

Trauma: Why it Influences Behavior

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Objectives for today:

Learn about	critical periods and the sequential nature of brain organization and development
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Learn about	the important role that relationships have neurodevelopment and trauma
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Learn about	the impact of trauma on normal neurodevelopment and organization
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Learn about	potential functional and behavioral outcomes when trauma and attachment impact neurodevelopment
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Be	exposed to a few tips for working with those with a history of early trauma
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Reference Points...

“Children don’t misbehave; they simply behave to get their needs met.”

– Dr. Thomas Gordon

“Being heard is so close to being loved that for the average person, they are almost indistinguishable.”

- David Augsburger

“Children don’t want attention. They will settle for it.
What children want is *connection*.”

– Anonymous

Another Reference Point: The “Culture” of Trauma

“In many ways, when you are raised in an environment that is chaotic or threatening, it’s literally like coming from a different culture. There are different customs, regulations, and language. Even though it may still be ‘English’, the words will have different meaning, expressions will have different meanings, and eye contact will have different meanings. It literally is a very different culture, and unless you appreciate that, there will be “cultural conflict” when people who come from that environment interact with the rest of world who come from a whole different set of developmental experiences.”

Bruce D. Perry, M.D., Ph.D.

The culture of trauma cont'd.

“There is a certain wisdom that comes from traumatic experiences, actually, that other people don't have. There's a burden to it—a cost to it—but it leads to a certain wisdom that is unattainable any other way.” (Therefore)

“Approaching the survivor with respect creates opportunity to learn about their strengths and weaknesses.”

Bruce Perry, MD, Ph.D.

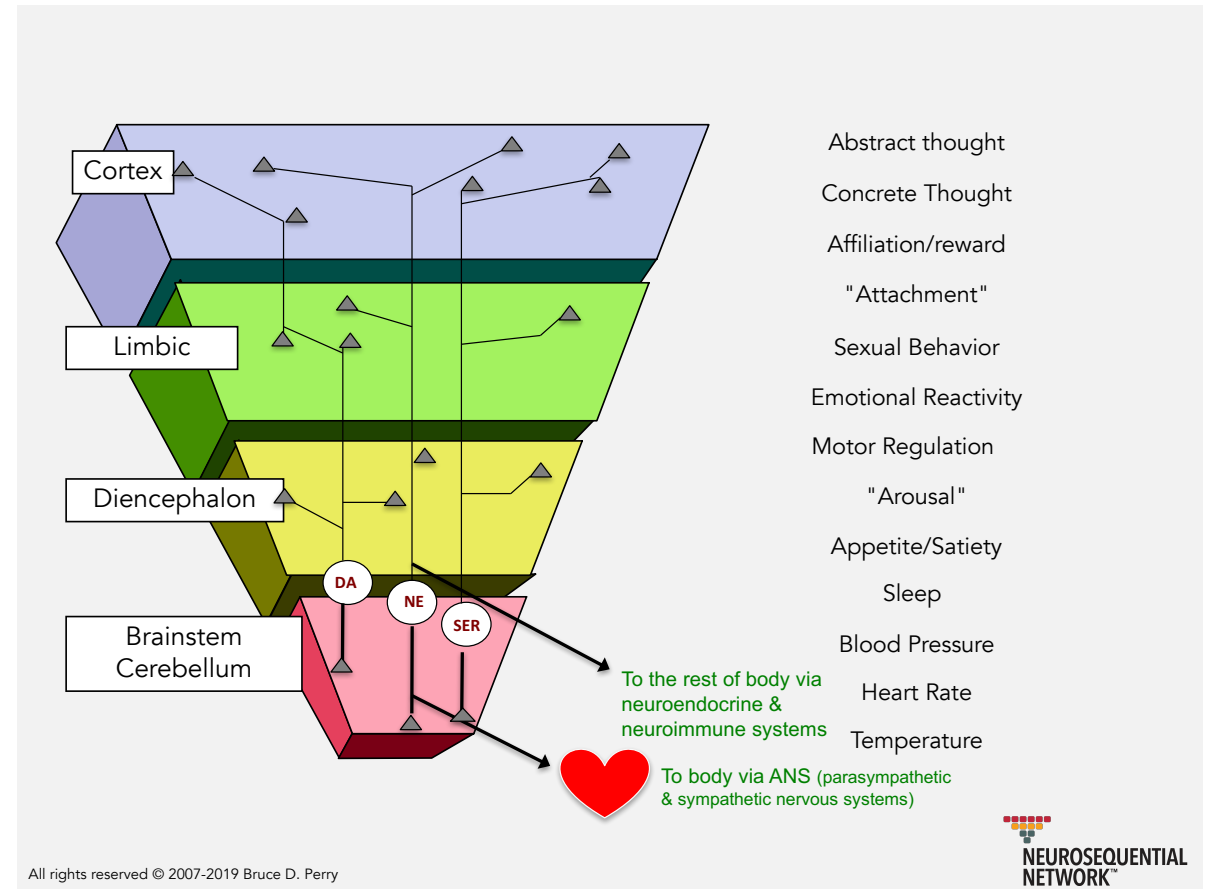
Everything starts with the brain

*The brain mediates our thoughts,
feelings, actions and connections
to others and the world.*

*Understanding core principles of neuroscience, including
neuroplasticity and neurodevelopment, can help us better
understand ourselves and others.*

So, let's look at The Brain

- Develops and organizes from bottom to top and inside out.
- Starts in utero
- Sensitive to critical periods



