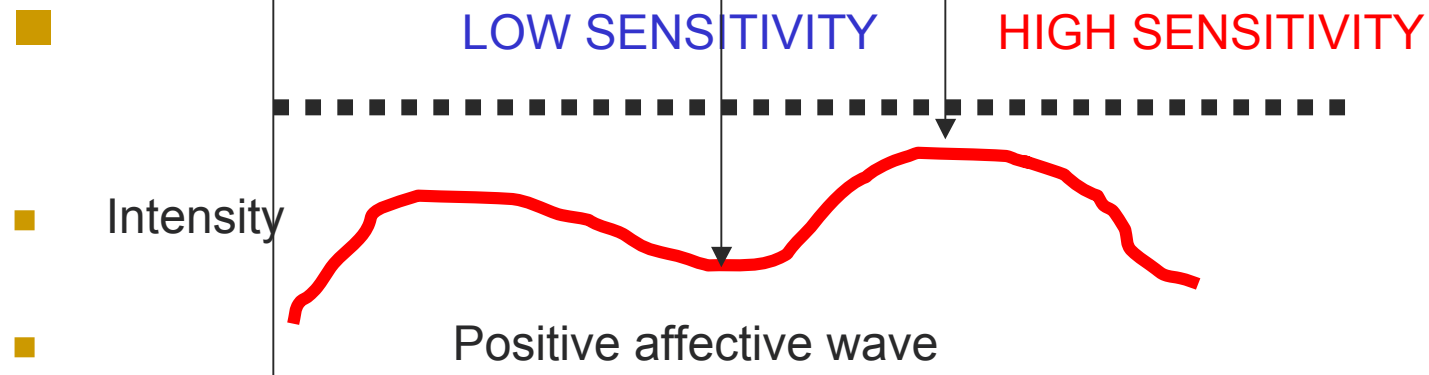
- 4. Moods “ebb and flow” over the course of the day. “He really fussed for awhile, then he seemed to be better, but then he just exploded in rage!”
- 5. Moods grow out of the recurring affective experiences that the child has. However, a child’s temperament may strongly influence mood states (e.g., negative affectivity).
- 6. During social exchanges, different affective states are fitted to specific emotional input that exceeds an activation threshold. There are contingencies between infant affective expressions and maternal expressed affect.

