Teen Brain & Trauma: Protection & Coaching

Presenter:

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New York

"Brain-friendly" Corrections:

- **Work in concert with the way the brain functions & develops;**
- **Are based on an under-standing of behavior chemistry and adults' roles in the development process;**
- **Prepare youth for life on the outside rather than just controlling their behavior while in residence; and**
- **Use proven development & "habilitation" strategies.**

Foundations of Brain-Friendly Corrections:

CHALLENGES: Adolescence is challenging even if you are not in a corrections setting.

• The majority of youth in corrections have little experience with **Trust**, especially with adults - - and adults in authority. They have grown up with distrust as part of their reality. **Their brains have been "trained."**

• Their brain chemistry is "stuck" in the fight/flight or appease/freeze mode, which means they are unable to form rational thoughts and to learn from experience. Some can obey "inside", but fail outside.

• Adults are responsible for teaching youth how to "un-stick" and "shift" their brain chemistry. *They cannot get un-stuck or shift on their own.*

• **The vast majority have no one to teach them the skills to "unstick" and "shift" their brain chemistry so they can change behaviors.**

• **Most require coaching and constant practice to learn new behavior skills.**

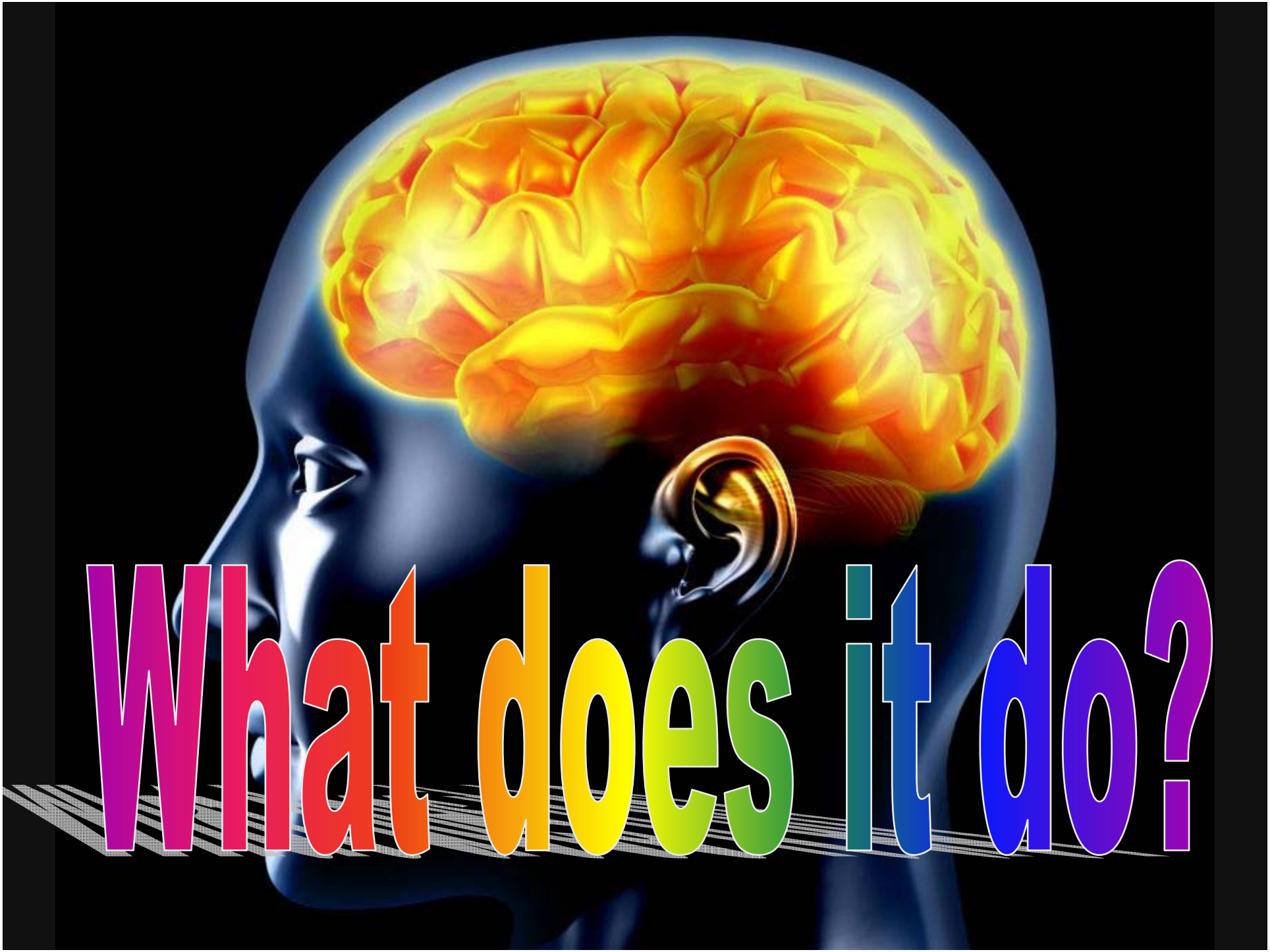
Foundations of Brain-Friendly Corrections:

GOOD NEWS!

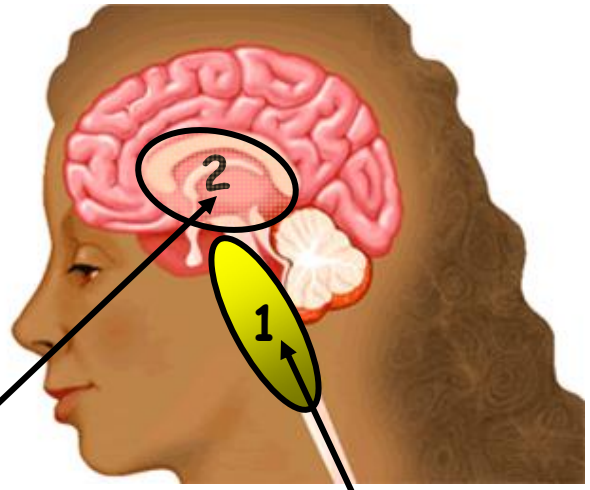
The "Development Door" is still open - - timing is on our side! The teen brain experiences a major peak of neural plasticity - - allowing neurons to be reshaped (literally) & neural connections to be rewired.

Note: Development = Learning! If they can learn to use a cell phone, they can learn to use self-control & will power!

A combination of trust, coaching, practice & support un-sticks & shifts brain chemistry and makes learning & positive youth development possible!


What does it do?

5 Key Functions



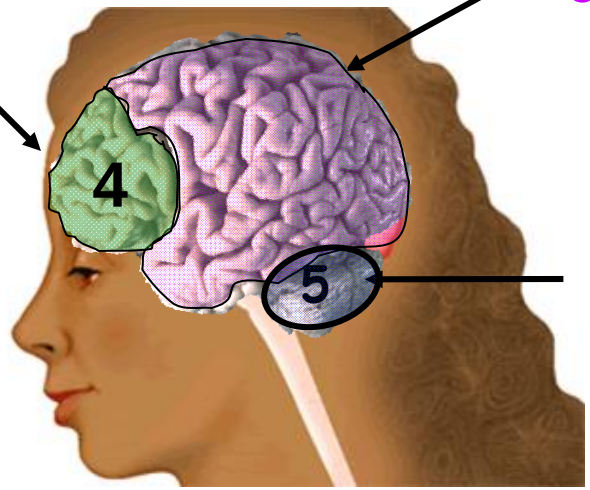
2. Survival

1. Life

5 Key Functions

4. Thinking & Controlling

3. Doing



5. Coordinating

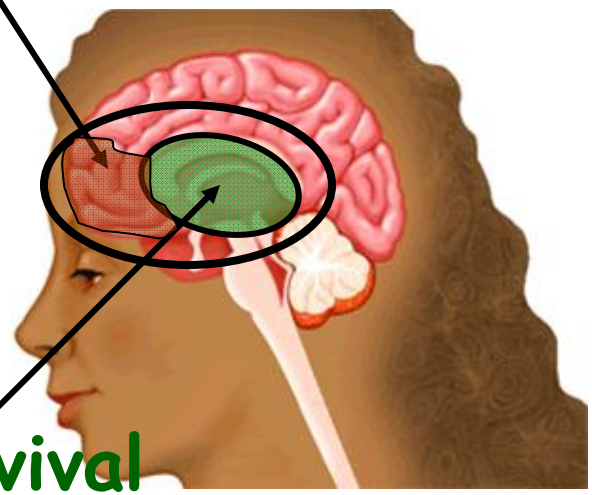
Being Alive; Staying Alive; Knowing You're Alive; Doing Things - and – it's all happening at the same time!


Where is Behavior located?

2 "Behavior" Centers

Thinking & Controlling

(Paying Attention, Controlling Emotions, Working Memory, Manual Override)



Survival

(Getting Attention, Feeling Emotions, Long Term Memory, Motivation, Drives, Instincts, Immune System, Hormones & Other Regulators)

Conscious

Working Selectively

(Thinking, Reasoning & Self-Control)

Rational Responses

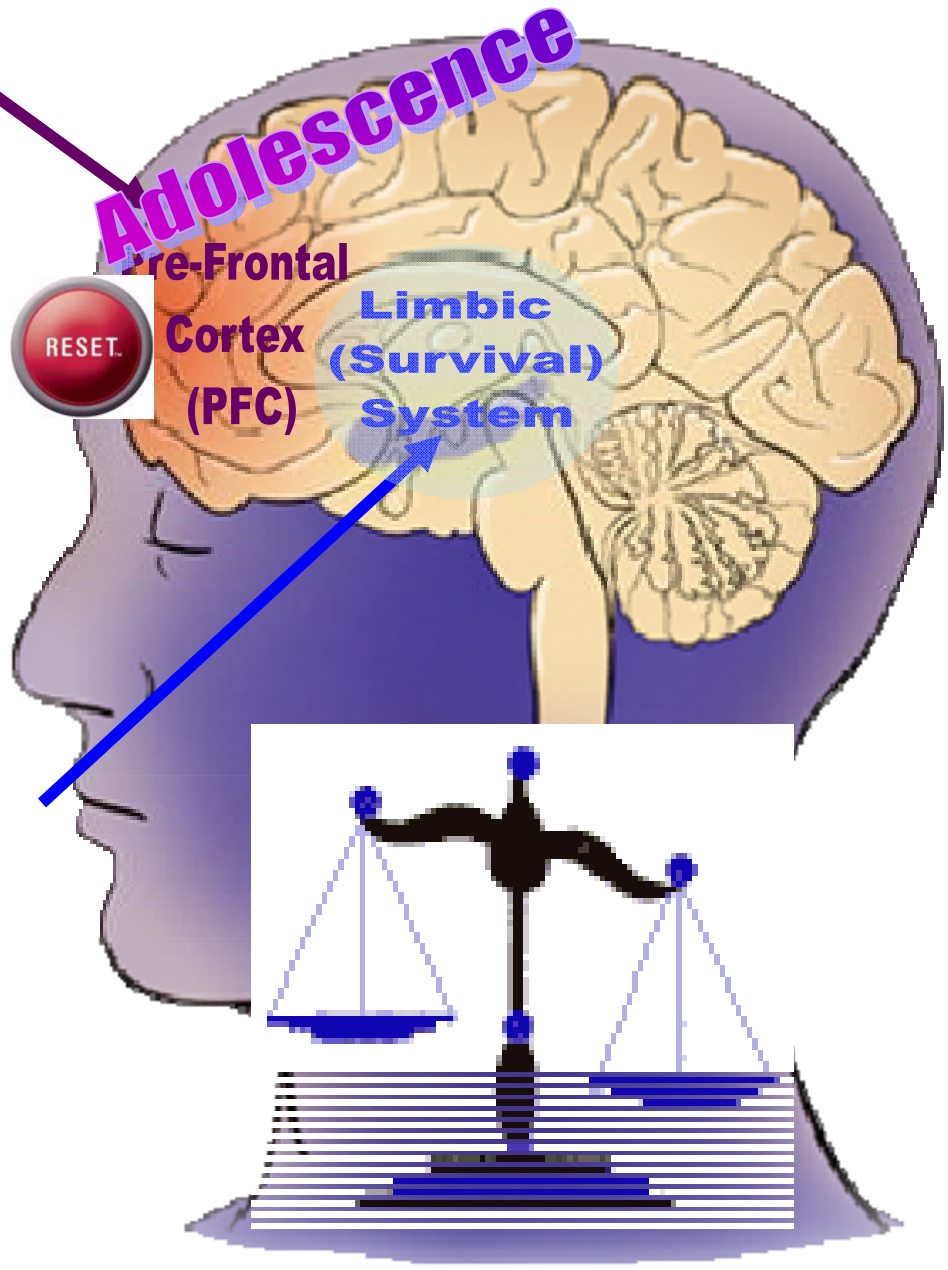
"Executive Functions"

Subconscious

Working Continuously

(Emotions, Instincts & Drives)

Automatic Responses

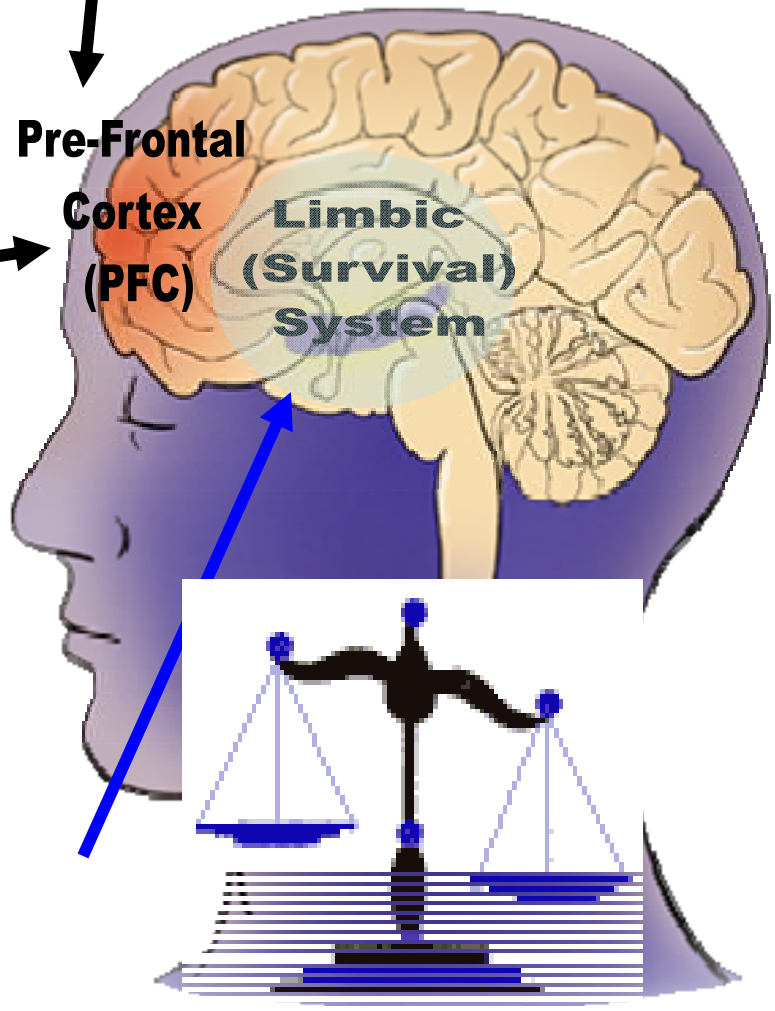


Guide, Slow, Stop

Steering Wheel

& Brake

Thinking & Controlling



Go!

Gas Pedal

& Transmission

Survival

Williams, 2000.

By the way...

Thinking & Controlling

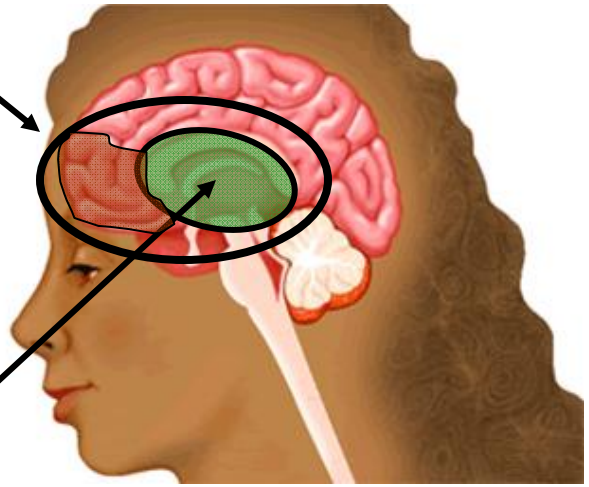
√ Learning

√ Development

√ Mental Health

√ BEHAVIOR

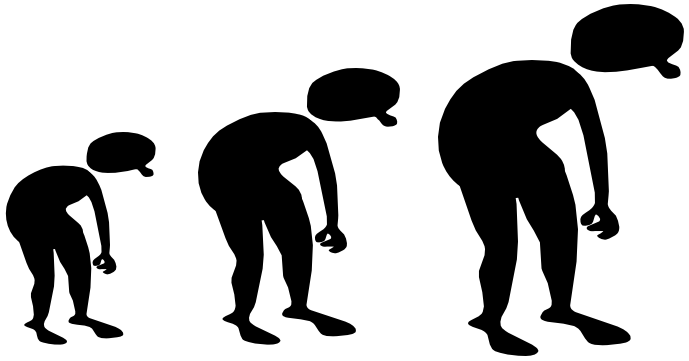
Behavioral Health



Survival


Development

Growth **is change in physical size and weight.**



Can you get BIGGER without getting Better?