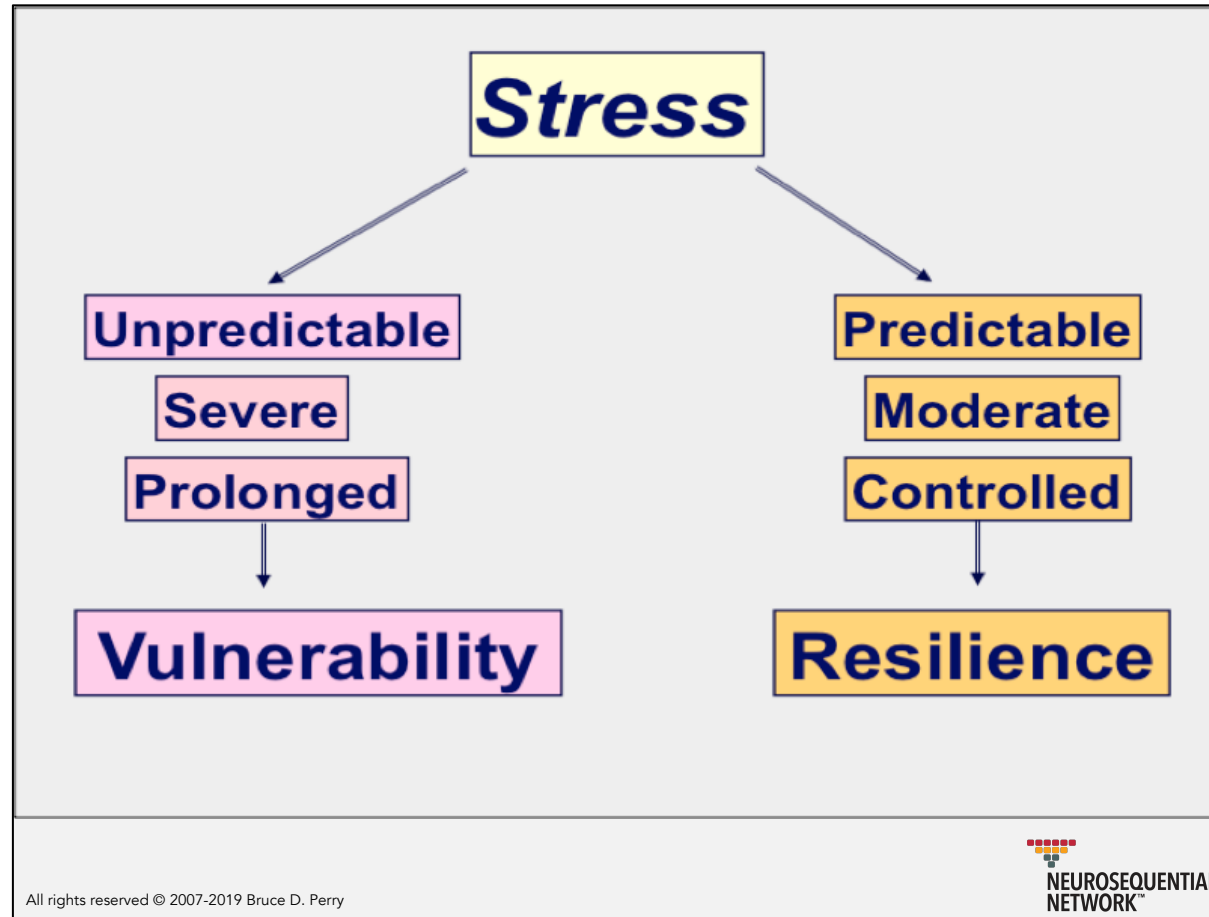
- In order to change any part of the brain, you must first activate that part
- Neurons respond to patterns of activation
(think intermittent vs. continuous reinforcement)

USE-DEPENDENT DEVELOPMENT

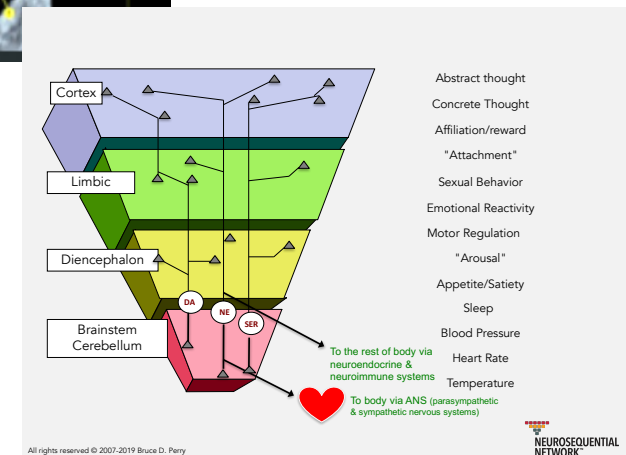
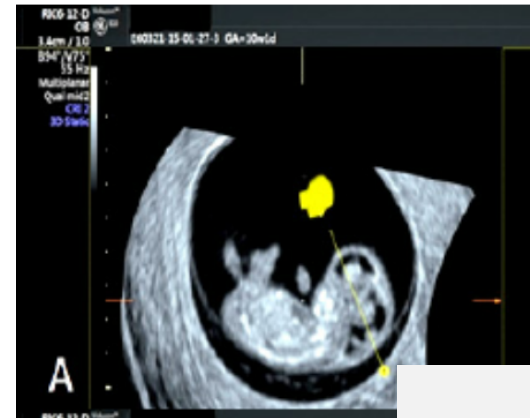
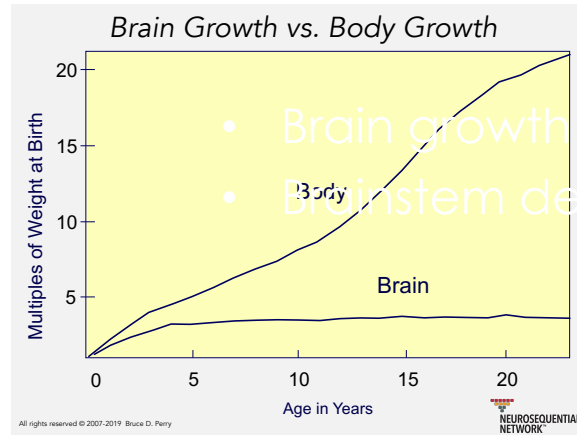
The more a neural network is “activated” the more that network changes as a reflection of the pattern of stimulation

*This is the basis for development,
memory and learning*

Activation Pattern example



Brain growth



Brain development & organization is an iterative and sequential process

Word Gap: Number and Nature

560,000: Times a child from a professional family receives positive feedback before age four

100,000: Times a child from a working-class family receives positive feedback before age four

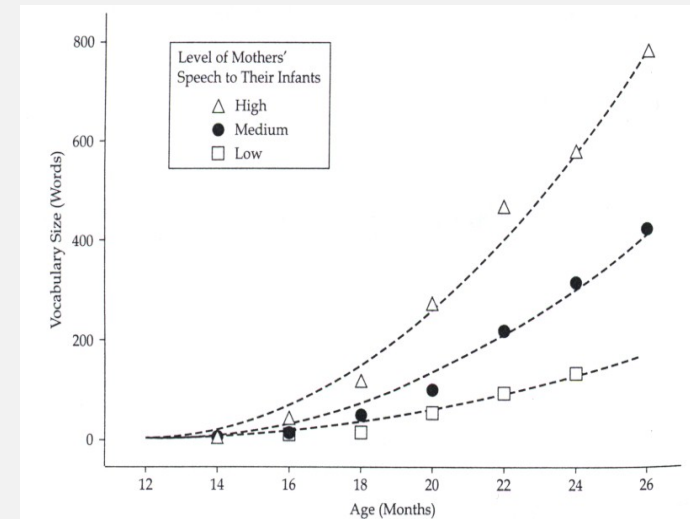
2,153: Words per hour a child from a professional family hears

616: Words per hour a child from a family on welfare hears

Sources: Atlantic, Boston Globe; LENA Natural Language Study, 2008



Use-dependent Development of Vocabulary



Source: Huttenlocher et al., 1991



First experiences

- Create templates against which future experiences will be compared and cataloged
- Template experiences are often generalized by the brain when preparing a response to a similar stimulus
- Some first experiences occur during “critical periods”

Creating First Memories

Our first sets of unique sensory stimuli shape neural “networks” which will “encode” and store – in neurons – the template for future sensory stimuli similar to this original sensory experience.

