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# Neuroscience & Leadership

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# Purpose of Neuroscience & Leadership

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Helps us work:

- Productively
- Collaboratively
- Creatively

By creating optimum states of being

# Agenda

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

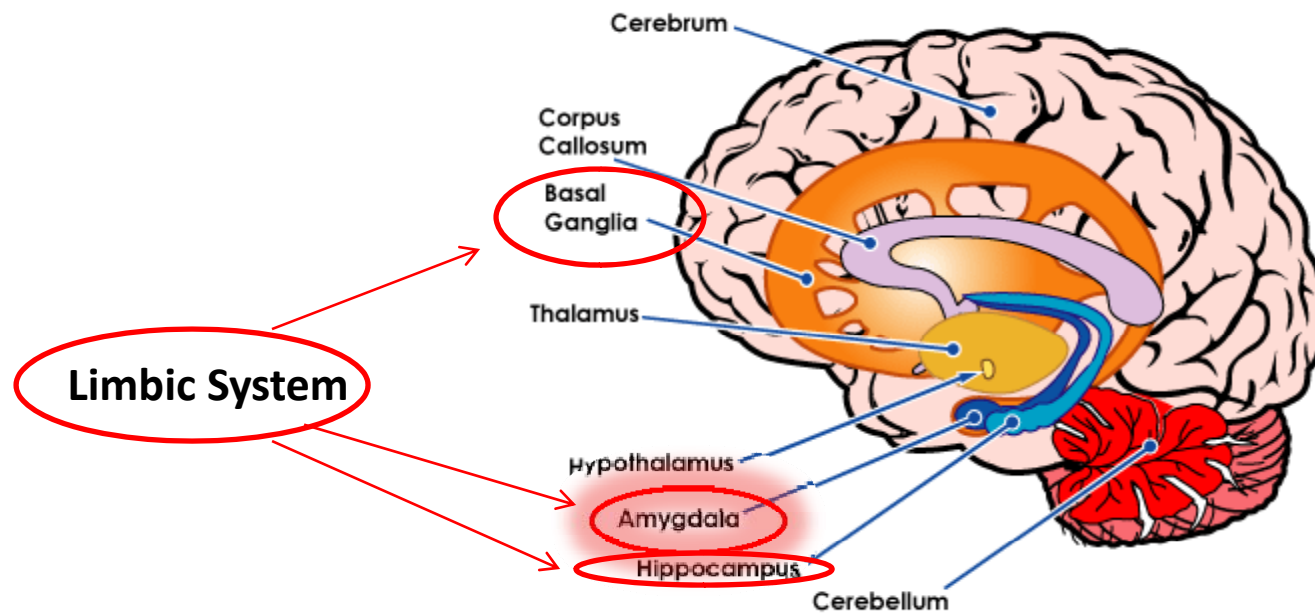
# Functions of Brain

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

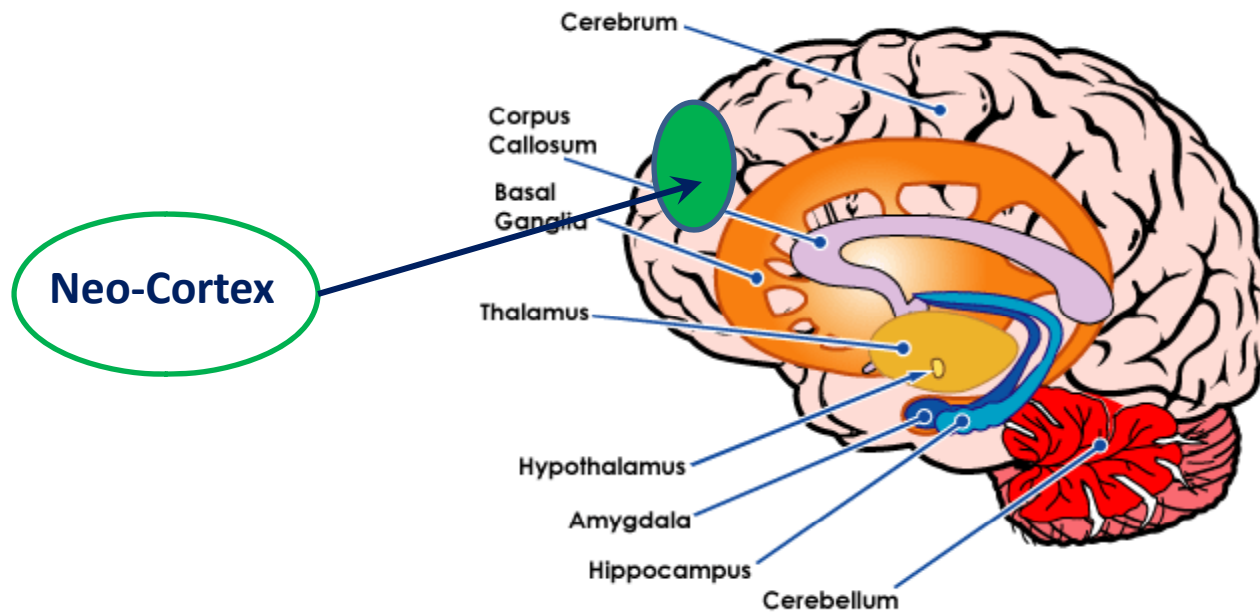
# Brain Function: Limbic

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# Brain Function: Neo-Cortex