A Revised Model of Moods

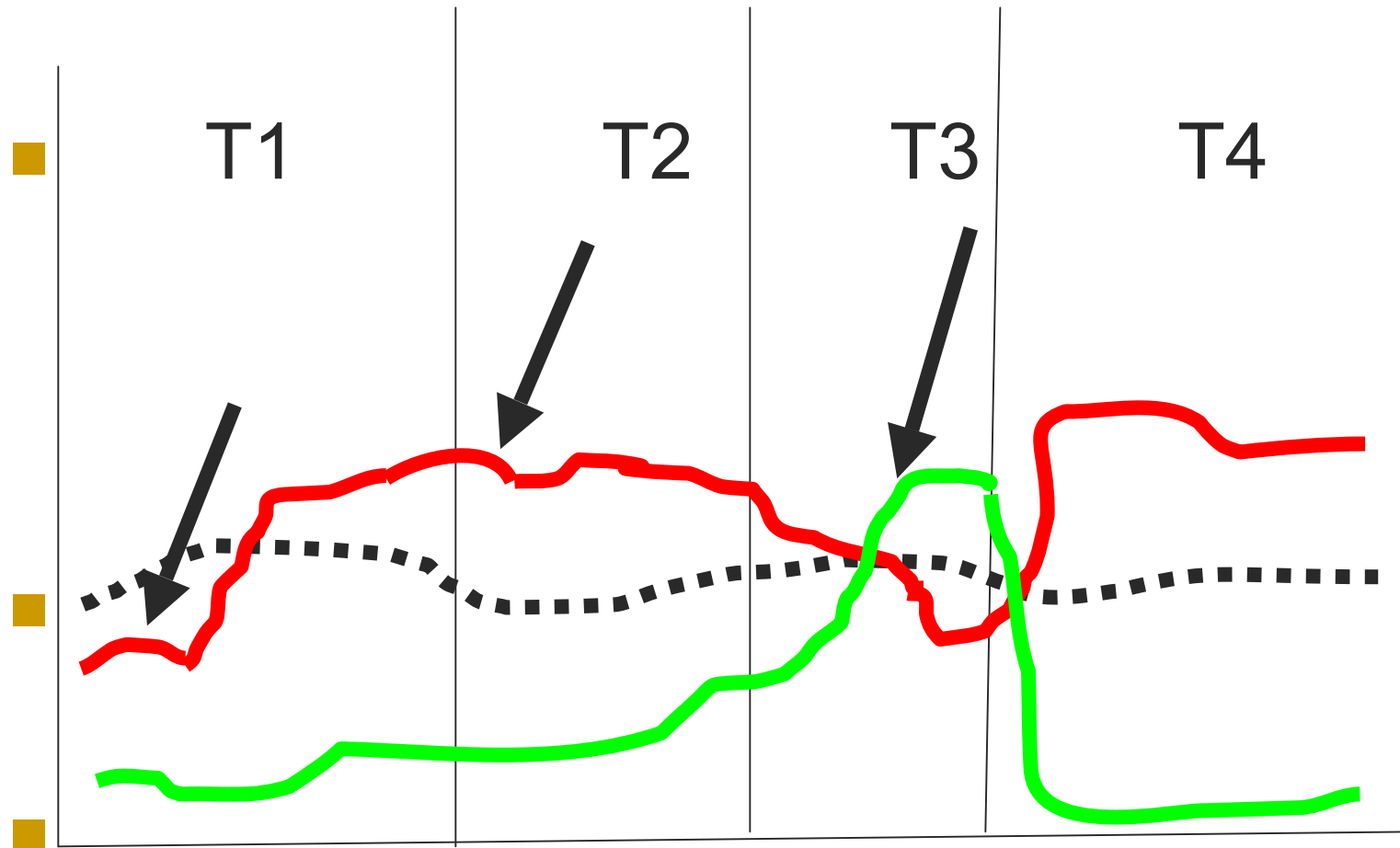
- 1. Moods are controlled in part by self-organized control processes;
- 2. Affective input induces as well as stabilizes changes in the settings of the affective control processes.
- 3. ***“Moods arise out of the interaction of external affective input from others and the infant’s internal self-organized affective processes, but then develop their own stability (Tronick, 2007, p.451).”***

Emotions Ebb and Flow

- The amplitude of an emotional wave at any point in time specifies the sensitivity that affective input will activate a mood state at that point.



The Mood in the Morning Model: A Story



The Mood in the Morning Model: A Story

- I. Questions:
 - 1 . How did the infant get into this mood on this morning?
 - A. Given the amplitude of her negative wave when she first awakened. Her mother's negative affect activated the negative affective state.

- 2. Why was wailing added to the state after a few moments?
 - A. Mood states self-amplify; they feed on themselves. Being in a state further raises its amplitude and leads to the recruitment of additional related behaviors. It is triggered by the infant's own behavior.

- 3, Why does the infant stay in a negative state despite the mother's soothing?
 - A. States are sticky and not fully controlled by input. Less intense stimulation and even internal events can now activate the state. Self-amplification generates mood momentum.

The Mood in the Morning Model: A Story

- 4. Why doesn't the infant simply stay in a negative mood state for the whole morning?
 - A. The soothing no longer activated the negative state and its sensitivity dissipates below threshold. Soothing input activates a positive mood state.
- 5. Why does looking away trigger the negative mood state again?
 - A. The negative mood state does not go far below the threshold and can be activated by a less intense stimulus.
- 6. What is the effect of the infant's negative mood on the mother?
 - Her positive affect is likely to dissipate in the face of dealing with the infant's negative mood. There is a negative reactivity dance.

The Mood in the Morning Model: A Story

- 7. How can this one-day morning mood become a stable affective state that lasts for many days for this infant?
- A. The recurrence of events, and establishing a mood. Mother of this baby, recurrently, rather than just occasionally, greets her in the morning with a negative affective display- lack of eye contact, flat or angry facial expressions, veiled but hostile vocal tone, and delayed comforting. The infant becomes sensitized to mother's negative mood displays