Attachment is, therefore, a collection of complex “memory” templates created during our first caregiving relationships.

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Definition: Critical Period

- The development and maturation of functional properties of the brain that are strongly dependent on experience or environmental influences.
- windows of time during which the young are especially sensitive to their environment
- Function acquisition easiest

Critical Periods: “Nurture” in Early Life

Period during which proper development is necessary to ensure the acquisition of a particular function, skill, trait, etc. (ex. Attachment)

Development during a critical period relies on some sort of external stimulation or at least a hospitable environment.

Proper brain development and organization requires proper activation of networks that are most rapidly developing

“Nurture” very important in early life.

Simultaneous brain organization and attachment occur early in development

- Starts in utero
- Continues after birth
- Attachment impact most rapid first 2 months of life
 - (appears to be a critical period for regulation and attachment?)

Humans are social creatures

The neural networks mediating our stress responses, reward, social interaction, communication, empathy and the capacity to bond with others are intertwined – and all are shaped by the nature, quantity and timing of early life experiences (especially relationally-mediated experiences).

The biological unit of survival for human beings is the clan.

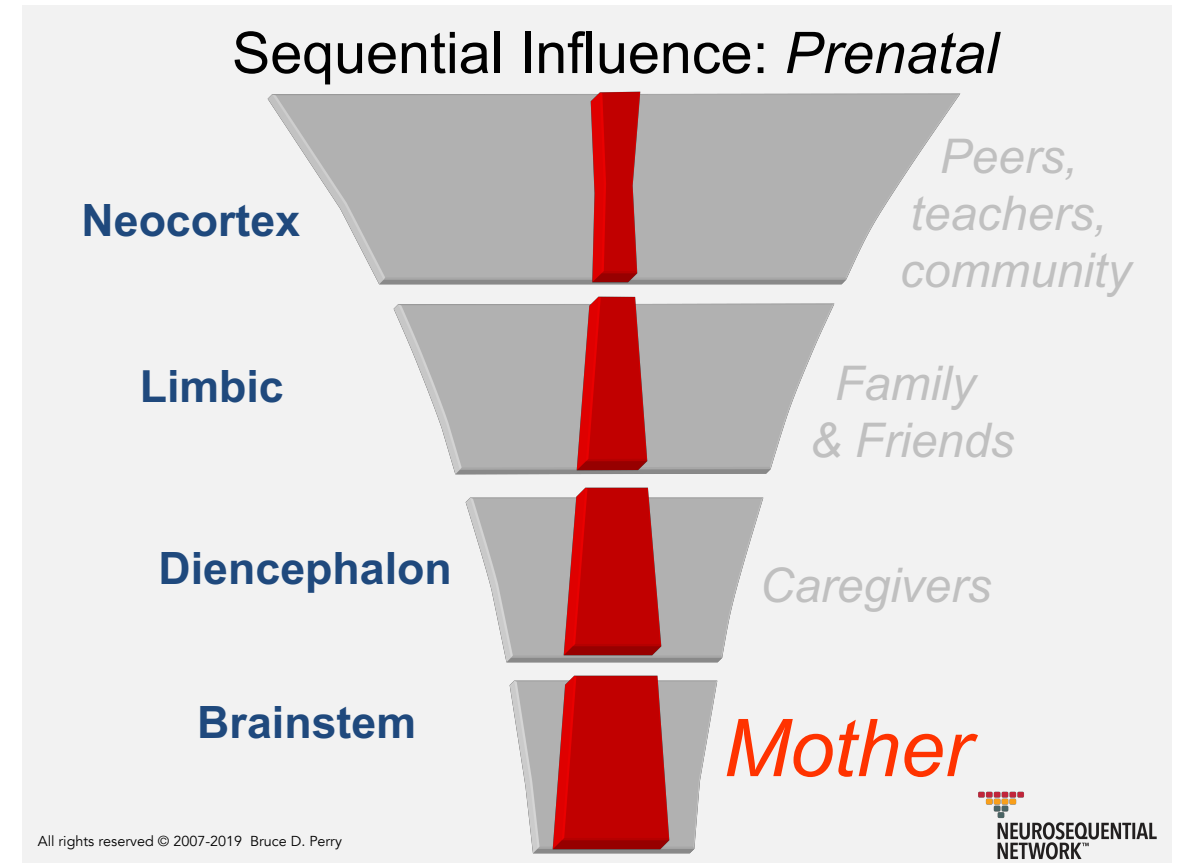
Evolutionary pressure which resulted in our species
was applied to the clan, not simply the individual.

We are unavoidably inter-dependent.

And yet, the major predator – the major threat
to humans – has been, and continues to be,
other humans.