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# Glossary of Neurotransmitters

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- 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

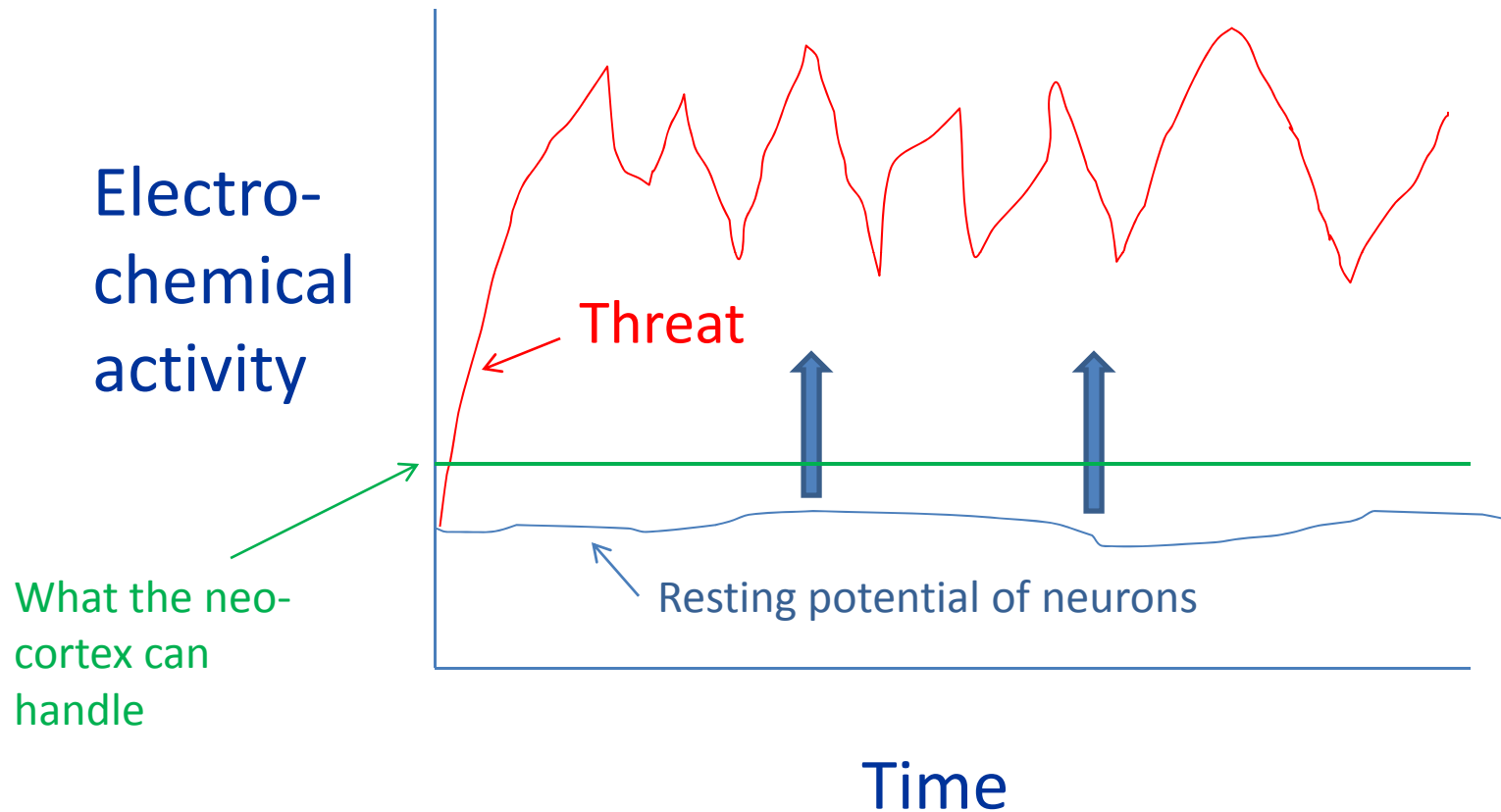
# The Threat Response

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- 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

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# Wired for pattern, Wired for threat

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- 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

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- 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

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- 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

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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

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- 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

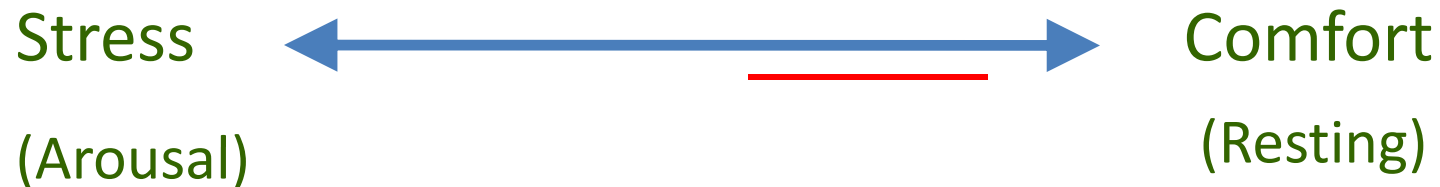
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- Strengthen your inner lifeguard
  - Develop your inner lifeguard and promote him/her to CEO position.
  - Identify thinking/feeling and sensing states which are your habitual responses. Increase appraisal awareness.
- Create “toward” states in yourself 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.