Development **is change in capacities and abilities!**

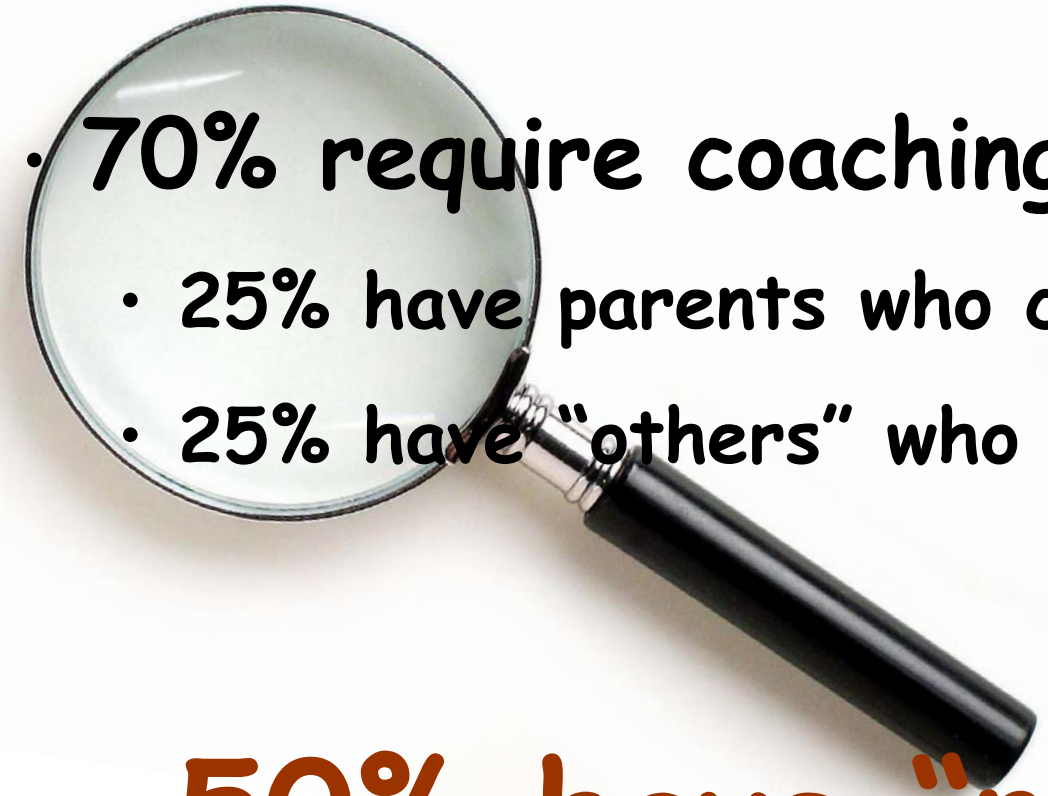
Can you get BETTER without getting Bigger?

Getting BIGGER

LEARNING NEW!!!

Getting Better!!!

- 30% of people learn/develop by observation & feedback - - & most of these learn/develop without a lot of additional coaching/support.



- 70% require coaching & support
  - 25% have parents who coach/reinforce
  - 25% have "others" who coach/reinforce
- 50% have "no one"

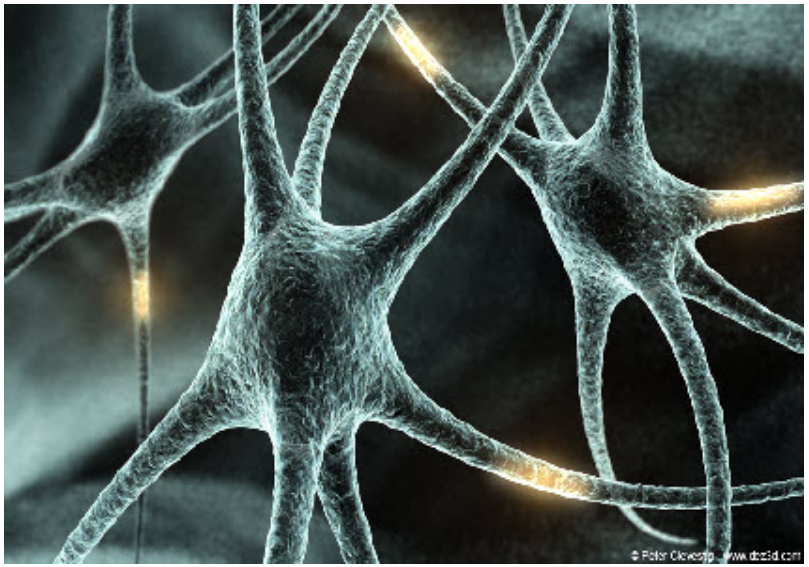
"Development" is the BUILDING period.

Once you have built it,
you can maintain it,
improve it,
remodel it.

Human Development =

DNA + Neurons + Experience

Architect & Contractor



- Environment
- Conditions
- Interactions
- Security
- Protection
- Trust

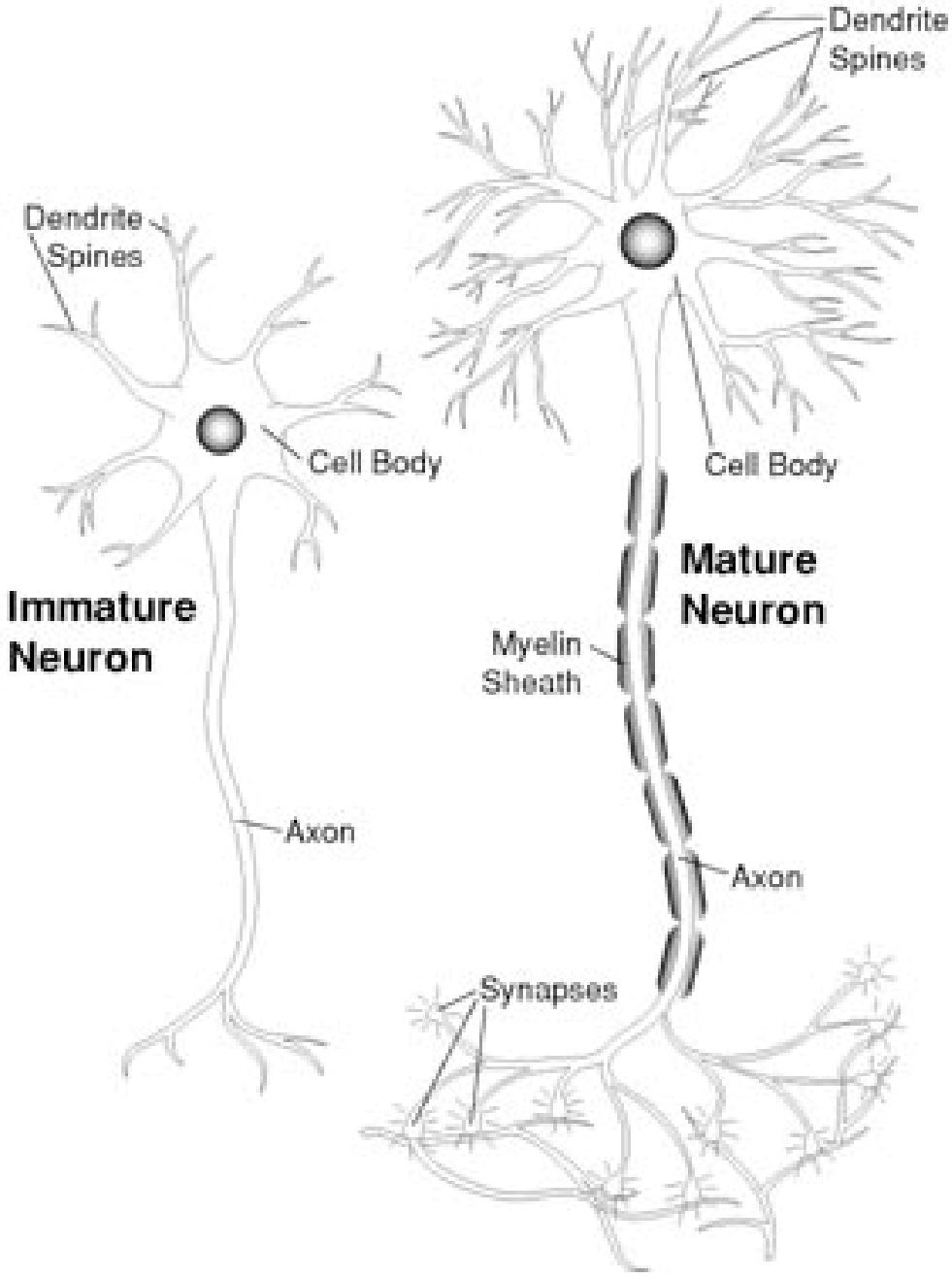
Maslow's

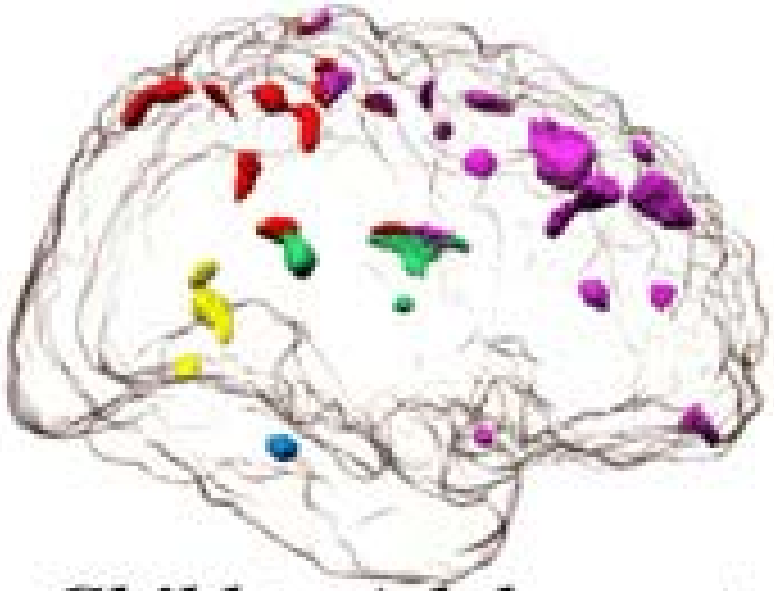
Materials/Equipment

Builder

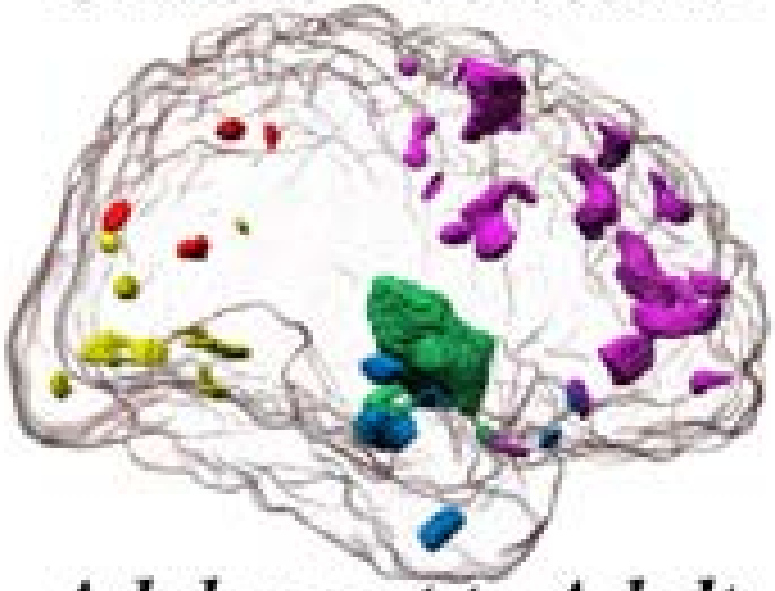
Building a Person

Experience
"encodes", "wires",
"programs", "changes the
structure of"
our neurons!





Child to Adolescent



Adolescent to Adult

Different parts

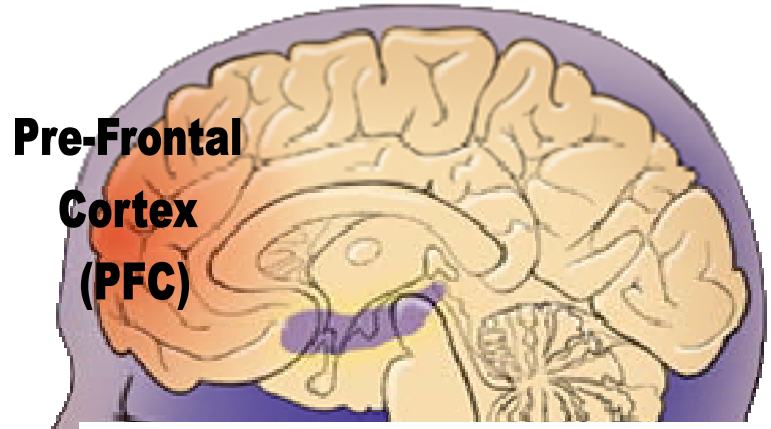
are built

programmed

different times

Adolescents are SUPPOSED to add "Executive Functions" to:

- Use Will Power
- Control Emotions
- Control Behavior
- Delay Gratification
- Predict Consequences
- Learn from experience
- Protect Friends & Loved Ones
- Assume responsibilities as "Own Parent"
- "Switch" from Limbic to PFC on their own

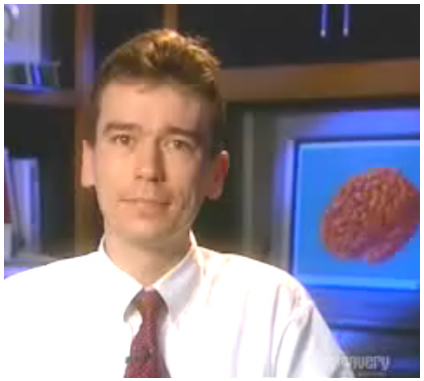


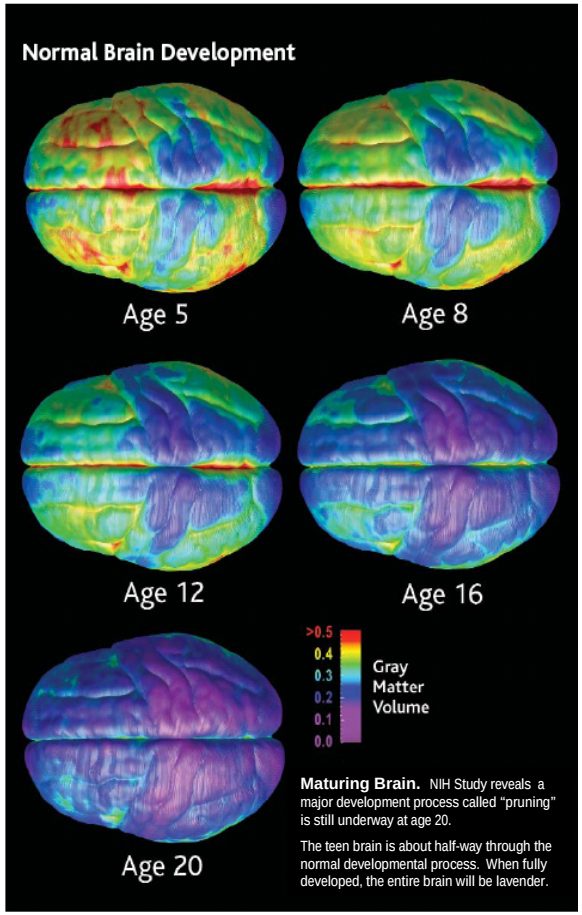
All of these require the PRE-FRONTAL CORTEX to be active; none are automatic; all are learned.

<u>NOTE: MATURITY is doing these things WITHOUT US!</u>


How do we know?