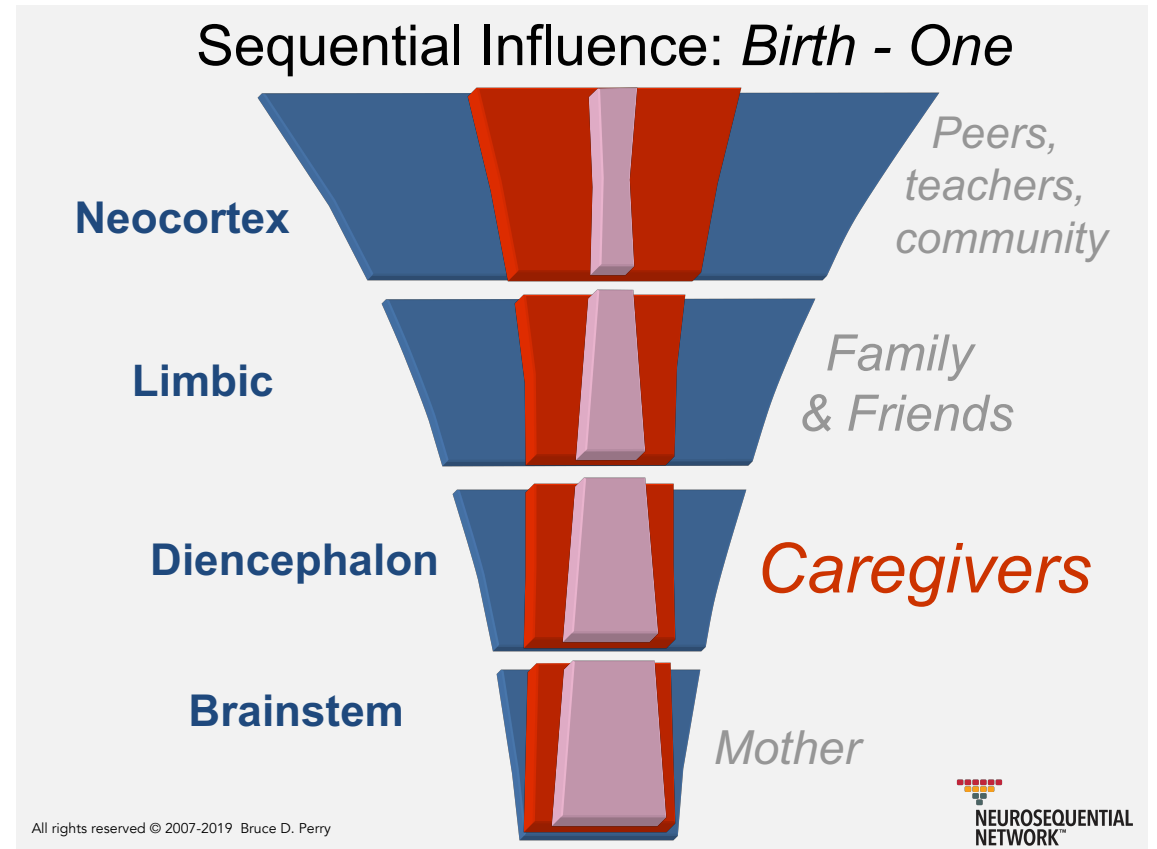
First critical period: intrauterine

- Including maternal heartbeat
- Nutrition, rest, support
- Drug/alcohol exposure
- Chaos, threat, instability, insecurity—and don't forget *epigenetics*!



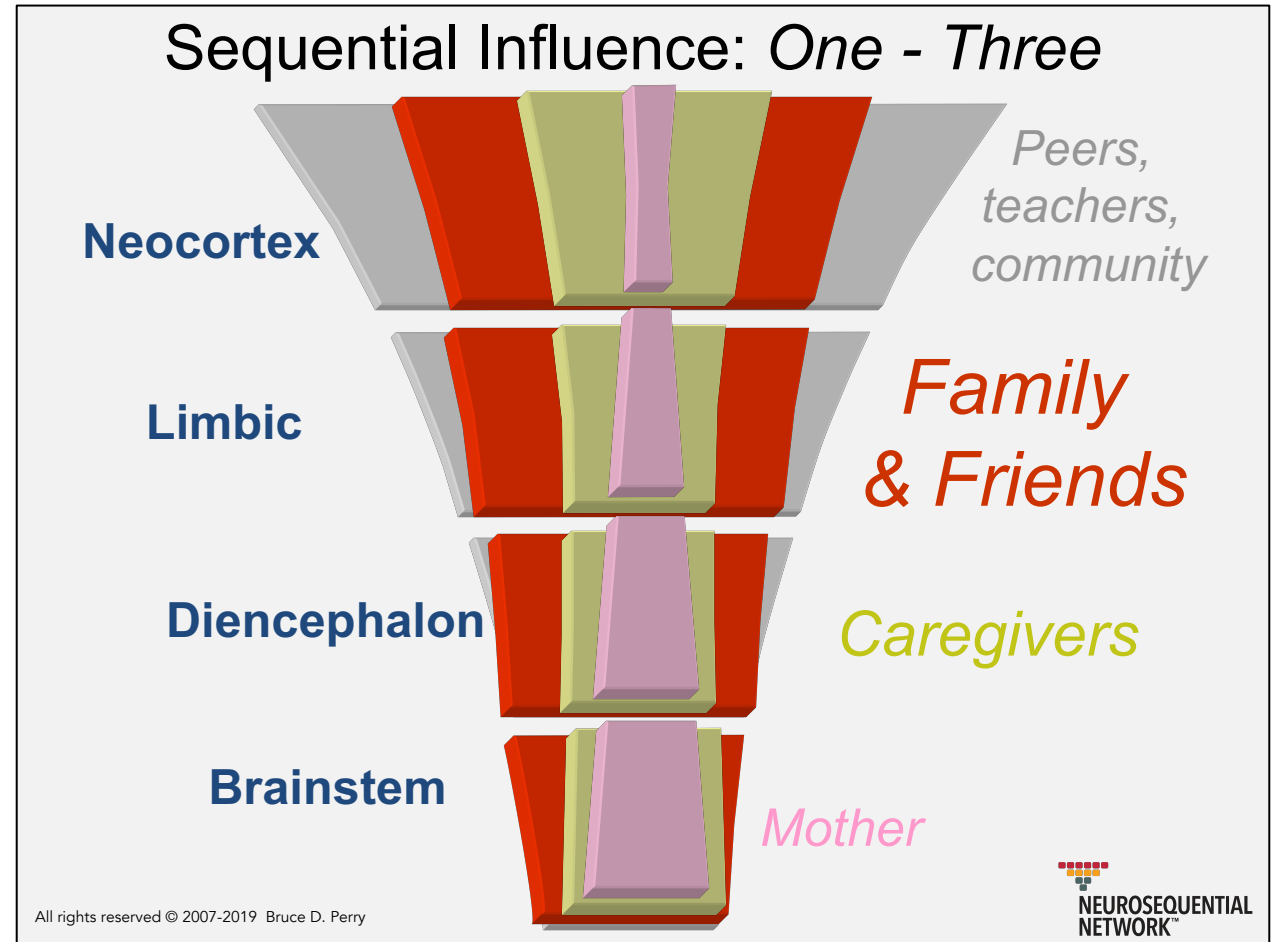
Second “critical period”

- Front loaded to first 2 months
- Builds on intrauterine development
- Erikson stage 1: Trust vs. Mistrust
 - ❖ Existential question: “Can I trust the world?”



