
Neuroscience & Leadership

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Purpose of Neuroscience & Leadership

Helps us work:

- Productively
- Collaboratively
- Creatively

By creating optimum states of being

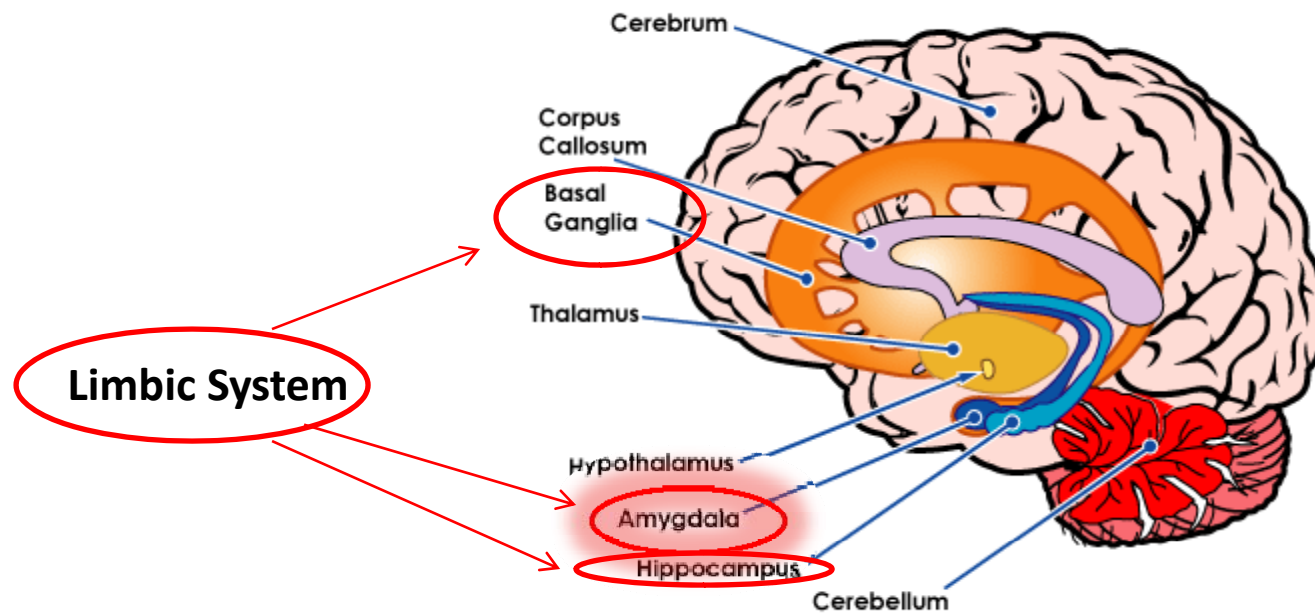
Agenda

- Functions of brain
- Threat state – “Away response”
- Safety state – “Toward response”
- Group states
- Creating optimum environments
- Resources