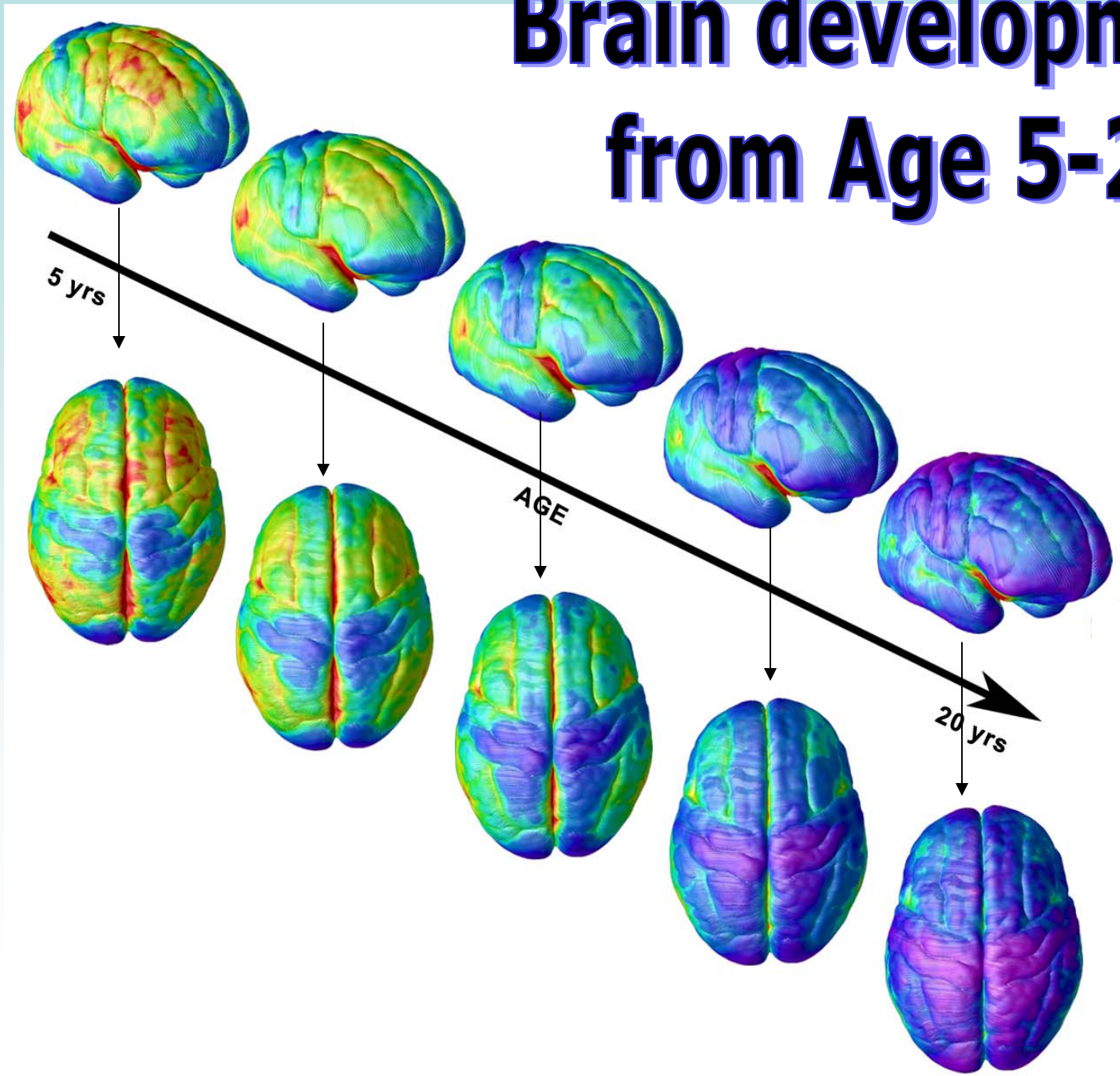
2004

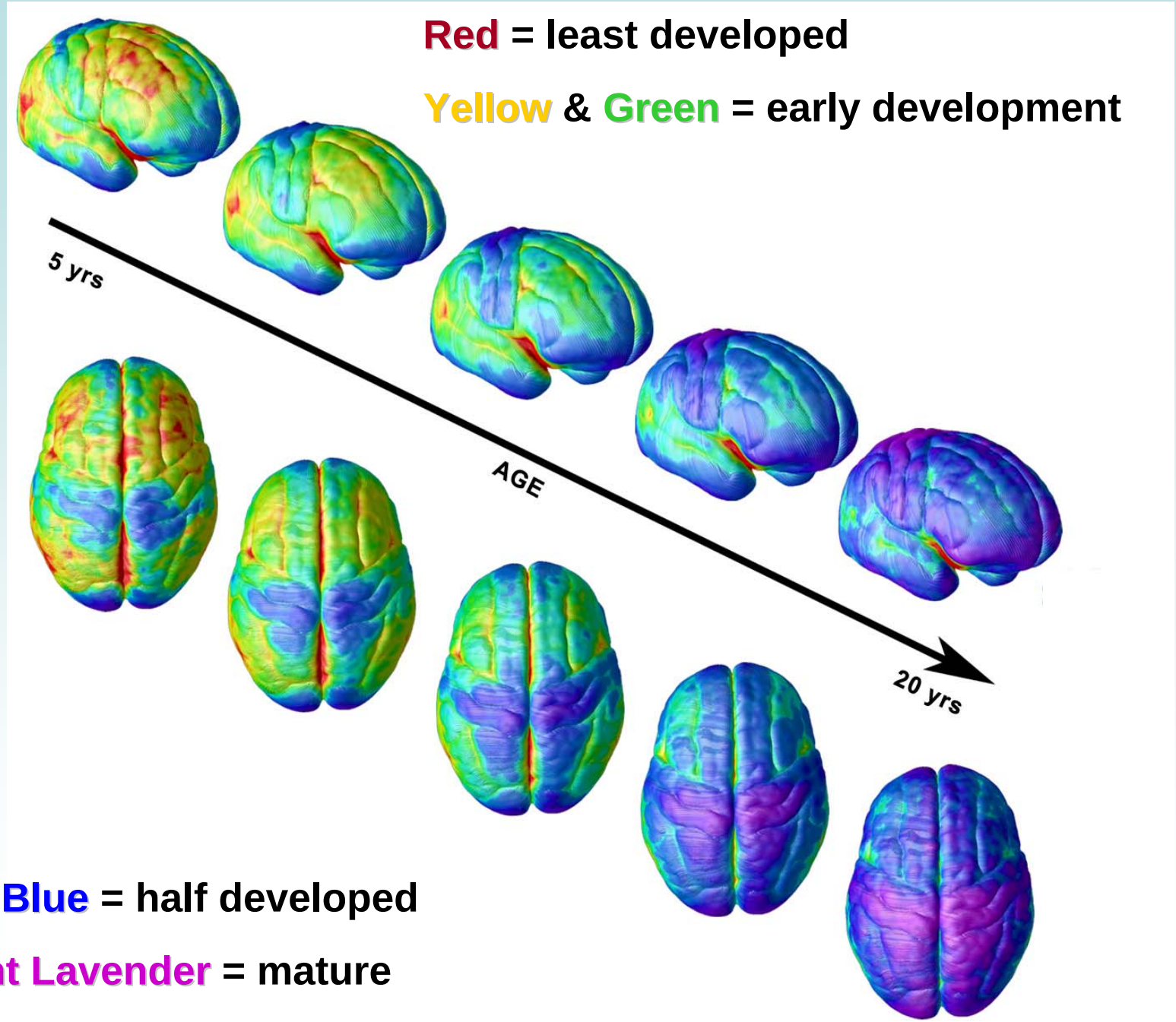




1st composite scans of the healthy human brain as it develops from Age 5 to 20

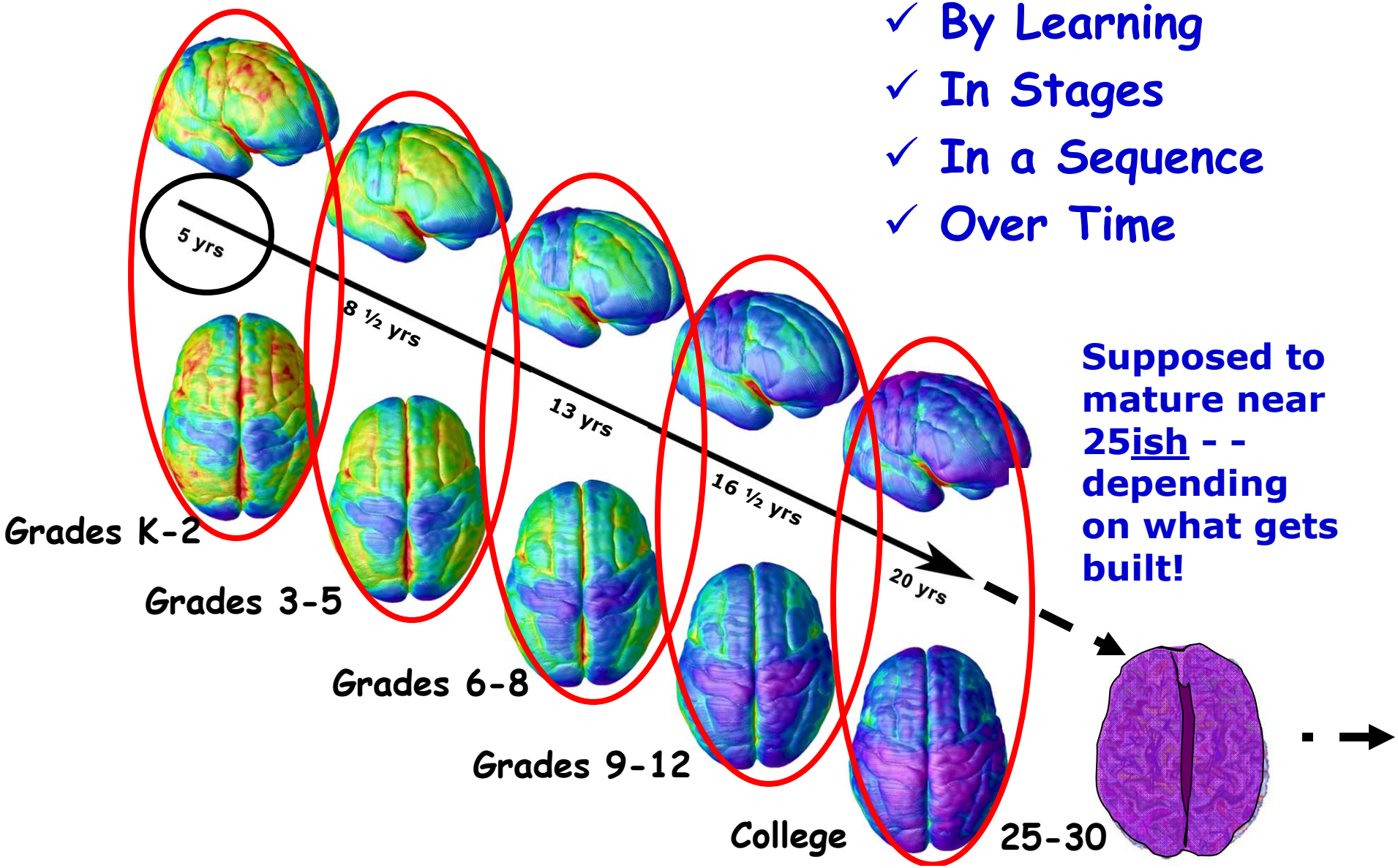
Brain development from Age 5-20




Red = least developed
Yellow & Green = early development
5 yrs
AGE
20 yrs
Dark Blue = half developed
Bright Lavender = mature

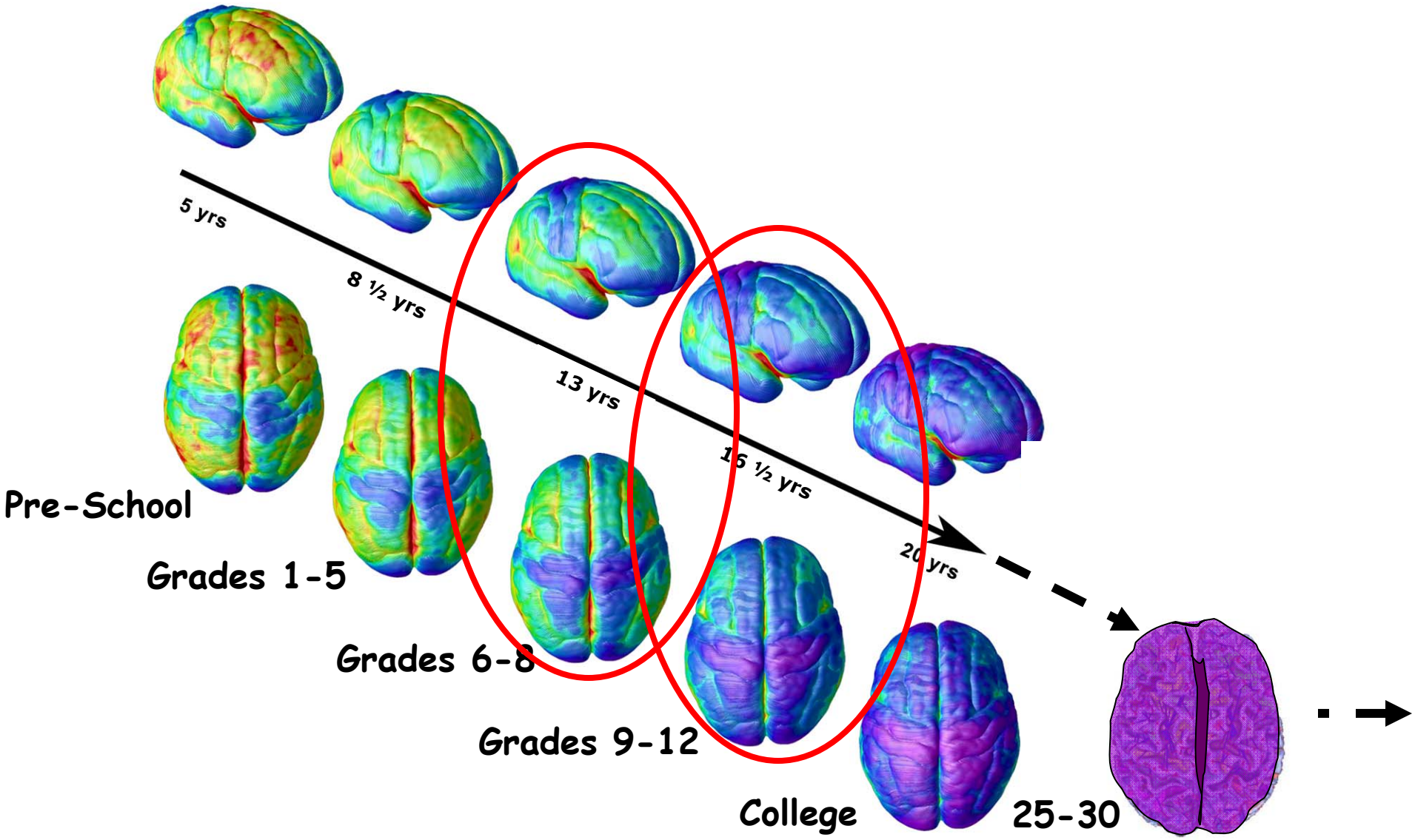
Our Brain Develops:

- ✓ By Learning
- ✓ In Stages
- ✓ In a Sequence
- ✓ Over Time



Supposed to mature near 25ish - - depending on what gets built!

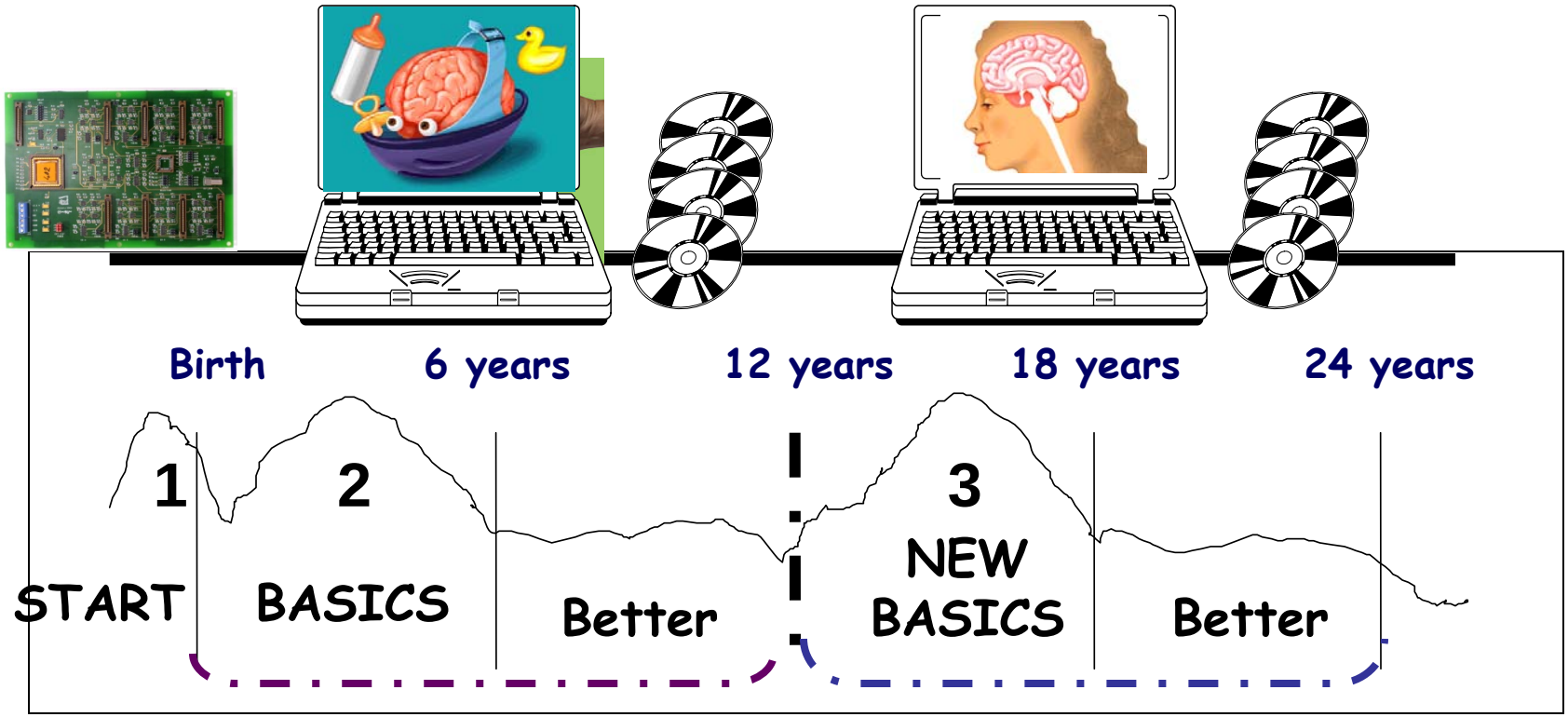
How far along are they?