Broader relational influence

- Builds on previous experiences
- Moving to Erikson stage 2
Autonomy vs. Shame:
 - Existential question: “Is it okay to be me?”
- Foundational experiences for attachment



Definition of Attachment

"Bonding & Attachment in Maltreated Children"

- A specialized bond:
- Enduring emotional relationship
- Brings soothing, comfort, safety, & PLEASURE
- Loss or threat of loss of relationship creates distress

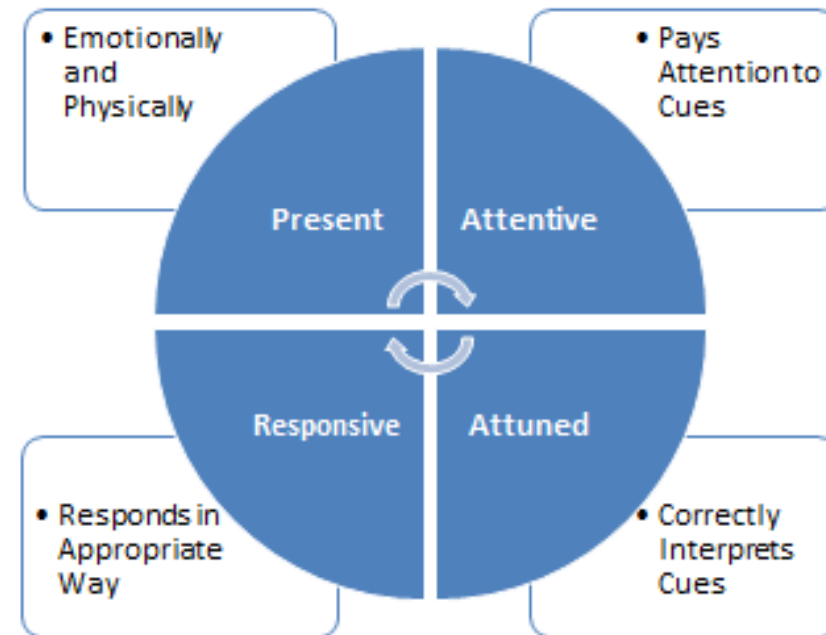
Attachment Types

- Secure
- Anxious/
- Ambivalent
- Avoidant
- Disorganized

In response to nurture (environment)

Ingredients of Secure Attachment

Characteristics of a Good Caregiver



Secure Attachment: results

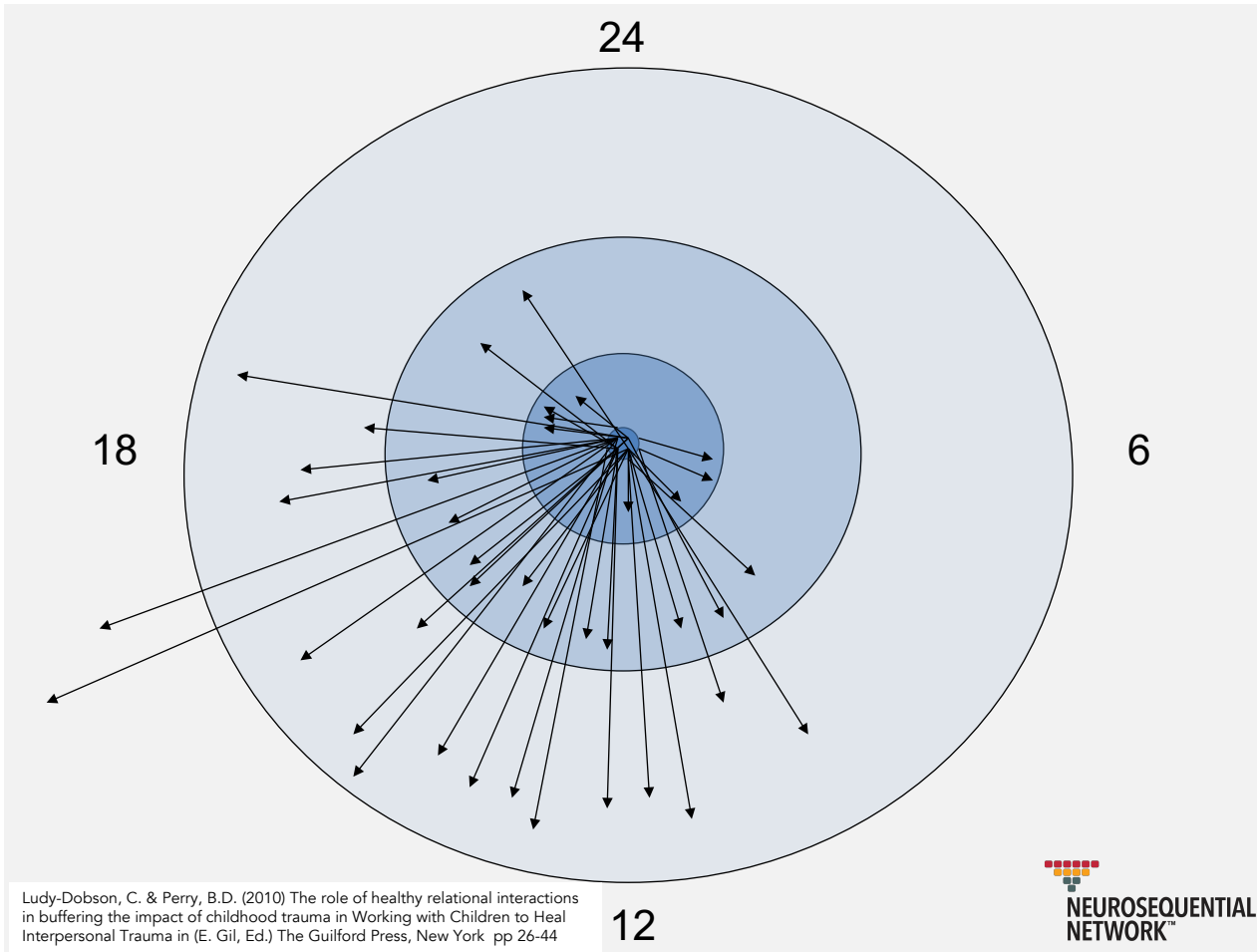
- Integrate emotions and thoughts to make decisions and determine action
- Historically felt understood which provides confidence they can make good things happen or can get help
- Have more complex emotion vocabulary—better able to say how they feel and create efficient response

Securely Attached Children

- Learn how to effectively take care of themselves due to relative predictability of environment
- Know how to get help when distressed
- Feel understood due to responsiveness of caregivers
- Feel they contribute to good things happening
- They are resilient

Positive Interactions

- Securely attached children have plenty of practice (repetition) with healthy interactions
- This practice reinforces templates
- Sets expectations about self and others



Bonding Behaviors Decrease when the Caregiver is Overwhelmed or in Distress

With increasing threat and distress, an individual's capacity to “give” to others is diminished.