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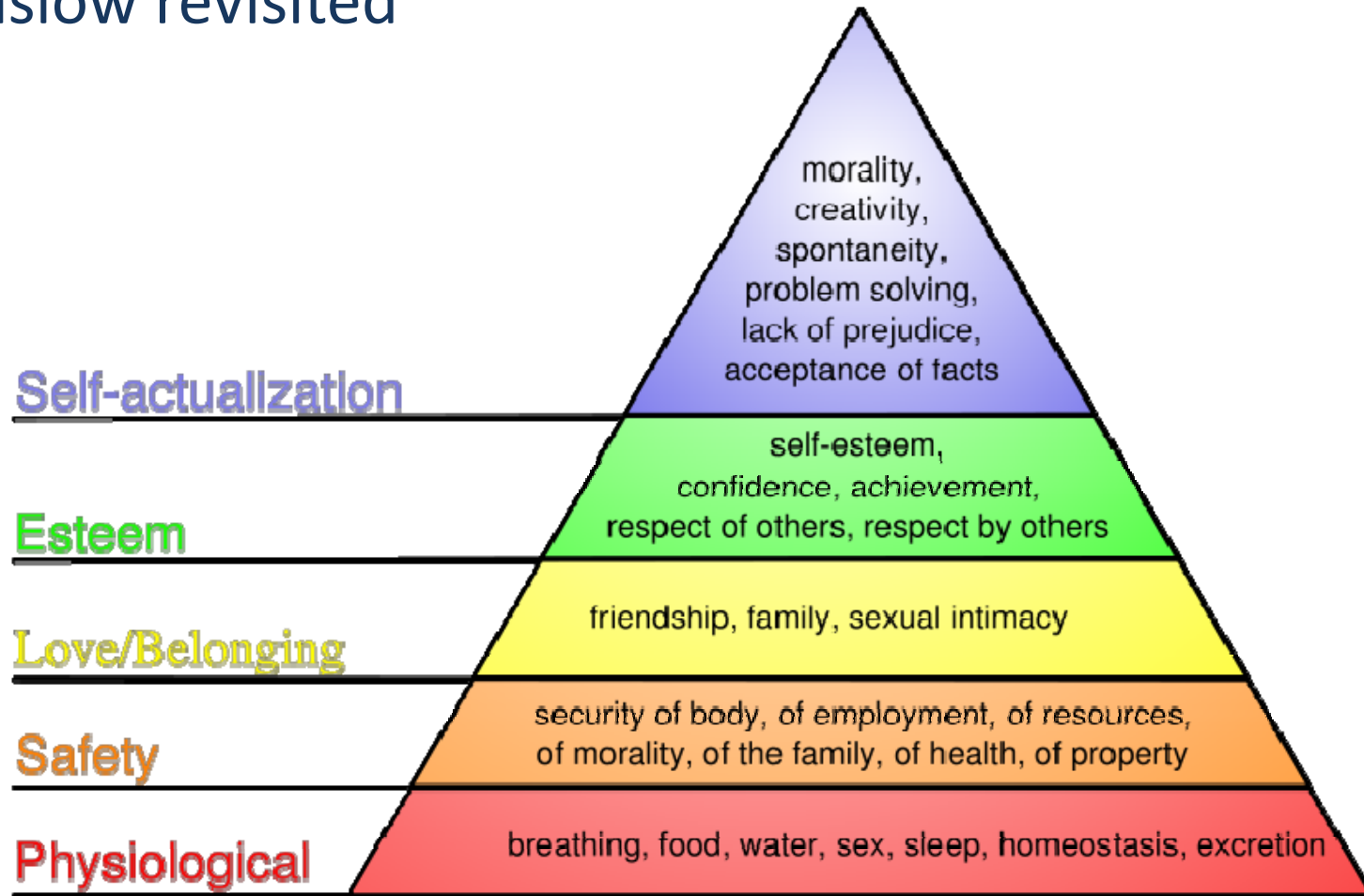
- The “Sweet Spot”: motivated *and* calm



# Group Dynamics

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## Maslow revisited



# Group Dynamics

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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

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What do Leaders need to do to create states of:

Productivity

Collaboration

Creativity

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- Table activity

# Leadership Essentials

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- 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

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## 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.Strategy-business.com)
- <http://www.neuroleadership.org>
  - Join Bay Area NeuroLeadership Local Interest Group
  - Meets every 3<sup>rd</sup> Tuesday of month in San Francisco, 6:30 – 8:30 PM
  - Contact me!
- Other scintillating authors:
  - Robert Sapolsky
  - Daniel Siegal
  - Jeffrey Schwartz

Thank you!