The 3 Critical Opportunities

Peaks of Brain Plasticity

(3 Periods when our Brain is EASIEST to CHANGE
and MOST READY for DEVELOPMENT)



Pre-Occupied With:

- Here & Now
- Appearance
- Acceptance

Taken Over By:

- Sex Drives
- Risk Drives
- Freedom Drives
- Exploration Drives
- Privacy (Autonomy) Drives

It's NOT Just Hormones

Starting Out

Learning to Control Body & Behavior

IMPATIENT = only 3 years until they have to be *on their own all day with strangers in SCHOOL.*

2-3 Yrs

Peak of birth to 6

- **Rebellious**
- **Willful**
- **Self-Centered**
- **Mood Swings**
- **Can't delay gratification**

14-15 yrs

Peak of 12 to 18

- **Rebellious**
- **Willful**
- **Self-Centered**
- **Mood Swings**
- **Can't delay gratification**

Starting Over

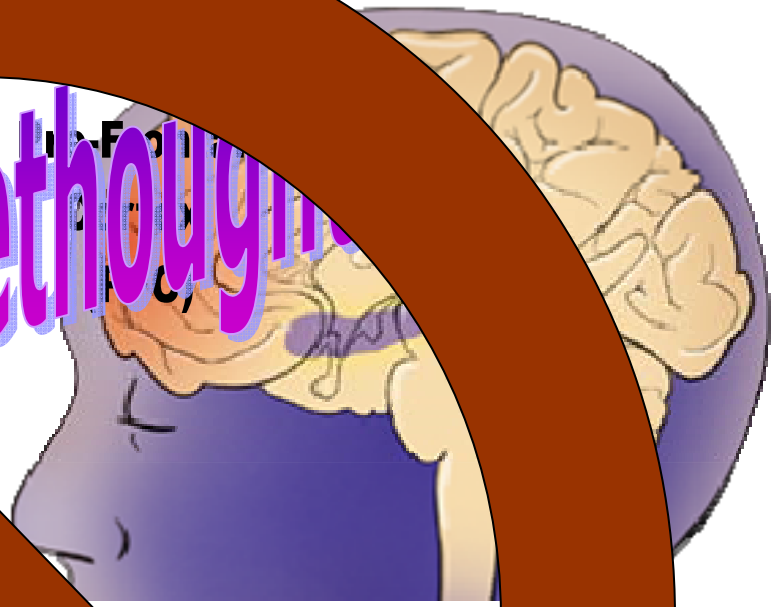
"Learning to Control Urges & Surges"

IMPATIENT = only 3 years until teens have to *be on their own legally and are responsible for all their own actions*.

The 3 Critical

Adolescents are SL

add "Executi ons" to:



- Use Will
- Control ions
- Contro avior
- Delay fication
- Predic equences
- Learn f xperience
- Protect F & Loved Ones
- Assume resp ies as "Own Par
- "Switch" from S g on their own

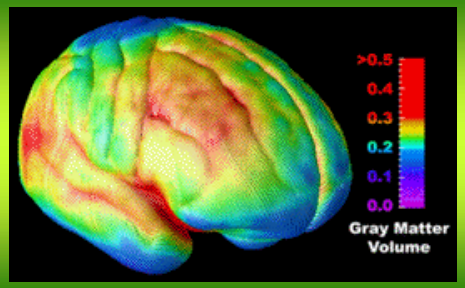
of these requ he
FRONTAL C EX
ctive; m re
tic;

They have trouble…

Cause & Effect?

They are starting over!

…putting the pieces together!



The BUSIER the Brain – The HIGHER the Risk

Group 1

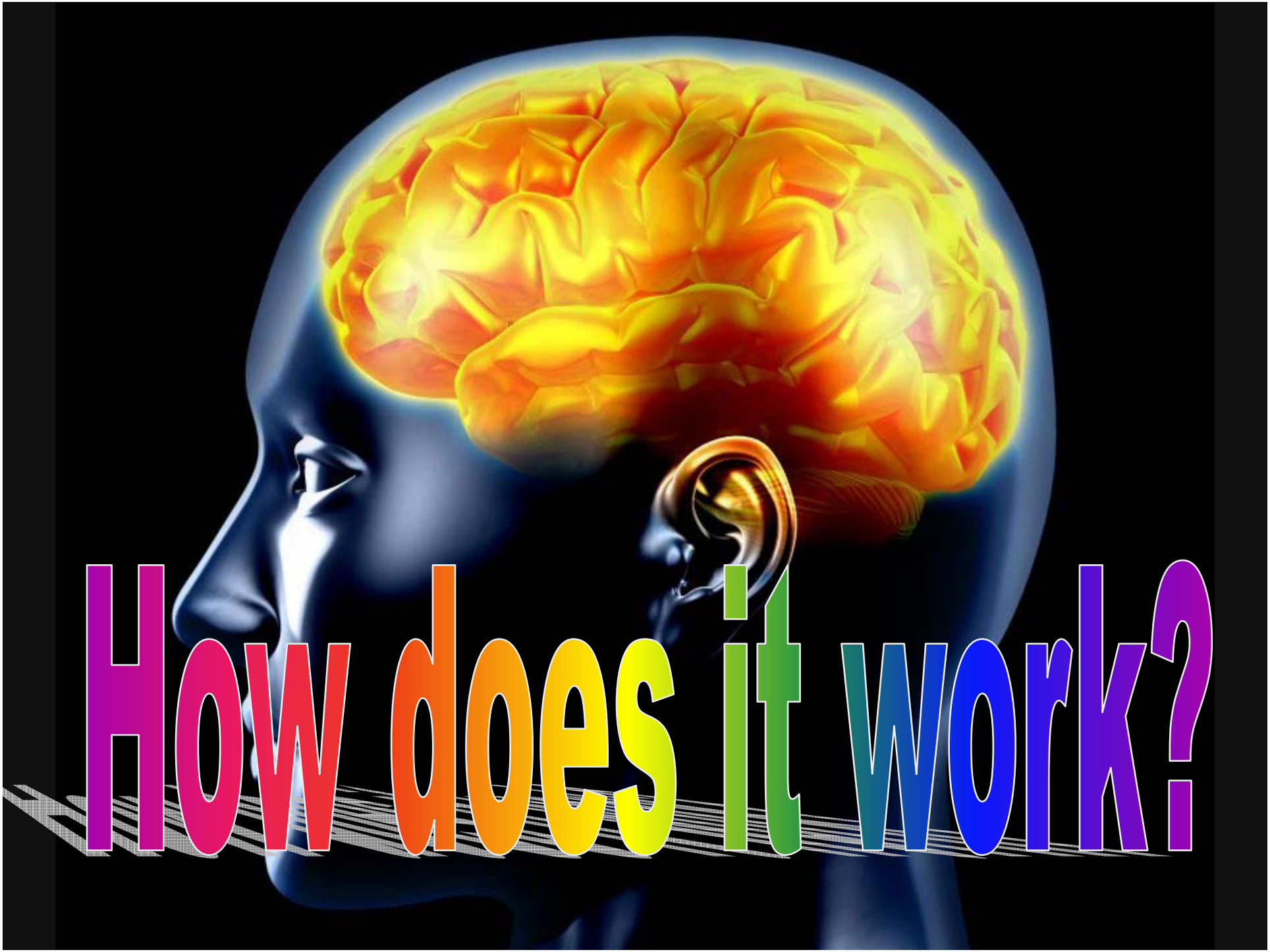
Really Fast

Group 2

In Surges

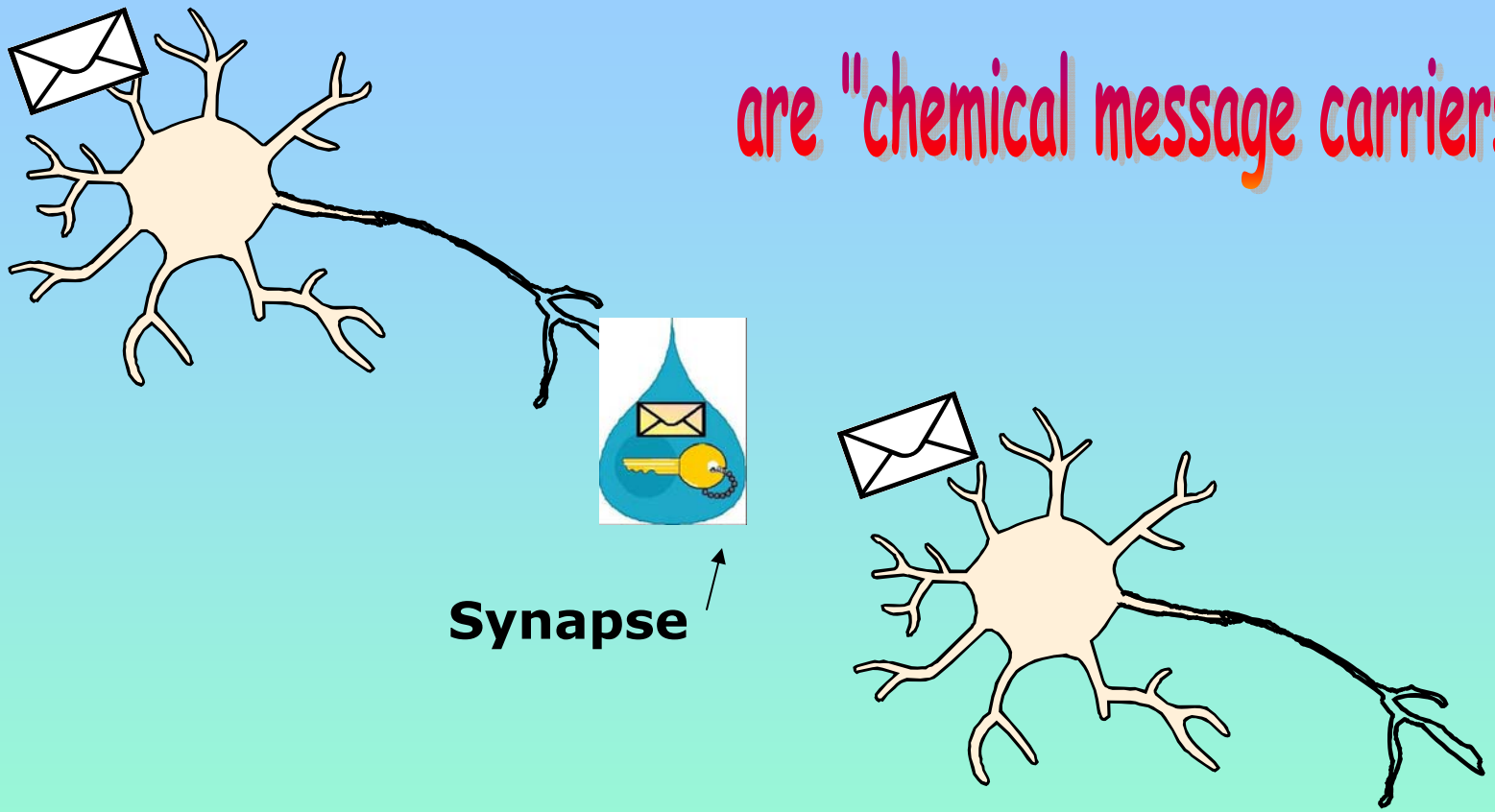
Group 3

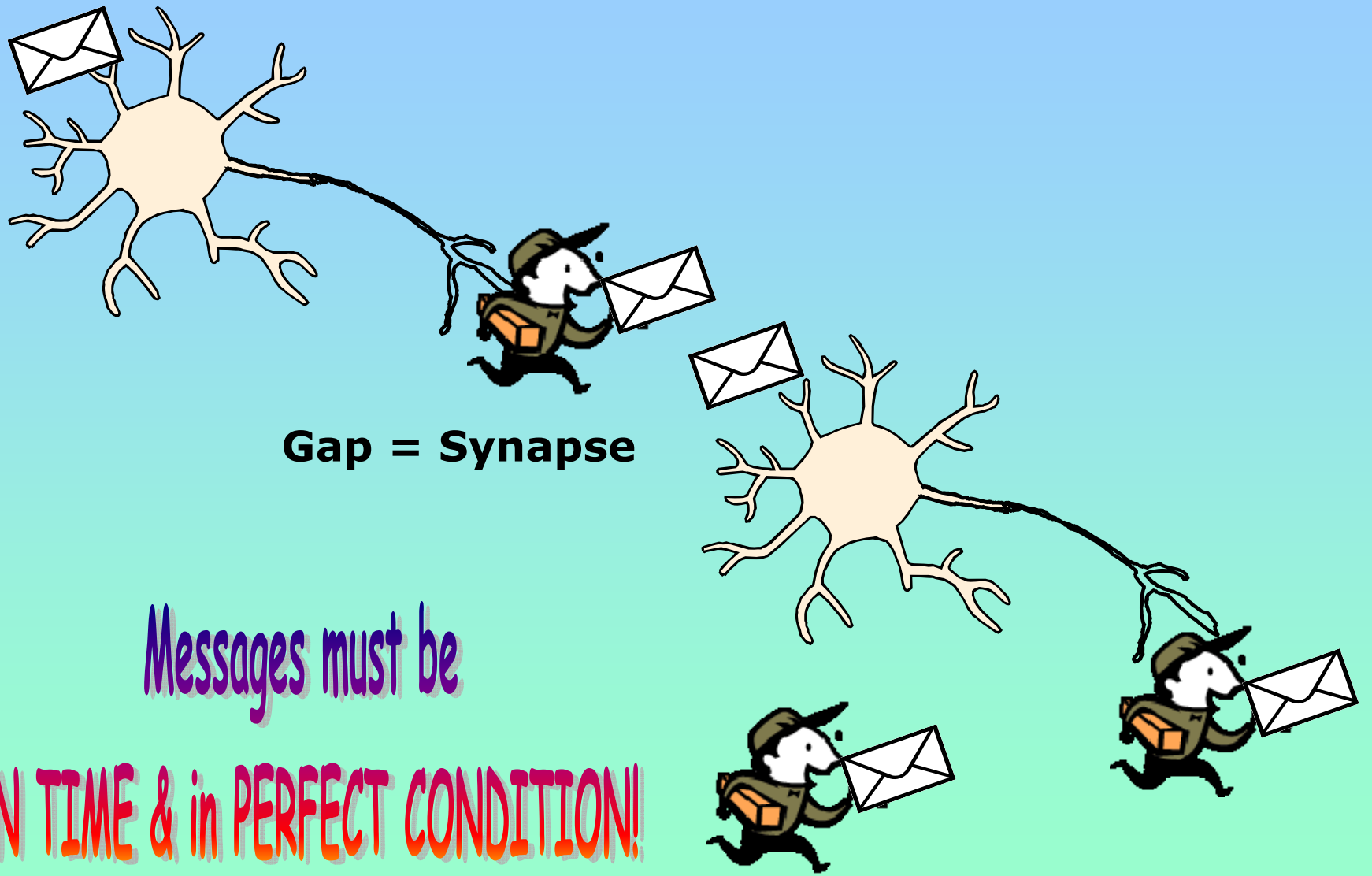
S l o w l y


How does it work?