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Insecure Attachment & Shrinking sphere of concern



Anxious/Ambivalent Attachment

- Rely on feeling ***without much thought given to consequences of actions*** or the meaning of their experiences
- Logical arguments can't adjust expectations
- Feel out of touch with environment
- Confused by their perceptions
- Feel intense need for social support where they repeat abusive relationships and feel misunderstood

Avoidant Attachment

- Ignore their own distress and wants
- Deal with their needs by depending excessively on logic of what they see
- Tend to present a *false positive exterior*
- Unable to be comforted by friendships or intimacy
- ***Largely unaffected by psychotherapy*** where warmth of mutual relatedness is the change agent

Disorganized Attachment

70-80% of traumatized children in foster care have a disorganized attachment pattern

Disorganized Attachment cont'd.

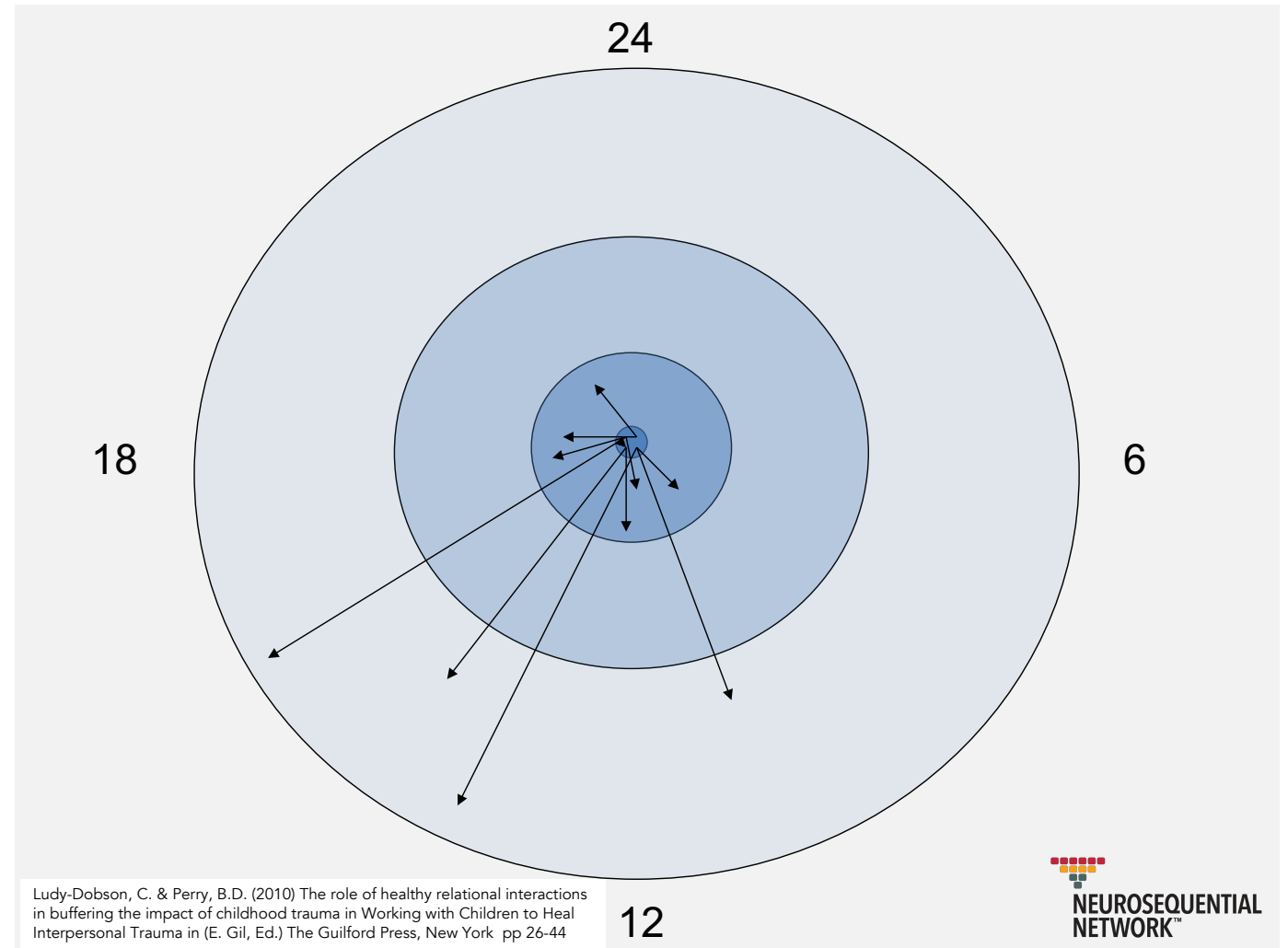
- Unmanageable stress exposure with no or ineffective caregiver modulation
- Can't regulate emotional states
- Can't rely on others to help regulate
- Respond with fight/flight
- Can't integrate incoming sensory input
- Ignore important aspects of experience

Disorganized Attachment cont'd.

- Because caregivers are very violent, inconsistent, neglectful, or intrusive, *children likely to become intolerably distressed without sense that environment can provide relief*
- Experience excessive anxiety, anger, and desires, sometimes enough to dissociate or inspire aggression
- Are hyper-aroused, scared, and spaced out
- *Their history is that their source of comfort, and their source of terror were found in the same person.*

Insecurely attached

- Have little practice with positive interactions with people
- Misread social cues
- React to distorted expectations