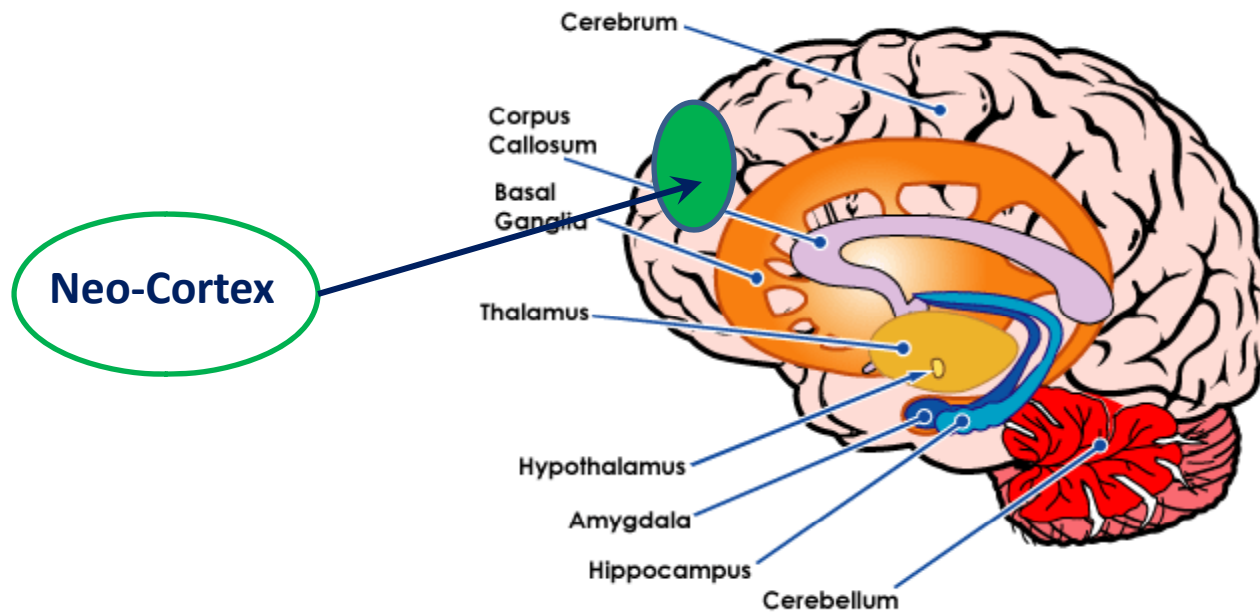
Functions of Brain

- 3 Influential brain functions
 - Limbic system
 - Amygdala
 - Pre-frontal neo-cortex
- Interplay of 3 dramatically influences your state

Brain Function: Limbic



Brain Function: Neo-Cortex



Glossary of Neurotransmitters

- Increasing a “toward” state
 - **Dopamine:** pleasure, motivation, alertness
 - **Serotonin:** happiness, calming, mood control
 - **Endorphin:** pain reduction, pleasure, slowing rates

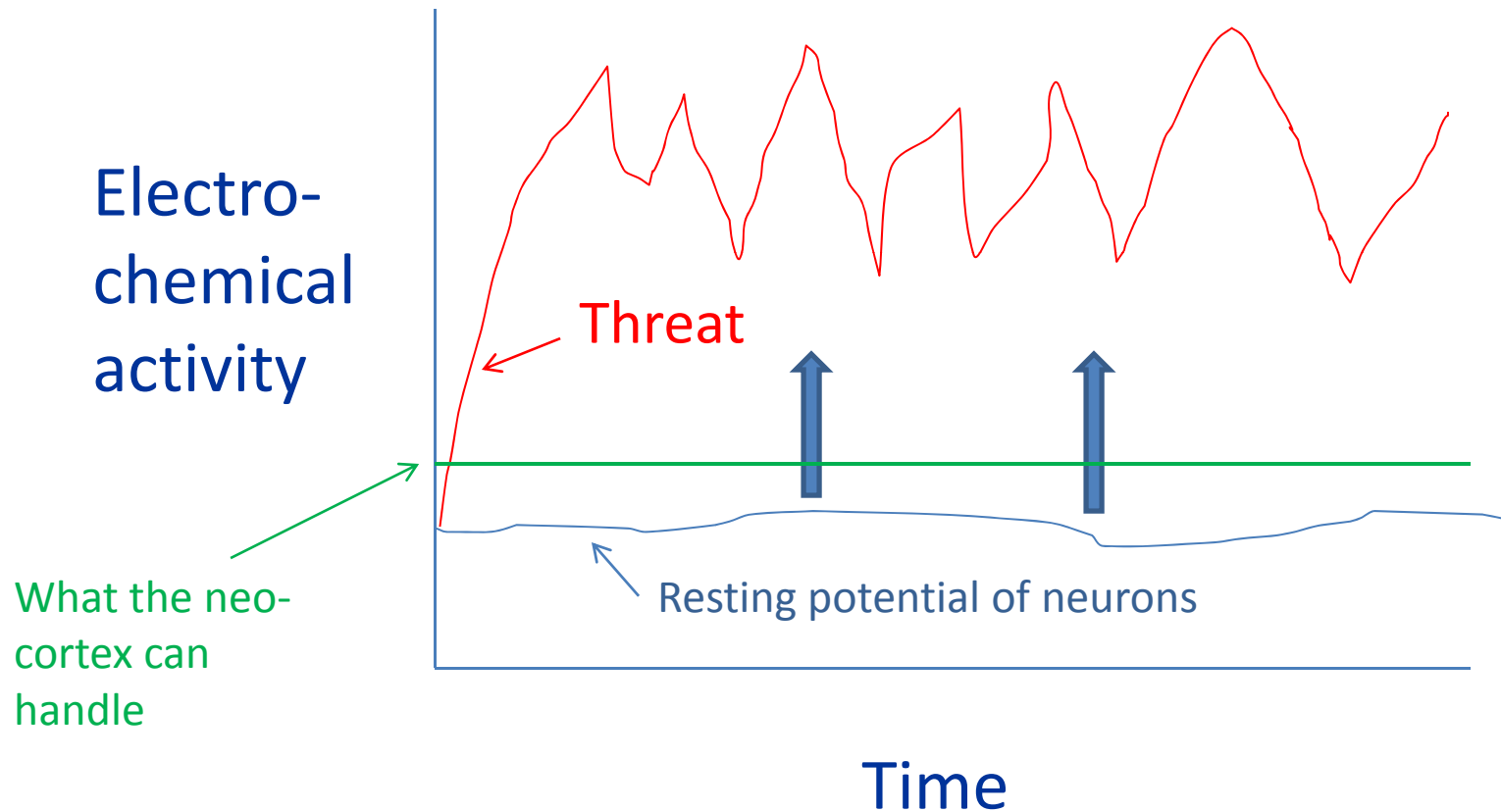
Inverse relationship!