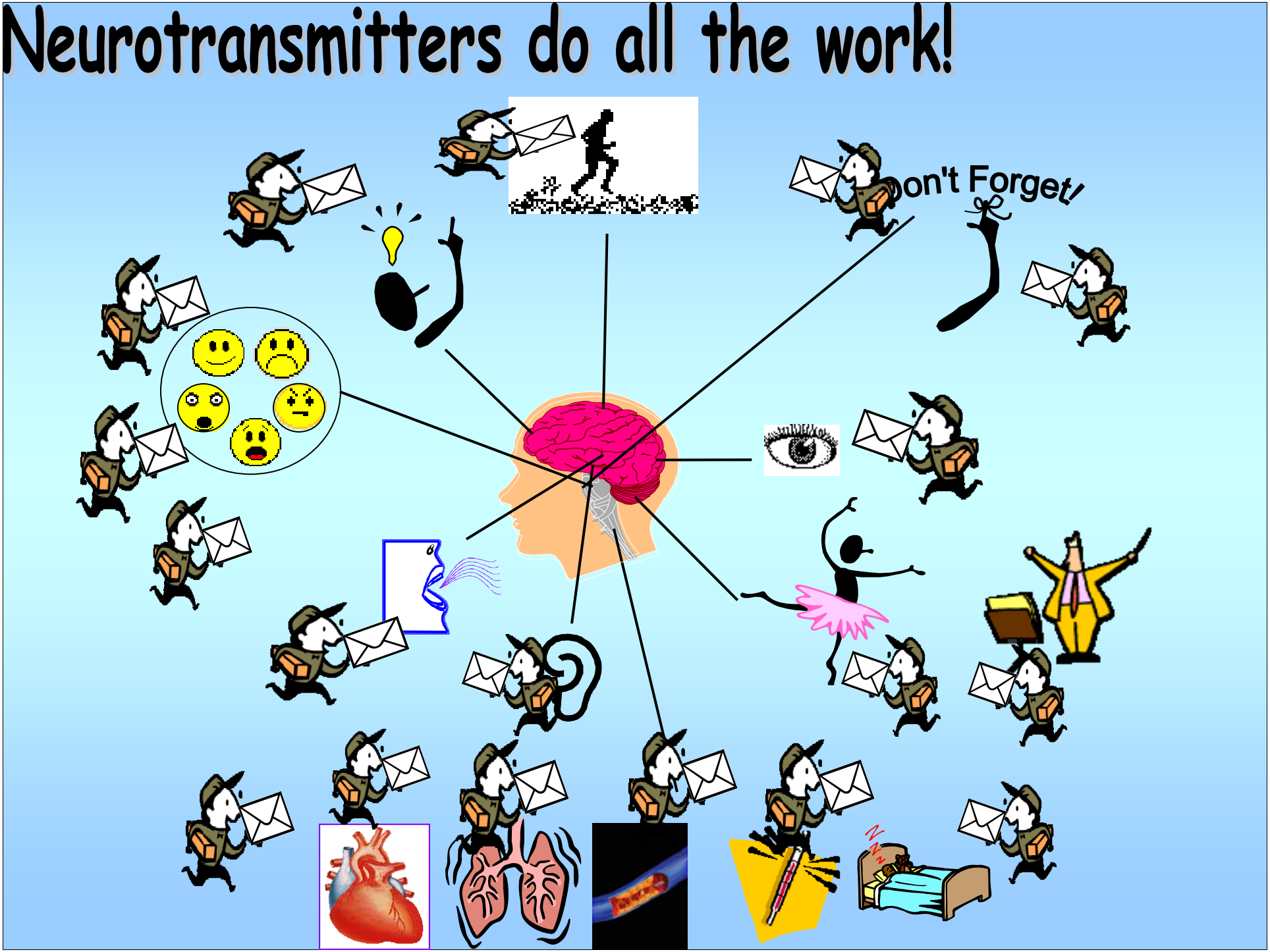
Neuro-transmitters

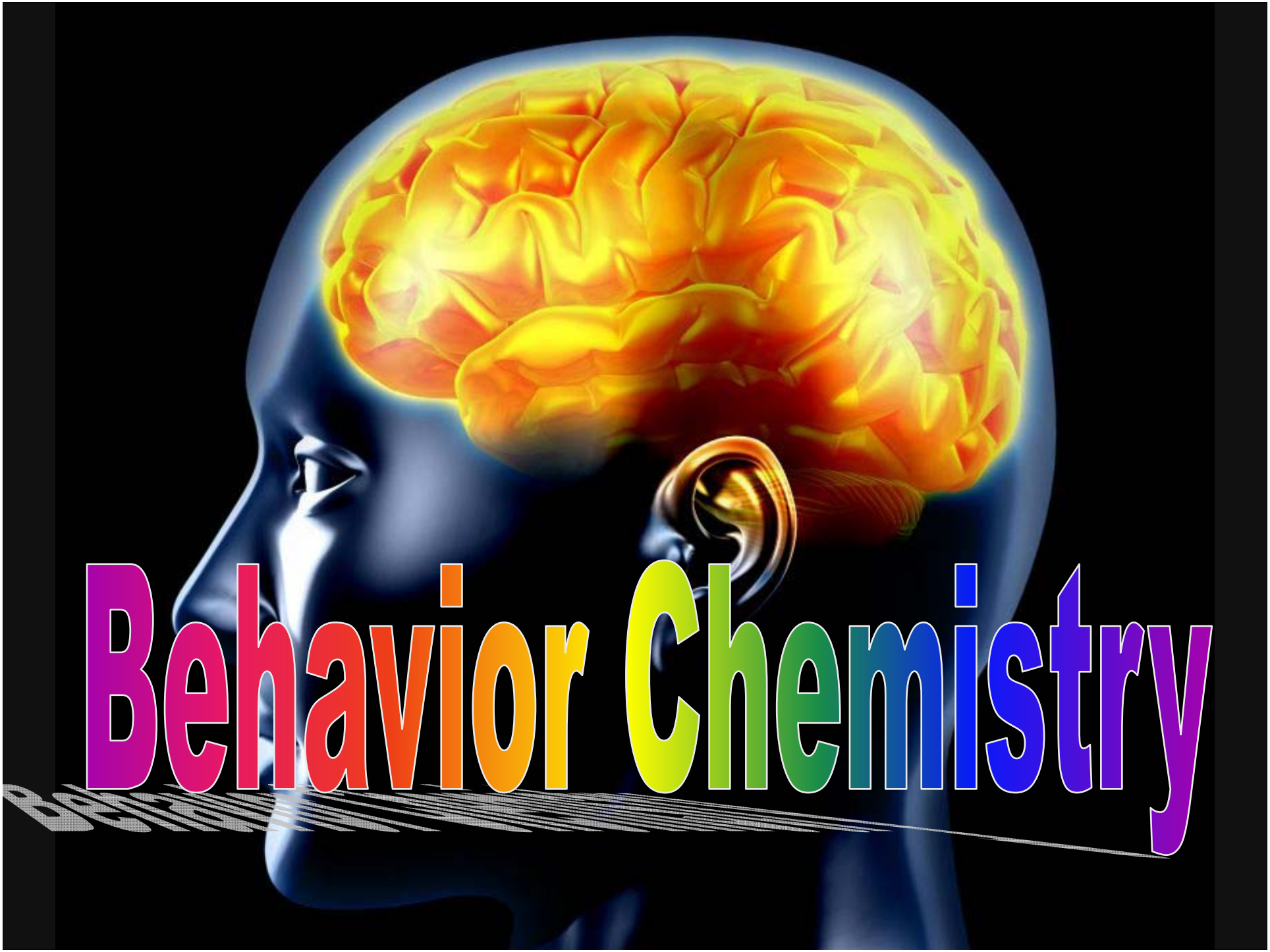
are "chemical message carriers."

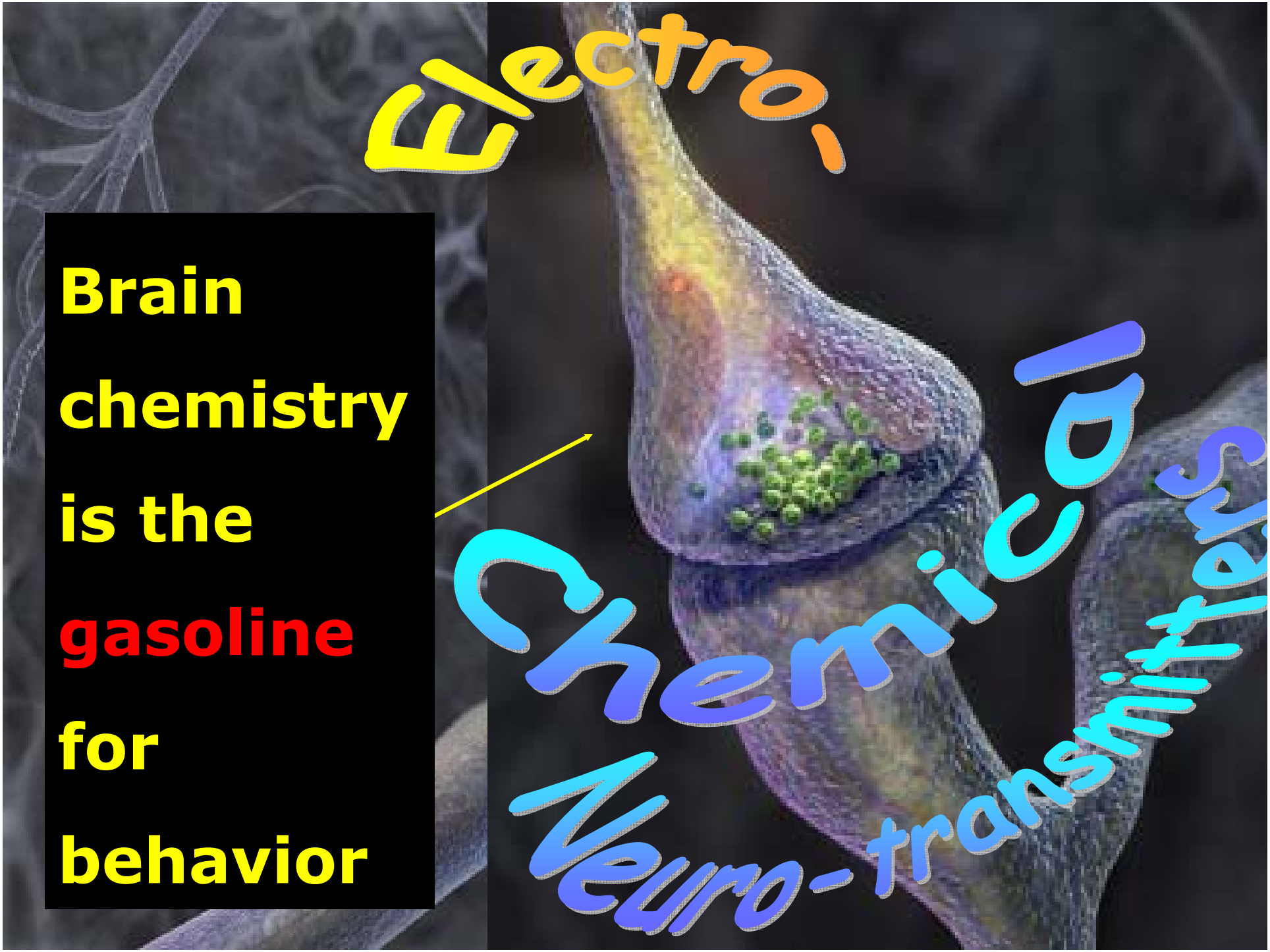



Gap = Synapse
Messages must be
ON TIME & in PERFECT CONDITION!

Neurotransmitters do all the work!




Behavior Chemistry


Brain chemistry is the gasoline for behavior
Electro-
Chemical
Neuro-transmitters

Our "Learning, Development & Behavior Chemistry"

Neuro-transmitters

Sara

Serotonin

Restful Alertness

"Rest & Digest"

Thinking, learning judgment, etc.

Proper amounts feel calming; too little feels depressed

Dopamine

"Pain/Pleasure"

"Cements" learning/creates motivation. Feels good; attracted to *anything* that increases dopamine

Nora

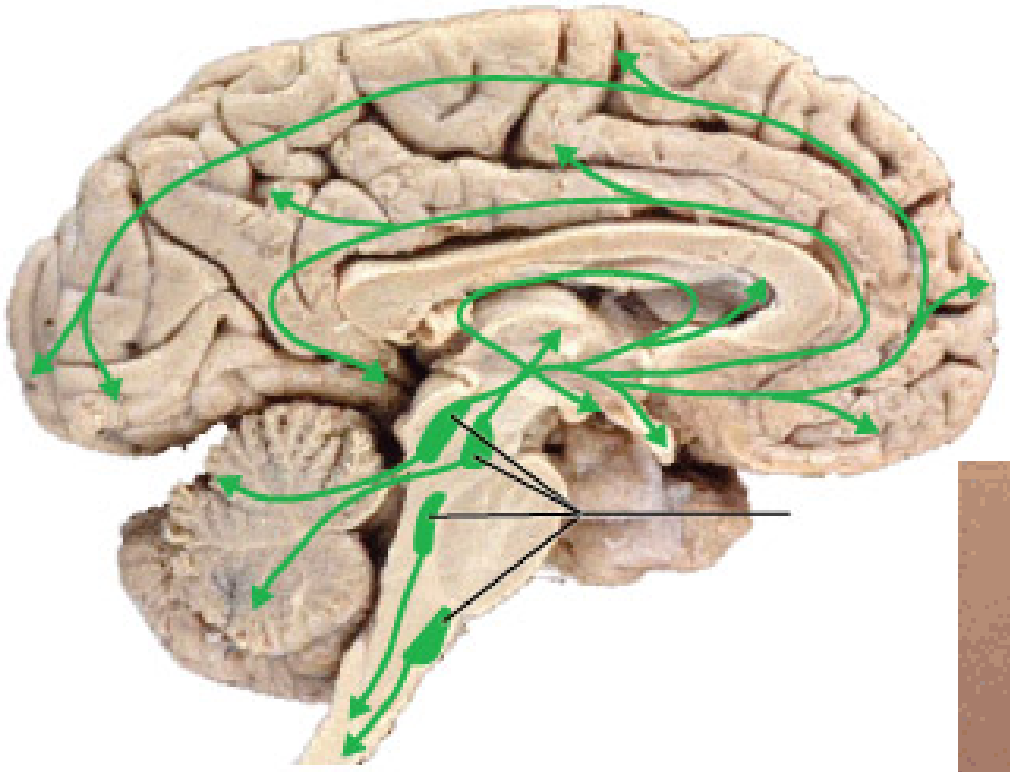
Norepinephrine

"Fight/Flight"

Attention!

An energizer;

too much creates anxiety, aggression/mania



Sara

Pathways

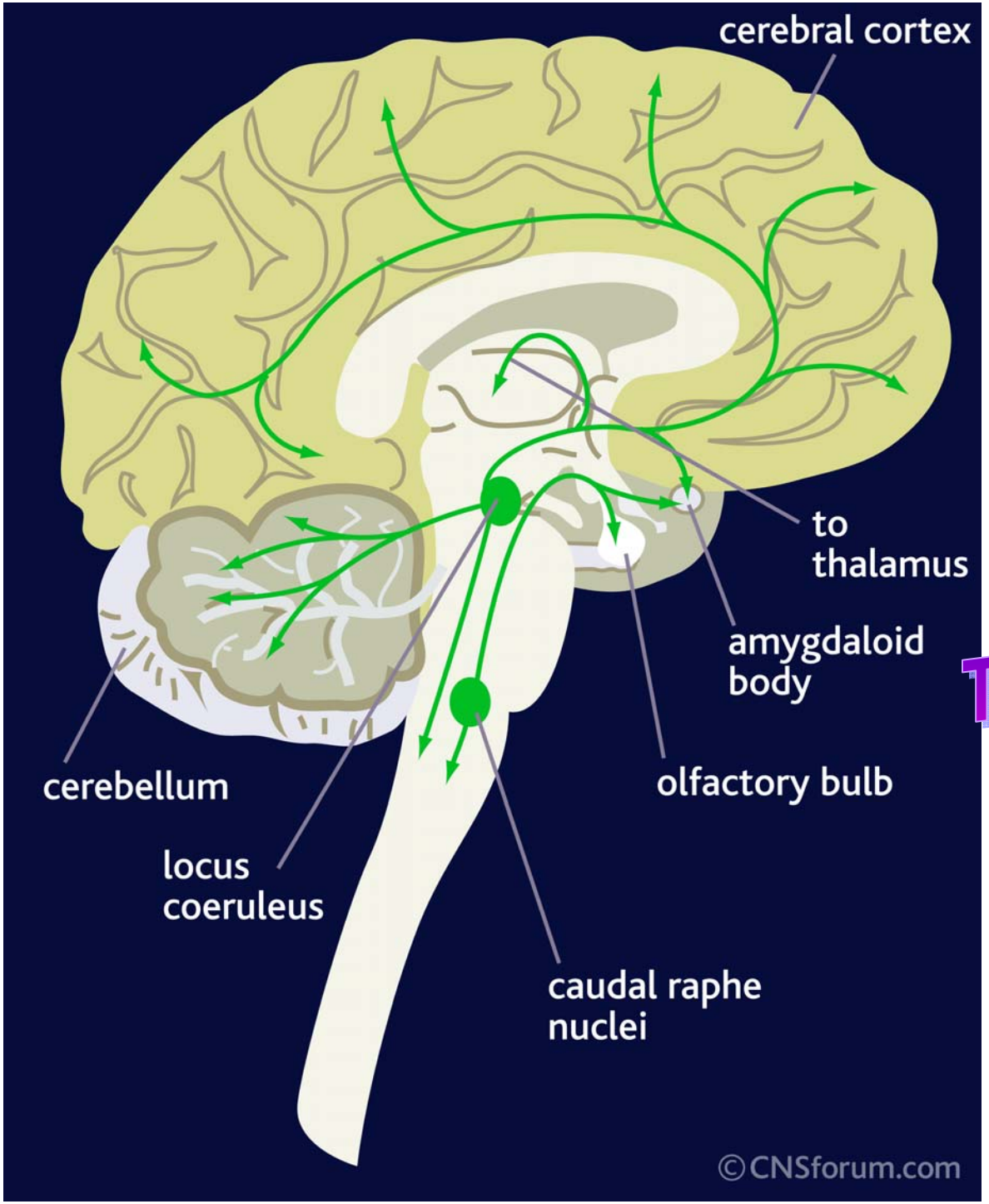
in the Brain

Sara is our

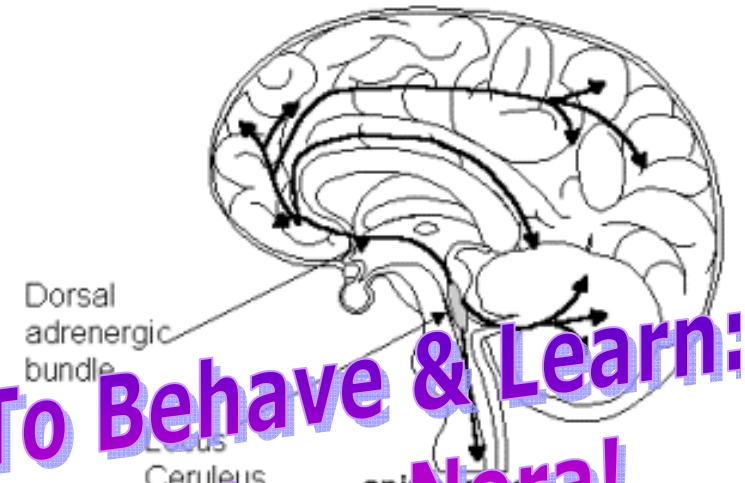
"Learning Chemical"

To Behave & Learn:

Increase Sara!