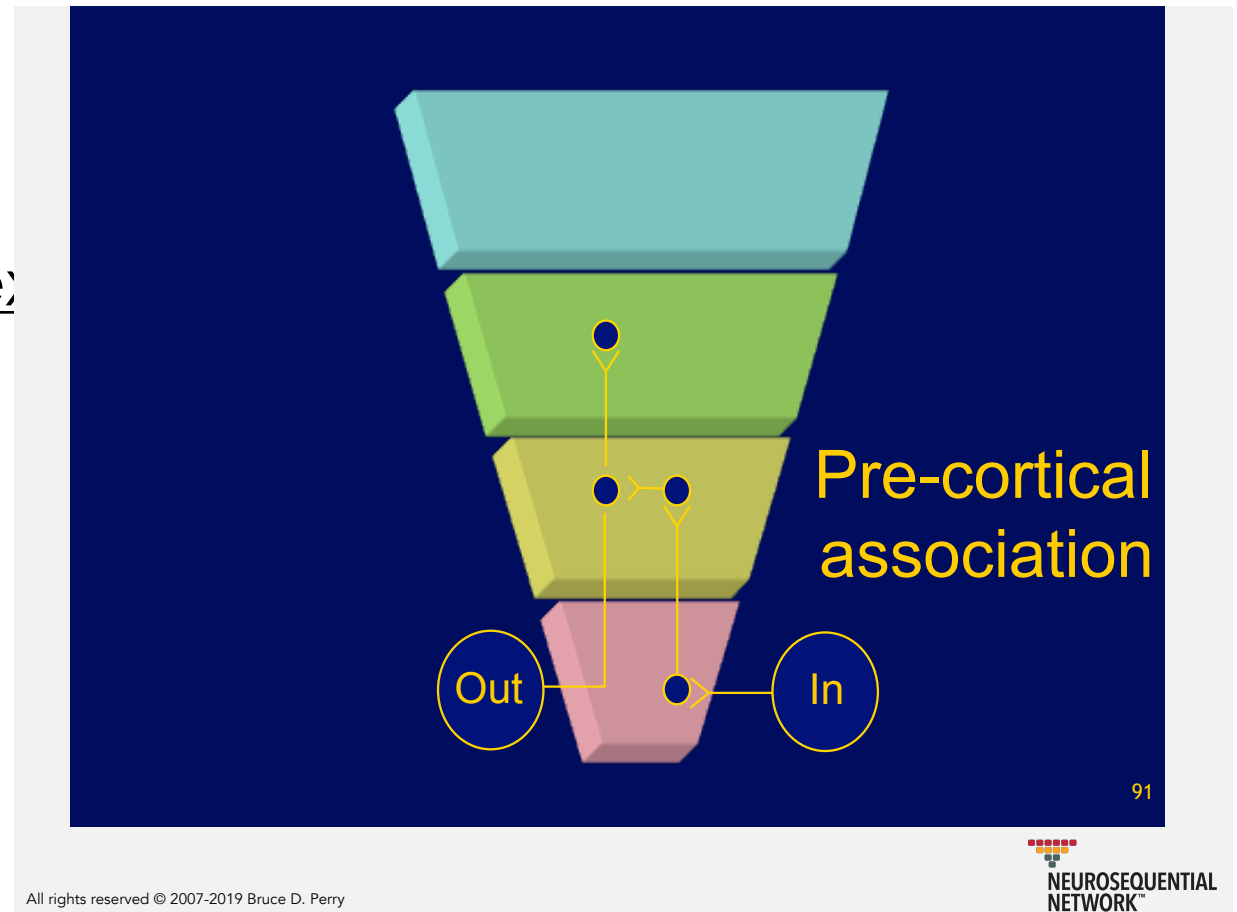


Attachment styles developed childhood are:

- Carried into adulthood
- Used to form and maintain all future relationships

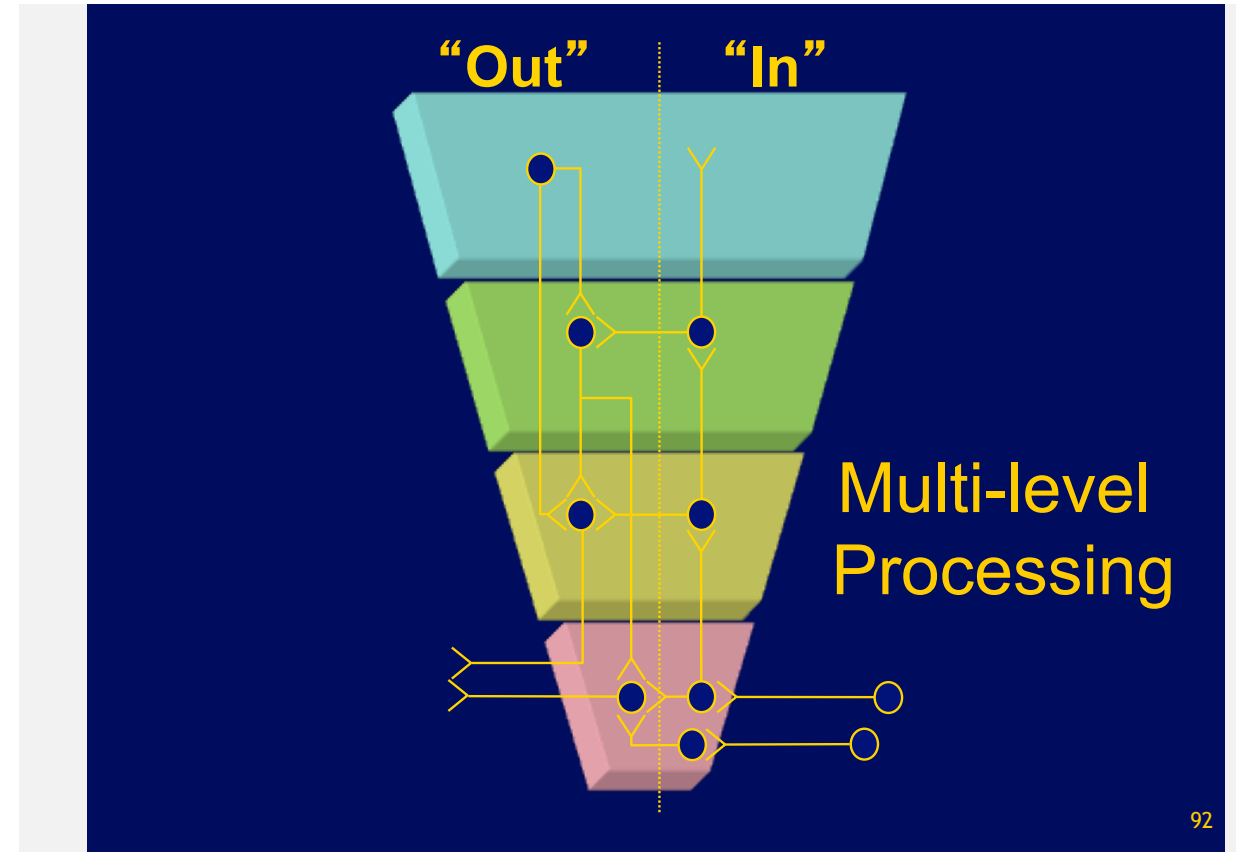
Attachment and past experience: Responding to perceived threat

- Sensory information enters and is processed low in the brain
- Perceived threats often acted on before they reach the cortex where choices are made
- Cortex shuts down before action
- Behavior is reaction more than response
- Cortex is underdeveloped due to insufficient activation