- Increasing an “away” state
 - **Noradrenaline/norepinephrine:** attention, arousal, excitement, high alert, motivation, memory
 - **Cortisol and adrenalines (hormones):** fight, flight, freeze, or disassociate; interfere w/ function of neurotransmitters

The Threat Response

- What is a threat response?
 - Arousal (electrochemical response)
 - From learned habit embedded in brain
- What constitutes threat?
 - Takes very little to create an “Away” state:
 - **Physical:** hunger, fatigue, thirst, sexual energy, illness
 - **Emotional:** stress states of irritation, anger, embarrassment, and many more
 - **Social:** stress states of others, isolation, incongruence
 - **Cognitive:** thinking, understanding, deciding, memorizing, questioning, recalling, brain buzz...almost any effort
 - Neuro-chemicals are resource gluttons!
 - Eat up glucose, plus more, at high rate, creating more stress

Electro-chemical response of arousal



Wired for pattern, Wired for threat

- Brain wired to learn patterns, store patterns
- Pattern recognition helps predict the future
- If can predict, can be “able” ... “response-able”
- Body/Brain constantly looking for:
 - Is it a threat? Is it safe?
 - To be able to have a response
- You’re wired to be on automatic pilot; without this every stimulus would be new
- Body much faster than cognitive thought, so important to track sensations in body

Threat Conclusions

- Wired for threat – takes very little to knock-out your neo-cortex
- Neurons that fire together, wire together; your history of reaction is the neural circuitry pattern (habit) stored in your body
- Change the pattern – intervene! You have 1/3 of a second to intervene in a stored pattern
 - tracking physical symptoms allows you to change a pattern fast and intervene)

The Safety Response

- Safety is experienced in the body as:
 - Relaxed muscles
 - Relaxed mind: low brain arousal
 - Adequate amounts of:
 - Dopamine
 - Serotonin
 - Endorphins
 - Oxytocin
 - Including self care habits: sleep, nutrition, social contact, low noise levels, etc.

Safety Vigilance

What we look for to feel safe:

- Primary threat (away) or reward (toward) States
 - Status – your position relative to others
 - Certainty – primary reward or threat
 - Autonomy – feeling of control (choice)
 - Relatedness – connection, belonging
 - Fairness – equity or inequity, justness

Safety & the Neo-Cortex

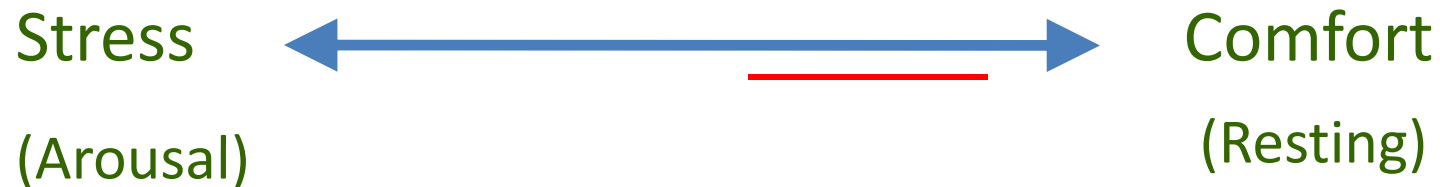
- Neo-cortex can help...if brain isn't too aroused
 - Increasing a “towards state”
 - humor
 - novelty
 - interest
 - unexpected
 - move
 - play
 - connect
 - Labeling
 - Re-framing, reappraising
 - Re-focus on outcome (versus problem)

Safety Conclusions

- Strengthen your inner lifeguard
 - Develop your inner lifeguard and promote him/her to CEO position.
 - Identify thinking/feeling and sensing states which are your habitual responses. Increase appraisal awareness.
- Create “toward” states in yourself and others
 - Reframe/Reappraise
 - Create short mini states to re-landscape quickly:
 - Novelty, fun, move!, play physically, relate, do something different, engage in an interest, listen to music, imagine something positive; daydream positively, power nap, engage humor, focus on sensory state (relax default narrative; focus on senses)