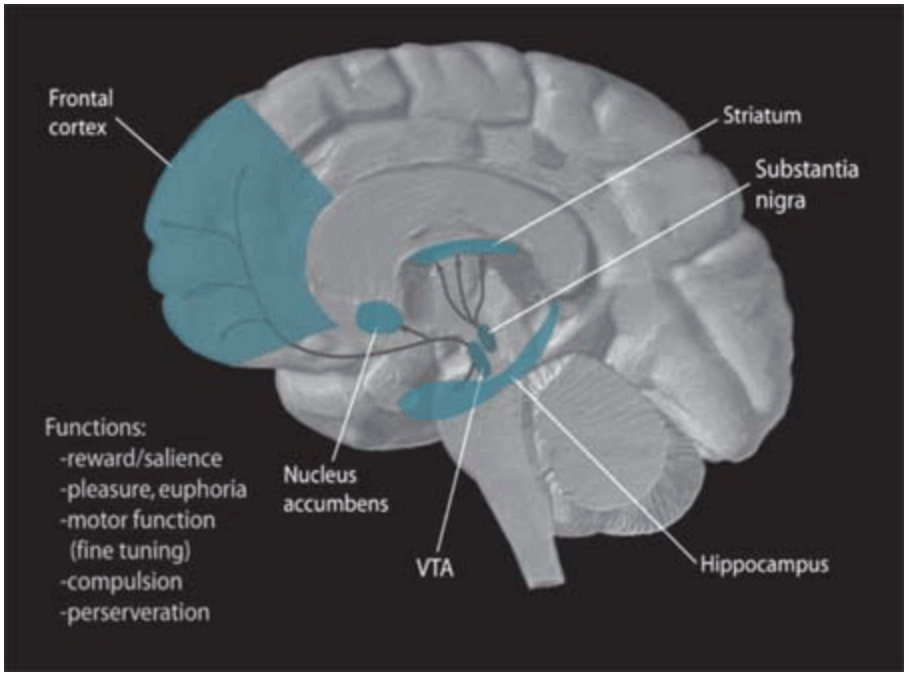


Nora Pathways in the Brain

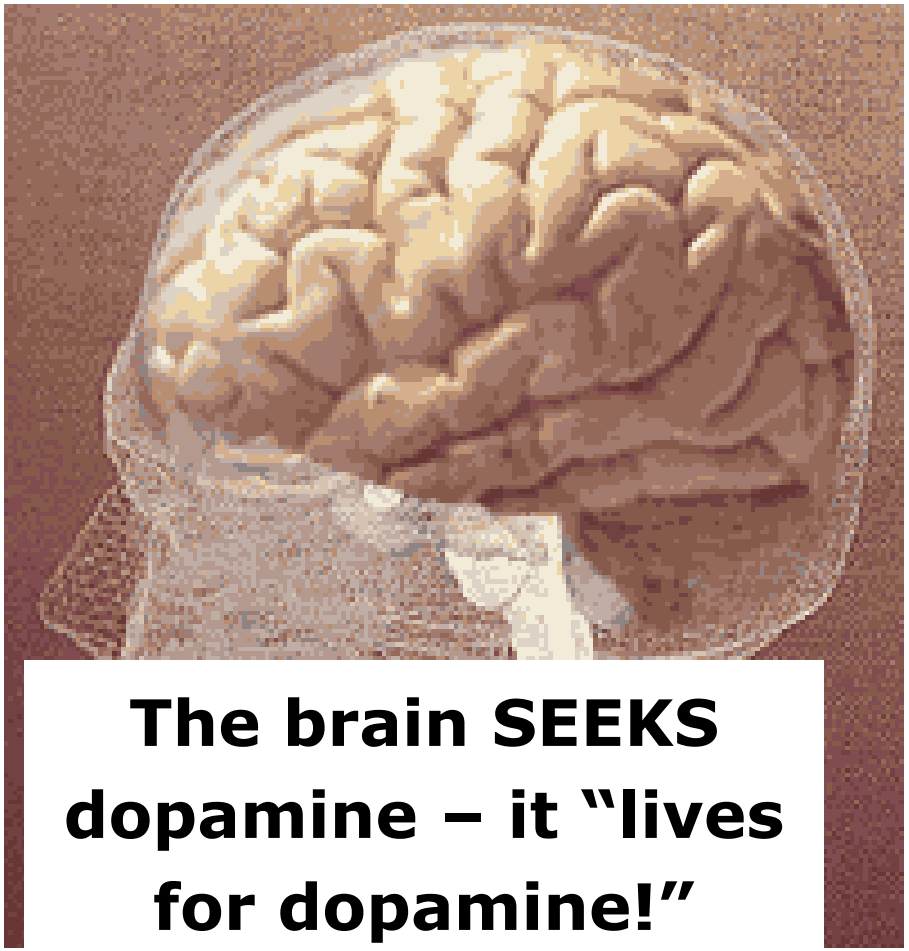


To Behave & Learn: Reduce Nora!

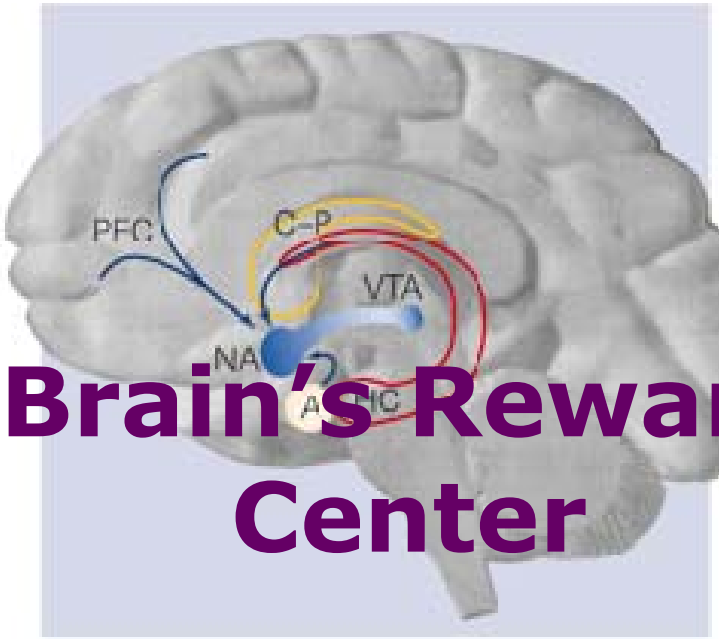
Nara is our Fight/Flight Chemical



Dopamine Pathways in the Brain

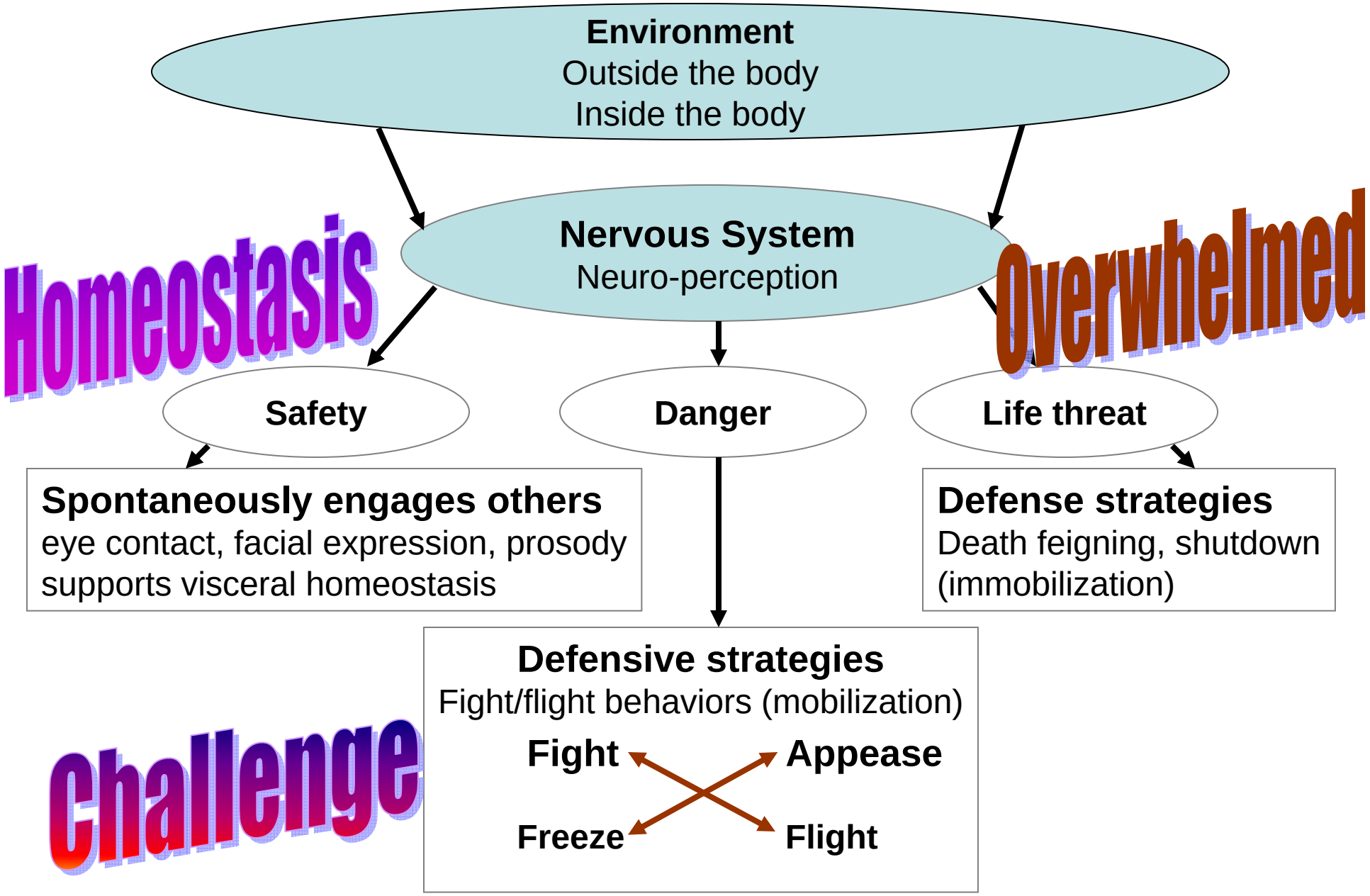


The brain SEEKS dopamine – it "lives for dopamine!"