Regulated response

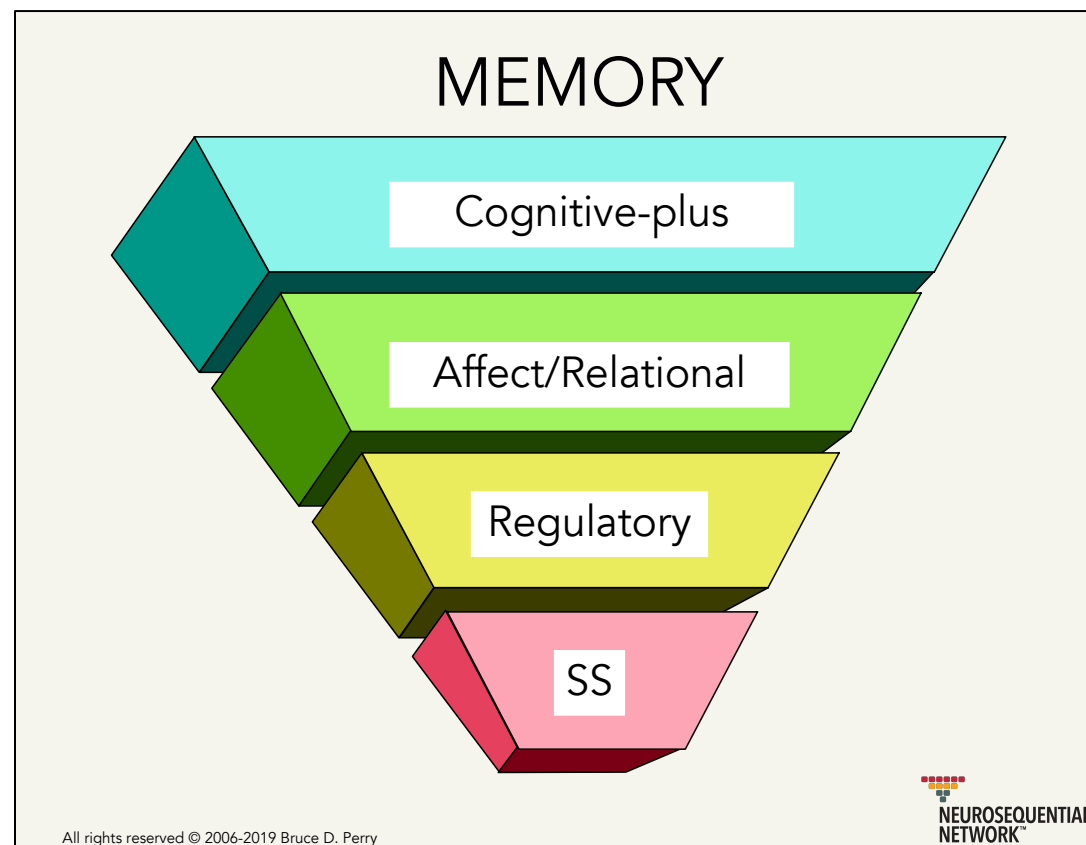
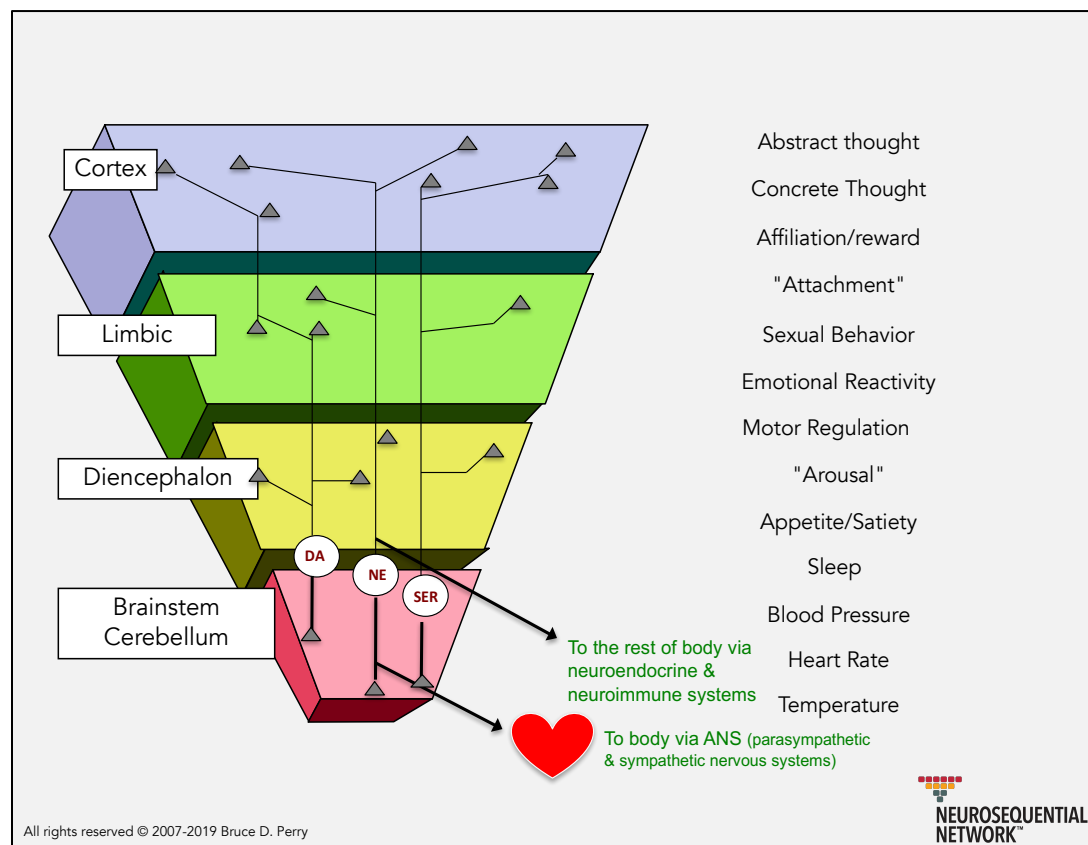
- Sensory information enters low in brain
- Stronger cortical functioning allows the cortex to help mediate the response
- Result is more response to threat than reaction to threat



Trauma...

- Is a personal and individualized experience.
- the subjective experience determines if an experience is traumatic, not just the experience itself

Brain Organization & Development: A Refresher



Association

- The brain makes associations between sensory signals co-occurring in any given moment in time
- This capacity allows humans to learn, create images of the future and survive.
- This capacity can also make humans vulnerable to false associations - creating fears of non-threatening objects.