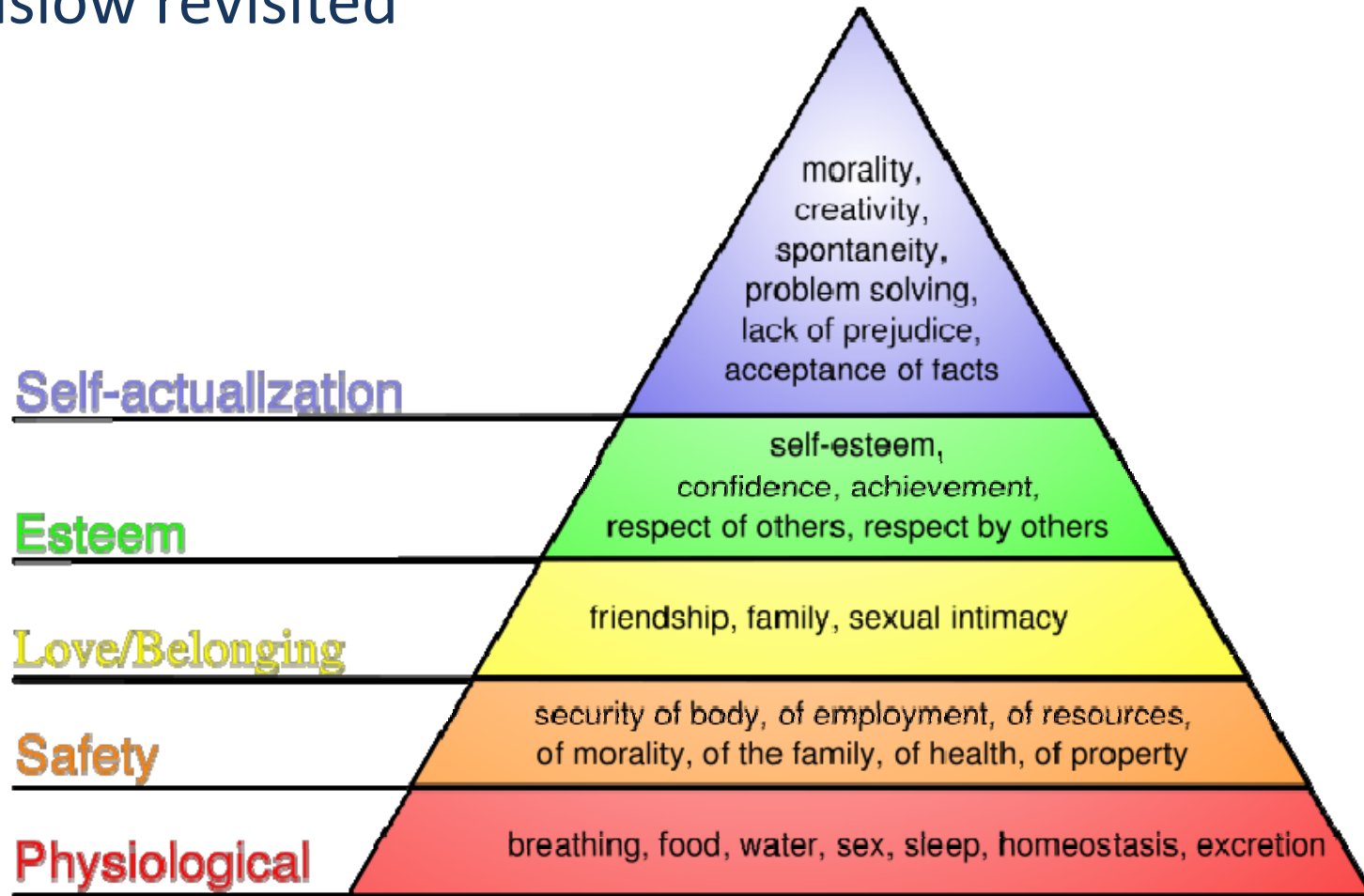
Safety Conclusions, cont.

- The “Sweet Spot”: motivated *and* calm



Group Dynamics

Maslow revisited



Group Dynamics

Remember domains of safety vigilance?

SCARF model

- 5 domains of social experience
 - Status
 - Certainty
 - Autonomy
 - Relatedness
 - Fairness
 - and...creating the sweet spot

Creating Optimum Environments

What do Leaders need to do to create states of:

Productivity

Collaboration

Creativity

?

- Table activity

Leadership Essentials

- Awareness: we're always creating states, therefore:
 - Develop meta-thinking, feeling and sensing skills (your inner lifeguard working to become CEO)
 - Develop the same in your team/employees
 - Improve reappraisal ability, and labeling
 - Increase facilitation skills
 - Use invitational language and questions, avoid language that causes defensiveness
 - Use humor
 - Pause, stop, breathe, shift gears

Resources

Books:

- Your Brain at Work, by David Rock
- The Brain that Changes Itself, by Norman Doidge, M. D.
- Online article: “The Neuroscience of Leadership”
 - at www.Strategy-business.com
- <http://www.neuroleadership.org>
 - Join Bay Area NeuroLeadership Local Interest Group
 - Meets every 3rd Tuesday of month in San Francisco, 6:30 – 8:30 PM
 - Contact me!
- Other scintillating authors:
 - Robert Sapolsky
 - Daniel Siegal
 - Jeffrey Schwartz

Thank you!