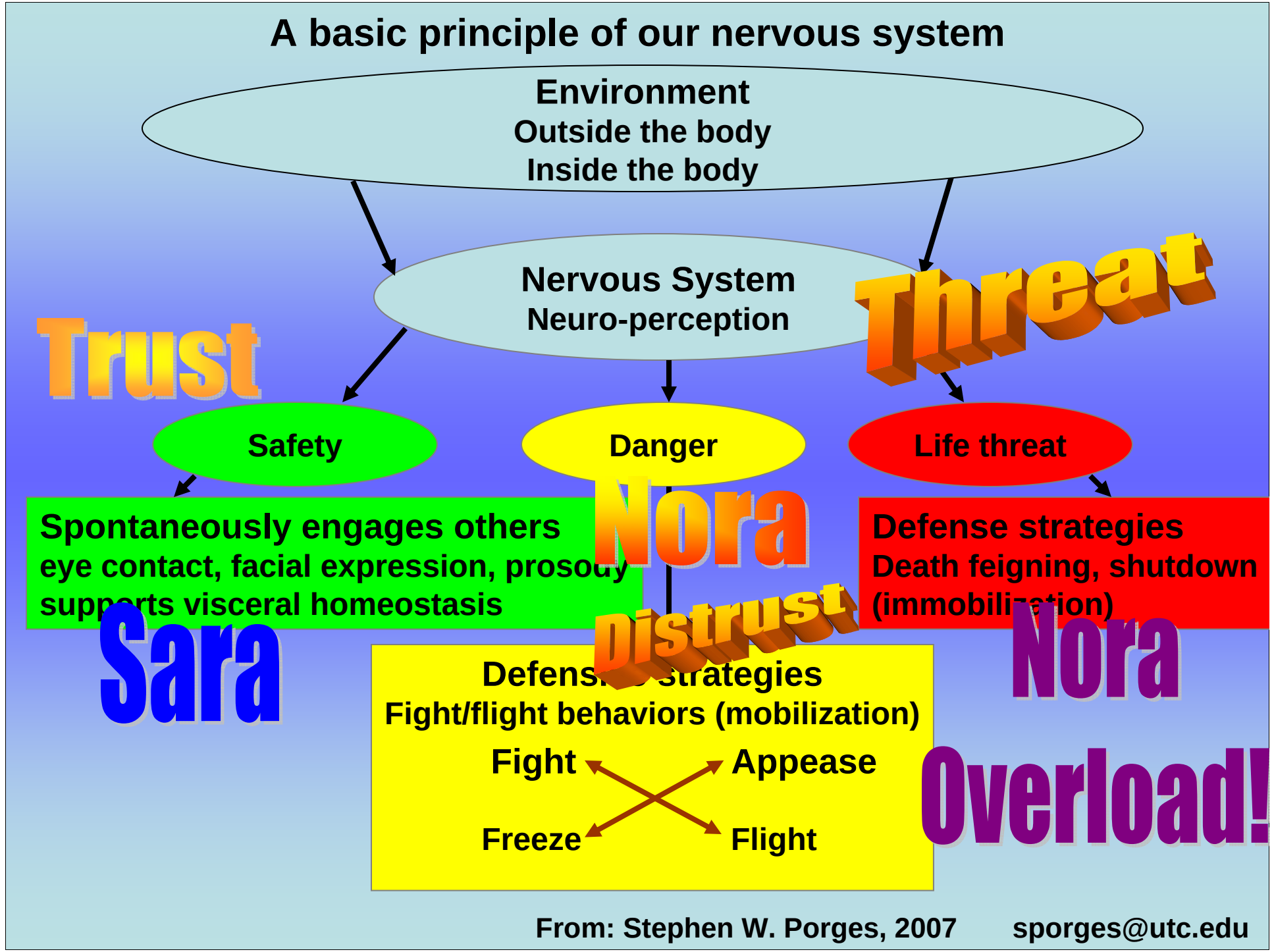
Brain's Reward Center

A basic principle of our nervous system



From: Stephen W. Porges, 2007 sporges@utc.edu

A basic principle of our nervous system

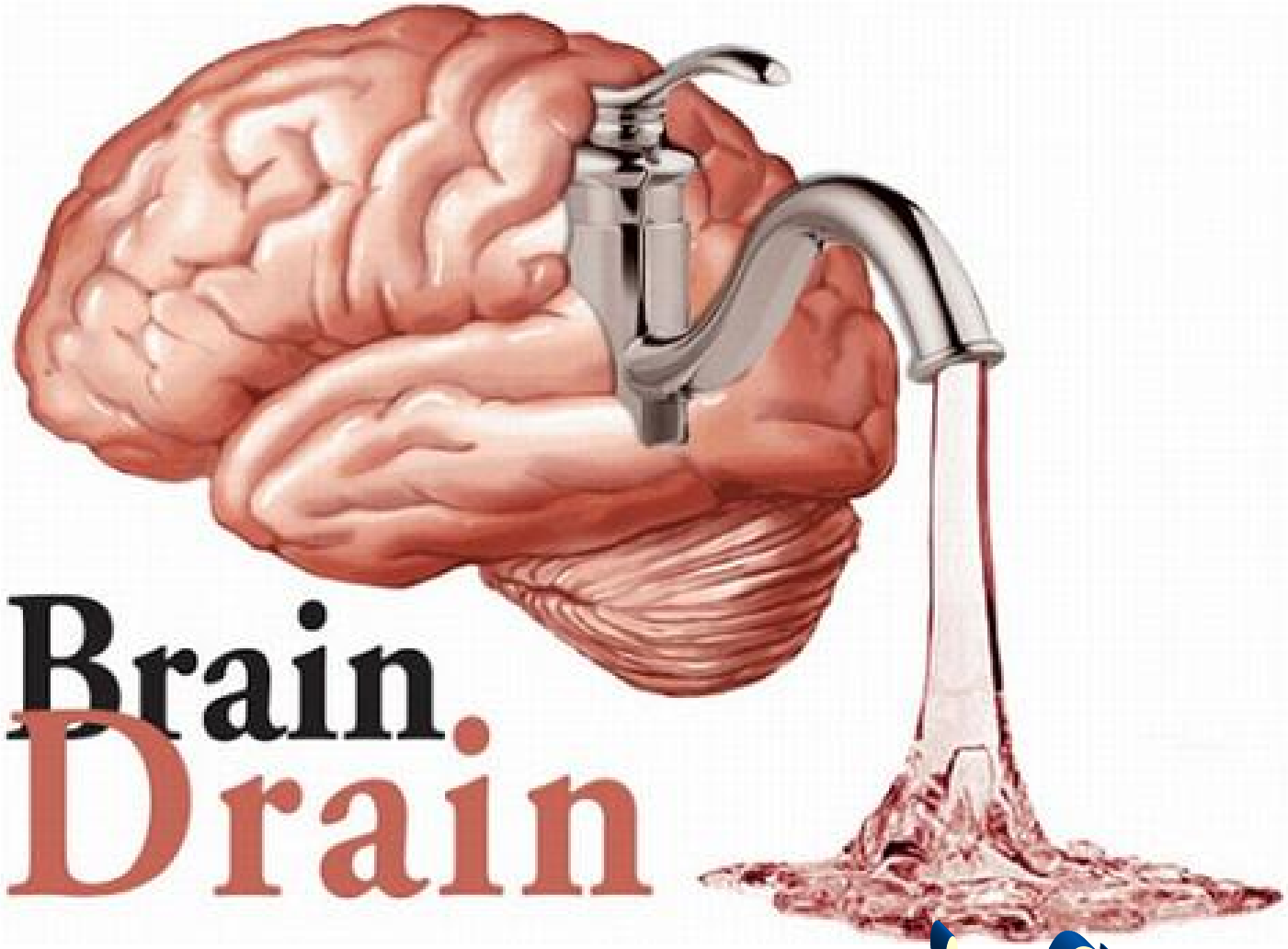


From: Stephen W. Porges, 2007 sporges@utc.edu

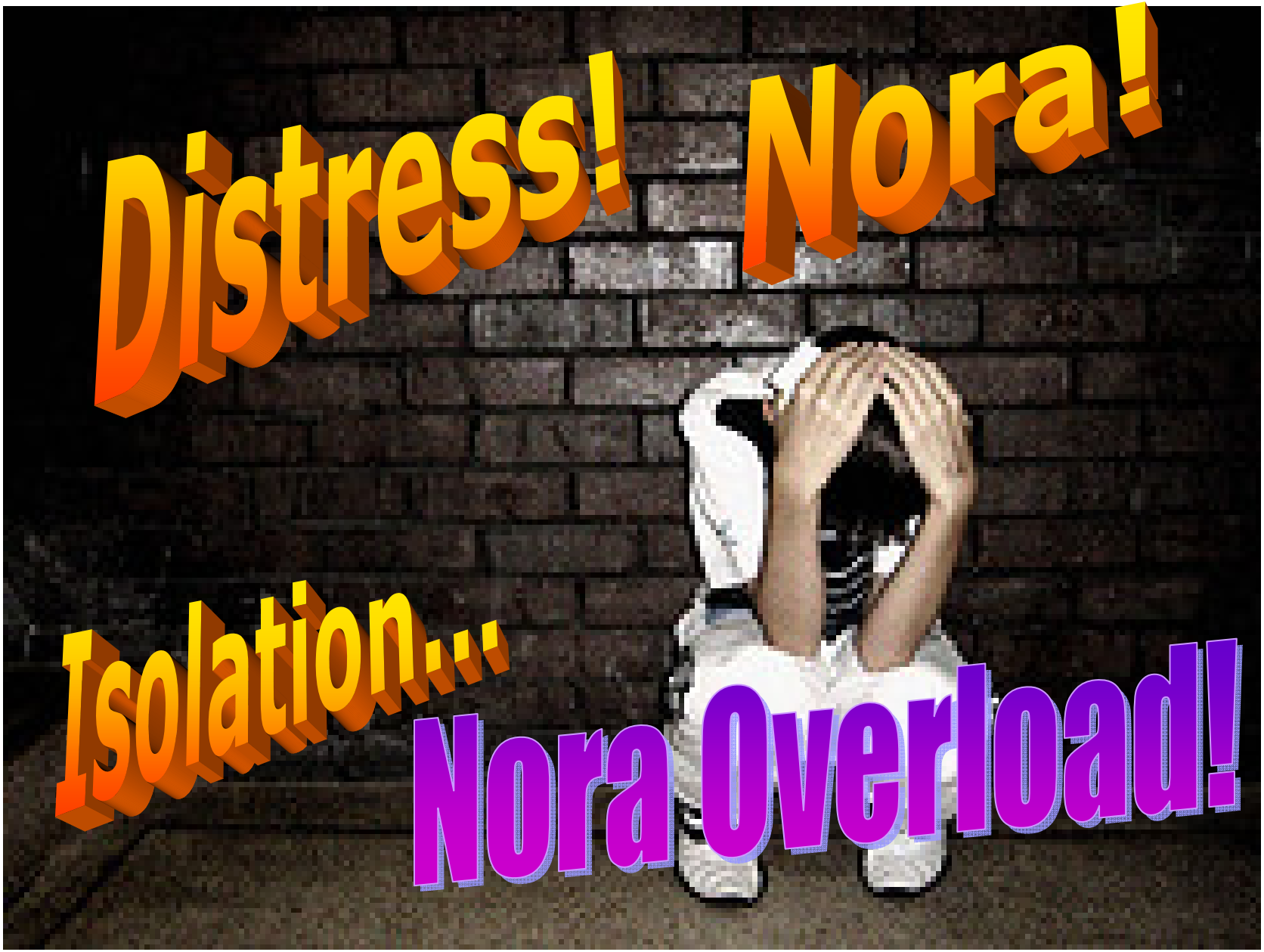
What's the history with "trust"?

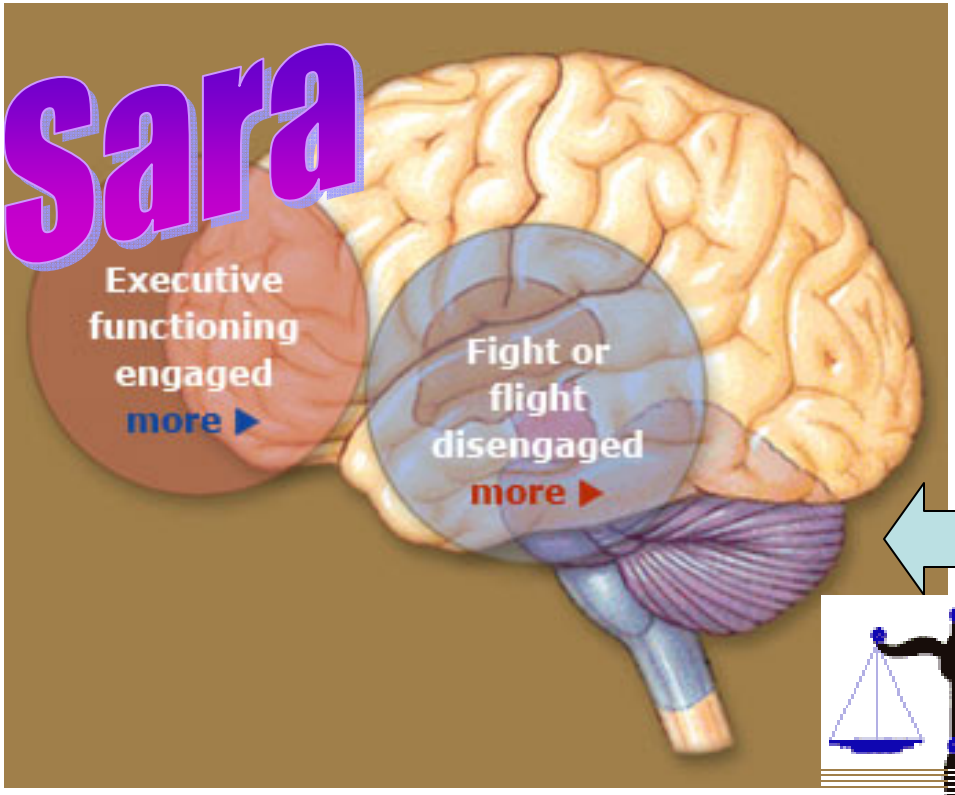
Spent young life:

- **Tired? Sleepy? Hungry?**
- **Nearly Homeless?**
- **Lonely? Being harassed or bullied?**
- **Dyslexic? Embarrassed? Feeling stupid?**
- **Worried? Humiliated? Depressed?**
- **Saw mom/sibling beaten last night?**
- **Multiple foster care placements?**
- **Got a parent or sibling in jail?**
- **Parents separated; getting a divorce?**
- **Moving several times a year?**
- **A parent or sibling in Iraq?**

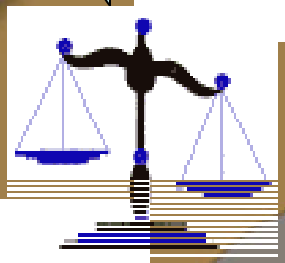


Sara is Gone!

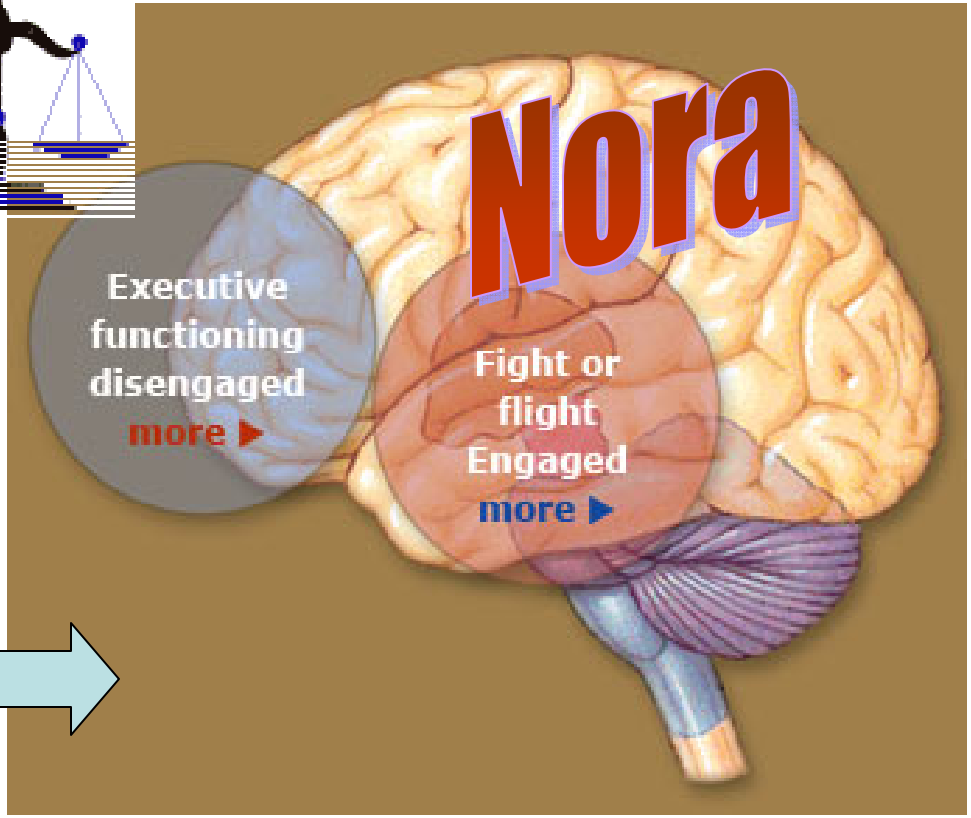

Distress! Nora!
Isolation...
Nora Overload!



RESTFUL ALERTNESS: Over time, this response leads to increased intelligence, improved academic performance, improved decision making and higher moral reasoning, and reduced stress-related disorders.



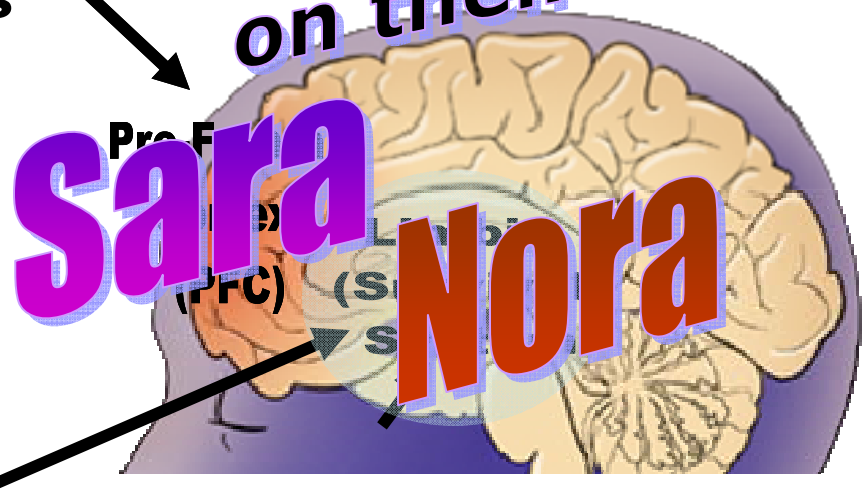
FIGHT or FLIGHT: Over time, this response can lead to impulsive, short-sighted, even violent behavior; increased anxiety, depression, alcohol and drug abuse, learning disorders, and increased stress-related diseases.



Rational Responses

- Thinks before acting
- Considers consequences
- Learns from mistakes
- Anticipates problems
- USES WILL POWER

They CANNOT SWITCH on their own!

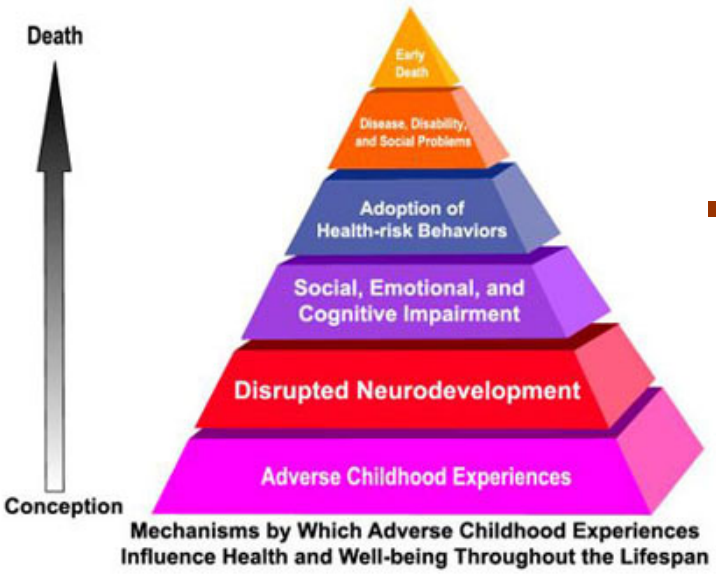


Automatic Responses

- Impulsive
- Wiley - Manipulative
- Does NOT learn from mistakes
- Self-Defeating Behaviors/Choices
- Appears to have NO Will Power!

It's easy to recognize where a youth is by his/her behavior.


Behavioral Health



Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

Adverse Childhood Experiences (ACE Study)

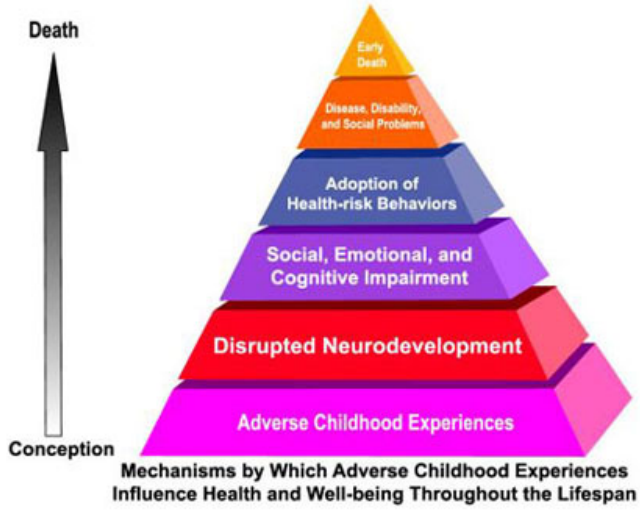
- **Public/Private Partnership**
- **Started in 1985 – Ongoing**
- **1995 CDC Partnership - Ongoing**
- **Largest of kind – 17,000**

Changed Nation's Views on Children's Behavioral Health

Dr. Vincent J. Felitti, MD
Internist, Kaiser Permanente

Dr. Robert F. Anda MD (plus MS in Epidemiology)
Centers for Disease Control (CDC) & Prevention

Adverse Childhood Experiences (ACE Study)



Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

Major Contributions to Mental/Behavioral Health:

- Was the impetus for the field of **"child traumatic stress"**
- Showed the link between **stressful or traumatic childhood experiences** and **SOCIAL, EMOTIONAL & COGNITIVE IMPAIRMENTS** (using neuroscience)
- & the link to **UNHEALTHY BEHAVIORS**
- & the link to **BEHAVIORAL HEALTH DISORDERS & DISEASES**
- & the link to **PHYSICAL HEALTH DISORDERS & DISEASES**, including diabetes, heart disease, COPD, some cancers and more.

Child Traumatic Stress

(CTS)

=

Preamble to Behavioral Health Problems

Traumatic Events

"External"

- Disasters
  - **Fires, floods, mudslides**
  - **Earthquakes/Volcanoes**
  - **Hurricanes/Tornadoes**
  - **Major transportation, industrial, technological**
- Wars/Conflicts
- Torture/Genocide
- Terrorists' Attacks

Traumatic Situations

"Close"

- Home
  - **Substance-abusing Caregiver**
  - **Domestic Violence**
  - **Neglect (benign & intentional)**
  - **Abuse (verbal, emotional)**
  - **Abuse (physical, sexual)**
  - **Traumatic grief (loss)**
  - **Loss of contact w/parents/family (Prison – foster care – divorce)**
  - **Loss of personal dwelling**
- Community Violence/Crime
- Medical Trauma
- Personal/Family Accidents

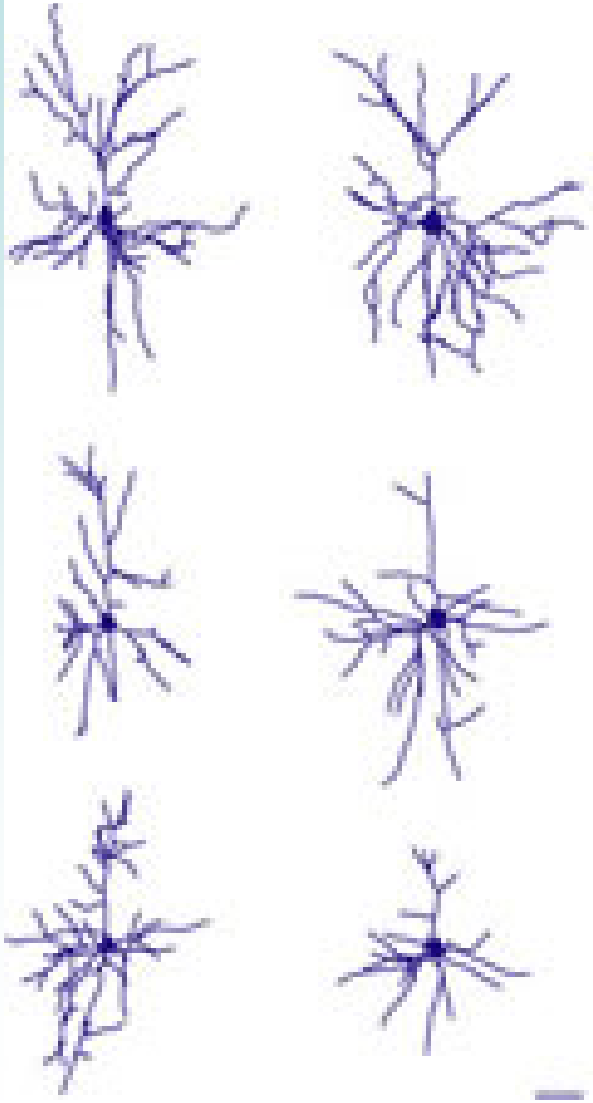
Undermine TRUST!

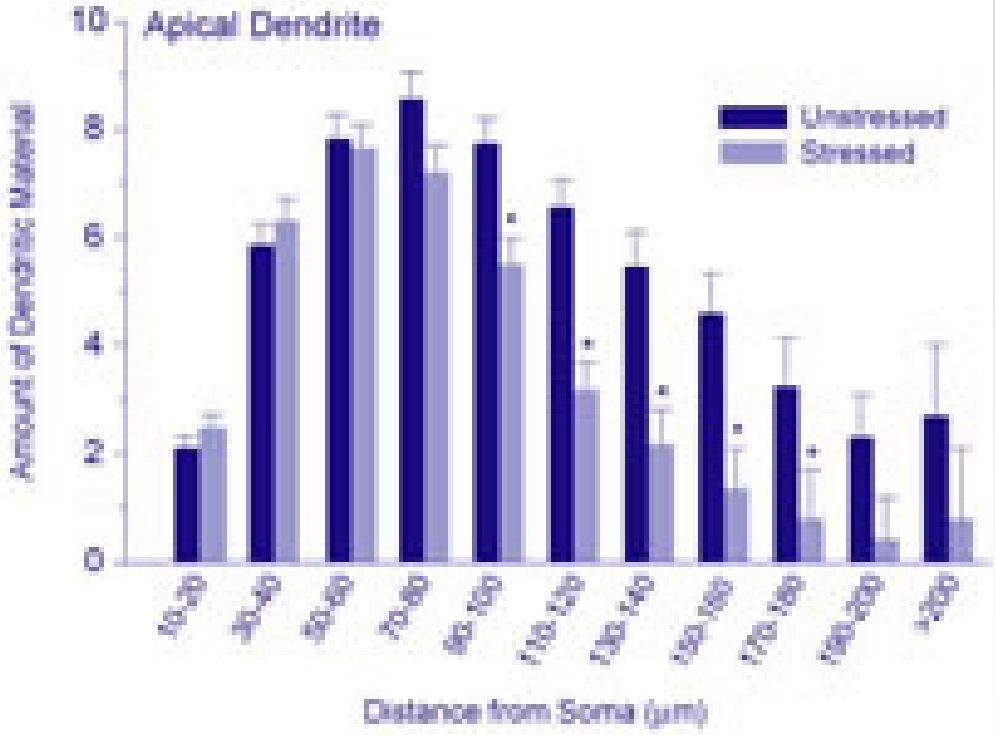
Symptoms of Traumatic Stress

- Is more fearful and worried than other children
- Is not talking or expressing needs routinely
- Has trouble forming relationships
- Is unusually quiet, shy, or withdrawn
- Is unable to play
- Has trouble with self-control; disruptive; attention-seeking
- Is controlling – questions everything – rejects authority
- Is unsure all or most of the time; resistant; afraid to try/fail
- Is hard to soothe or comfort – is moody routinely
- Tends to have frequent headaches or stomach aches
- Sleeping or eating problems; younger: toilet control problems
- Displays behavior like hitting, screaming, or fighting
- Treats other children, animals, or objects cruelly/destructively
- Bullying – aggression
- Defiance without purpose
- Hostility without purpose
- Indecisive routinely
- Blaming routinely
- Sleepy routinely
- Argumentative routinely
- Forgetful – distracted routinely
- Anxious – fretful routinely

Traumatic Stress = Restructuring/Loss of Dendrites

Unstressed **Stressed**

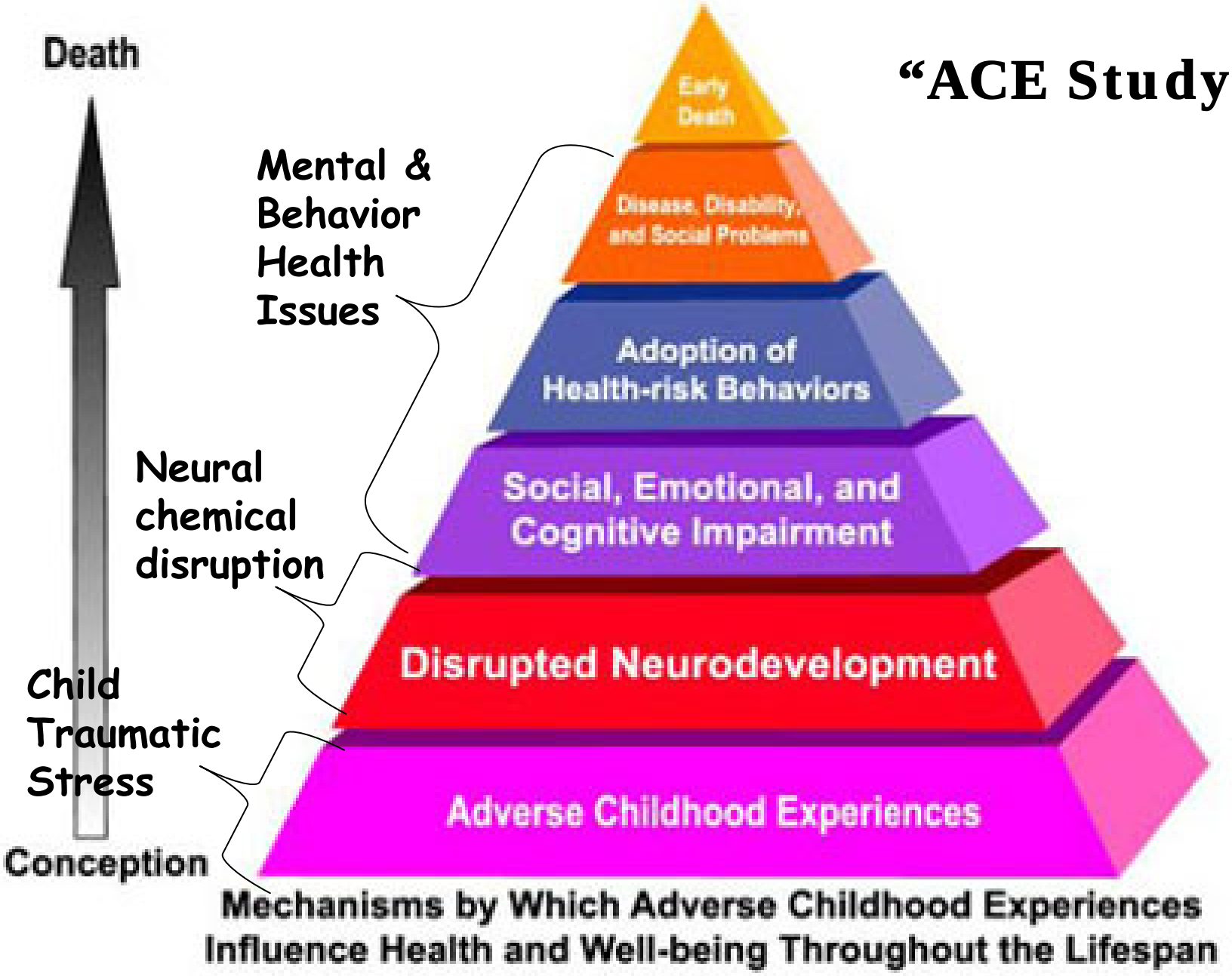





Symptoms you can see…
Delayed Damage


Damage doesn't show up right away.
Damage
rmmed
effects
ACEs

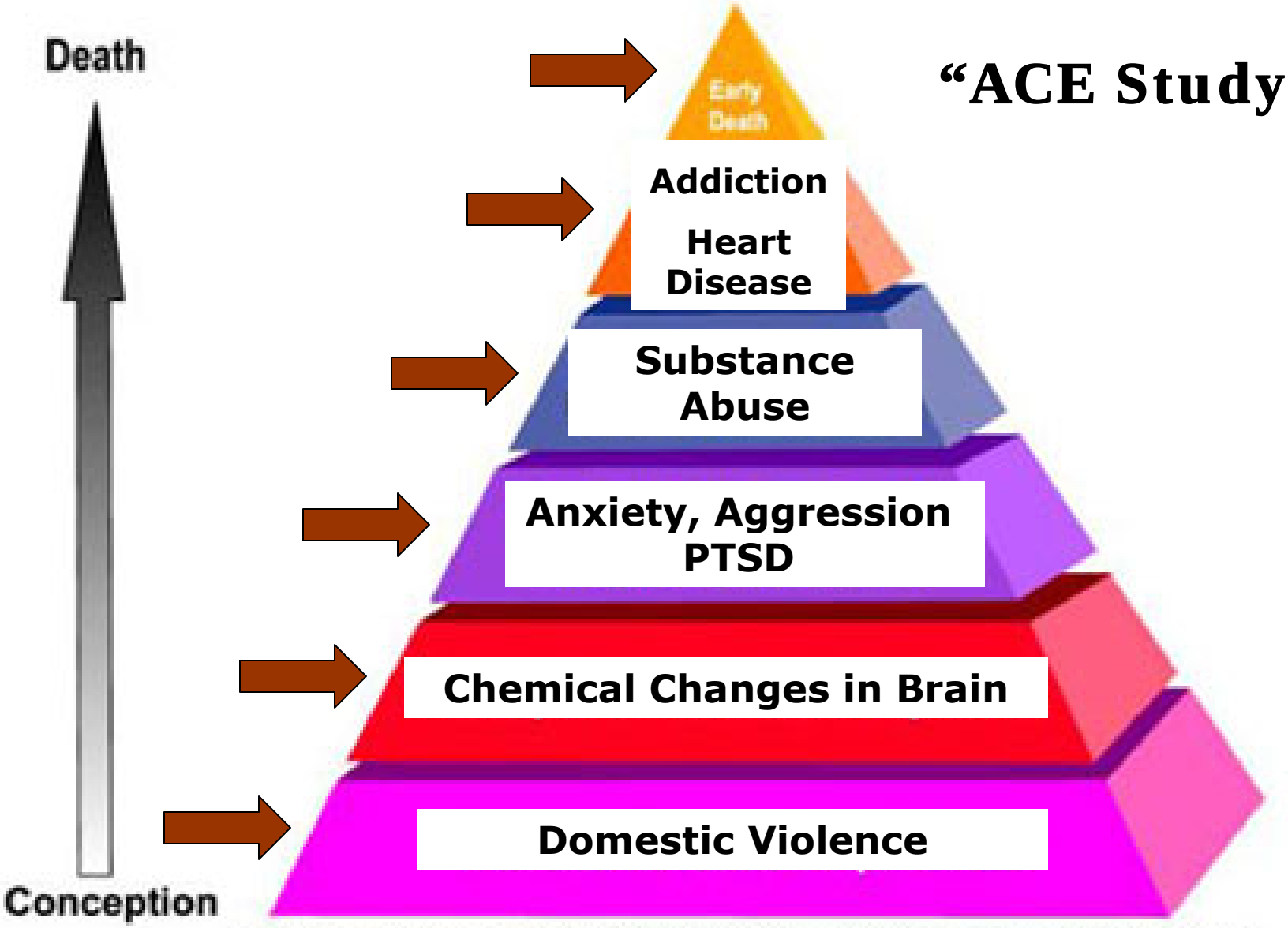
"ACE Study"



Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

http://www.cdc.gov/nccdphp/ace/

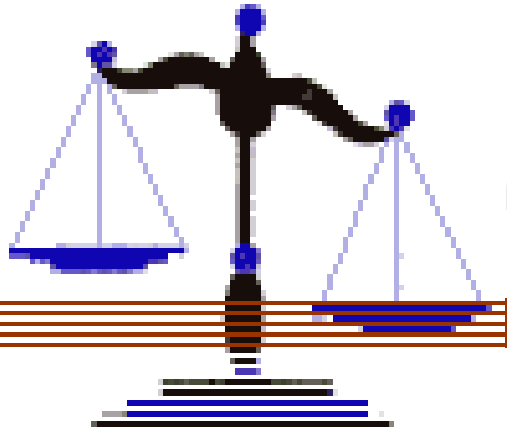
"ACE Study"



Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

http://www.cdc.gov/nccdphp/ace/


Survival Mode
Get "Stuck"
Reactive Coping Behaviors
Altered Neurons & Chemistry
Child Traumatic Stress
Adverse Childhood Experiences



Behavioral Health

Trauma-induced behavioral health concerns

Diagnosable Disorder

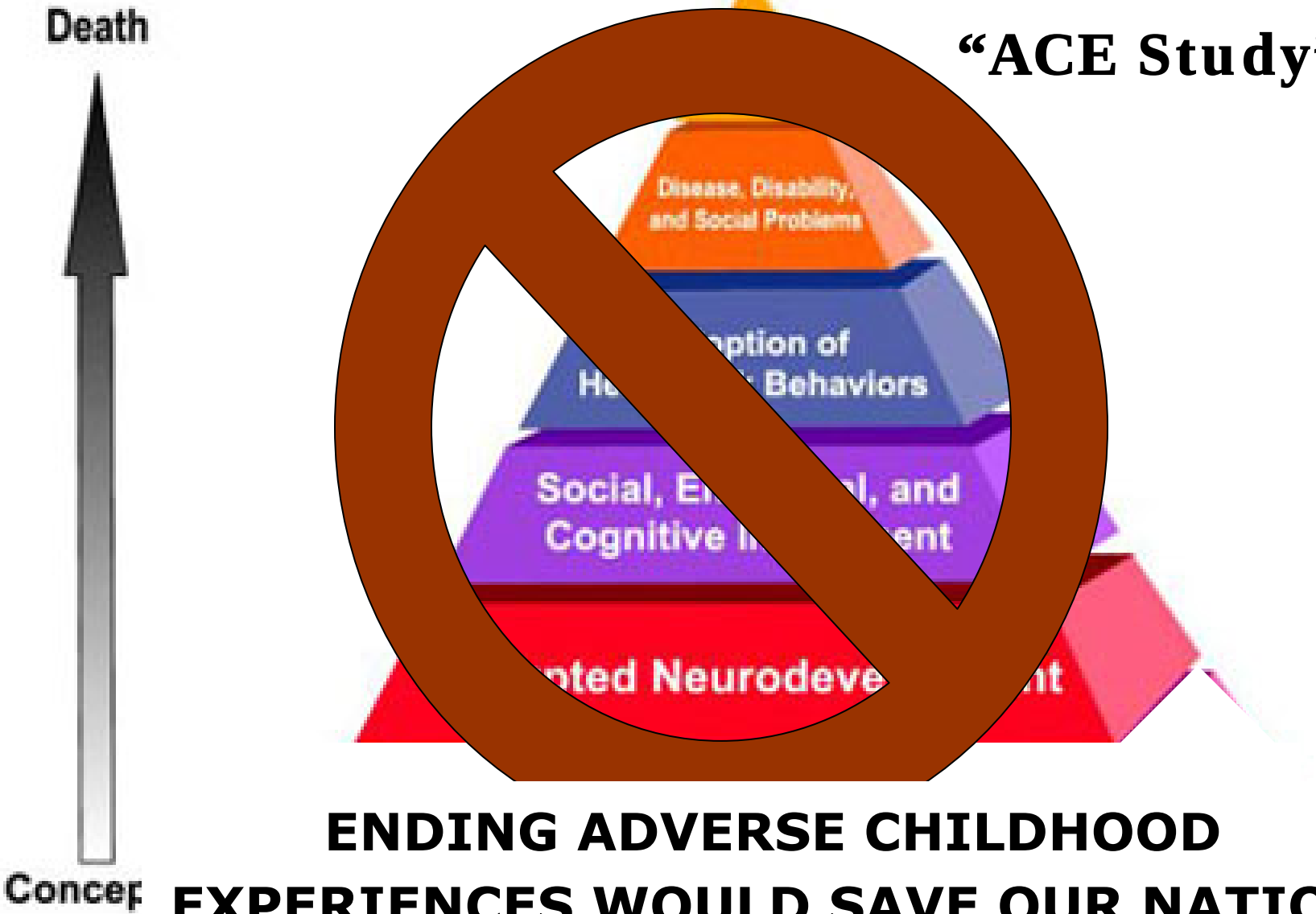
The symptoms are the same; it's the intensity and duration that push youth over the line!

CTS –Induced Behavioral Health Disorders

Child Traumatic Stress

- **PTSD**
- **Anxiety Disorders**
- **Depression/Mood Disorders**
- **Conduct Disorders**
- **Oppositional Defiance**
- **Eating Disorders**
- **Substance Use Disorders**
- **Gambling, Sex, Spending Addictions & Risk-junkies**

CTS = Precursor



“ACE Study”

ENDING ADVERSE CHILDHOOD EXPERIENCES WOULD SAVE OUR NATION BILLIONS IN HEALTH CARE COSTS!!

http://www.cdc.gov/nccdphp/ace/

Experience is our BUILDER.
What we experience determines

how we are constructed!

Making the shift from Surviving ➡ Striving ➡ Thriving!

➡ Youth with people and places to TRUST

➡ Youth with opportunities to get healthy "jollies & their dose of Dopa"

➡ Youth with COPING SKILLS

➡ Youth who learn how to shift from Nora to Sara and to reward themselves

➡ **Can Resist, Persist, Withstand, Overcome, Recover & Rebound!!!**

Questions:

1. **Do our correctional settings work in concert with the way the brain functions & develops? Who's trained?**
2. **Are the interventions based on an understanding of behavior chemistry and adults' roles in the development process? Are the adults serving as models of what we want youth to be?**
3. **Do the approaches used truly prepare youth for life on the OUTSIDE rather than just controlling their behavior while in residence?**
4. **Do our institutions provide an ENVIRONMENT that engenders TRUST?**
5. **Are we using proven development & "habilitation" strategies – teaching youth how to shift from survival to thinking and controlling – Self-regulating behavior?**

The purpose of CORRECTION...

is to IMPROVE the outcome.


WE
are their
LIFE
COACHES!