



Herbs and Somatic Practices for Stress, Trauma and Resilience IHS, 2017

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Herbal medicine is one path back to the body of the earth.

In relationship with the earth-body we may find belonging and safety. In time, we feel the same safety and sense of homecoming in our own bodies, minds and hearts.

What do we mean by stress and trauma?



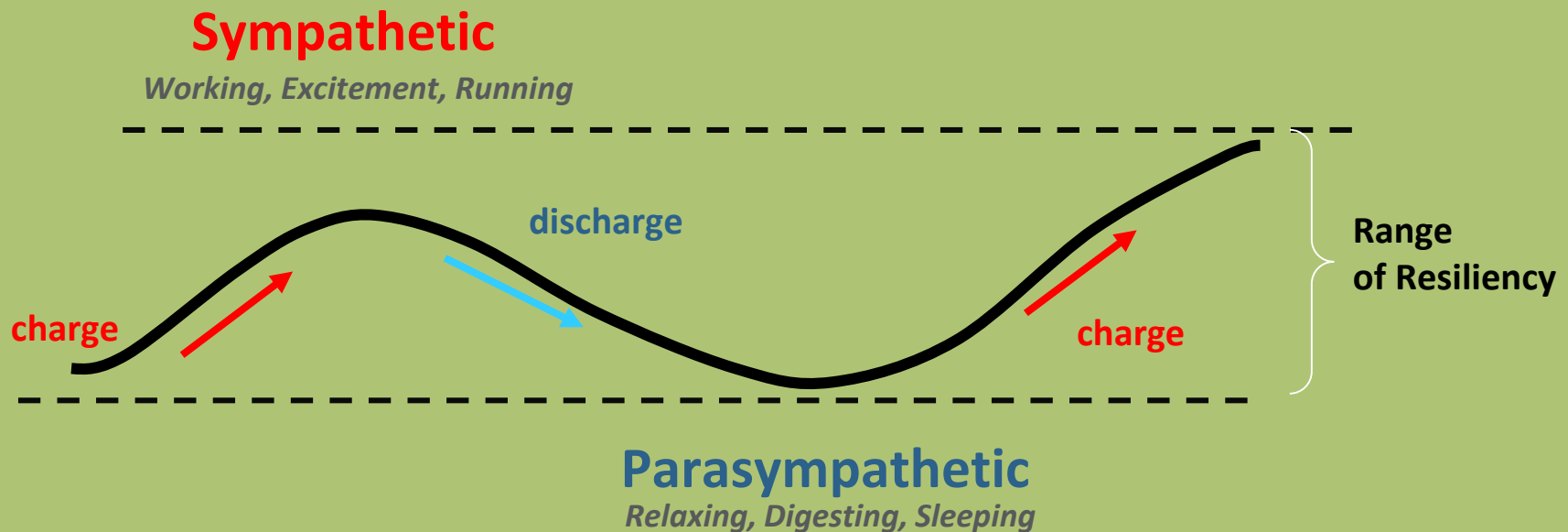
Trauma is in the nervous system, not in the event (or our stories about it).

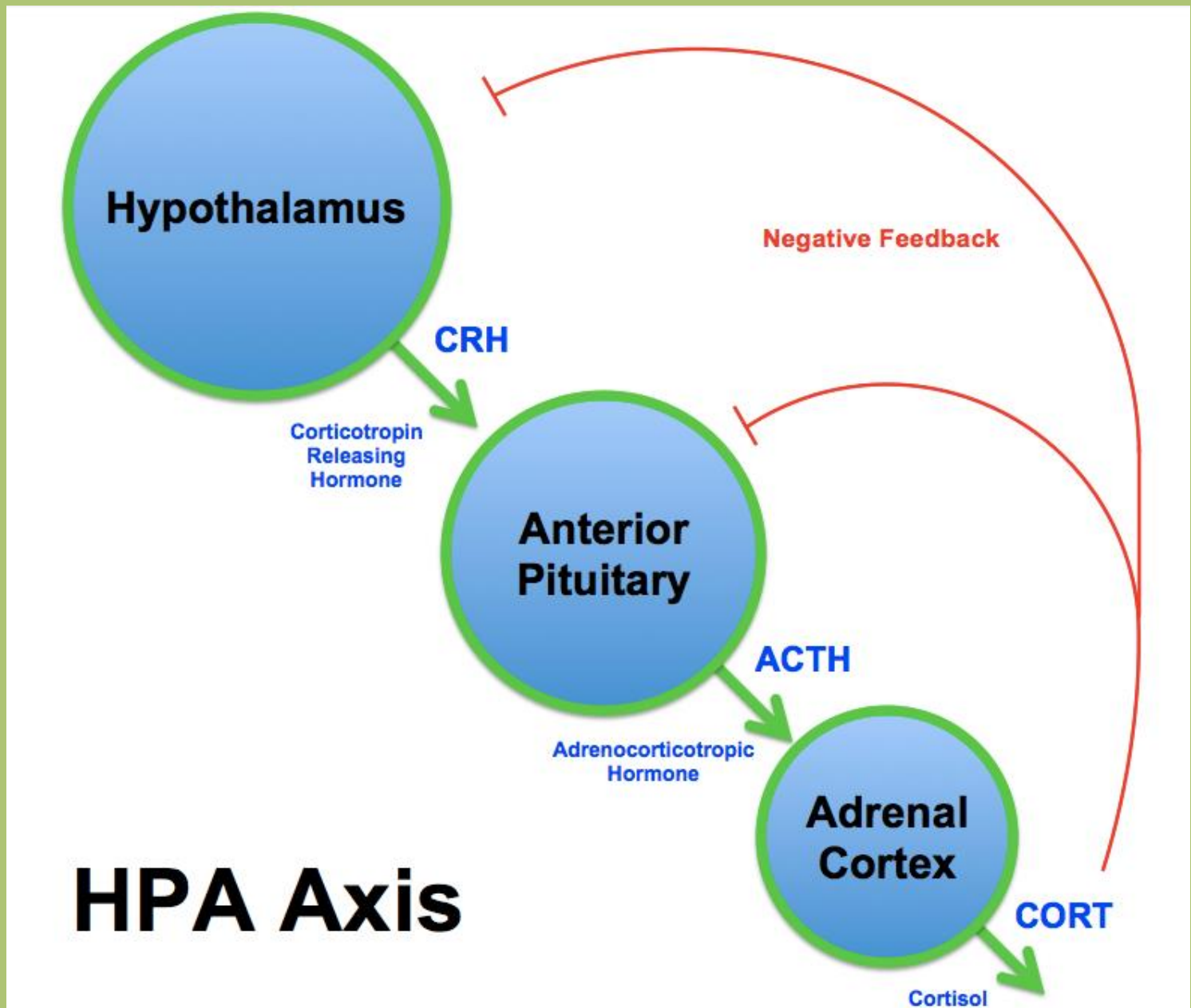
Potential Impacts of Chronic Stress and Trauma on Health and Wellbeing

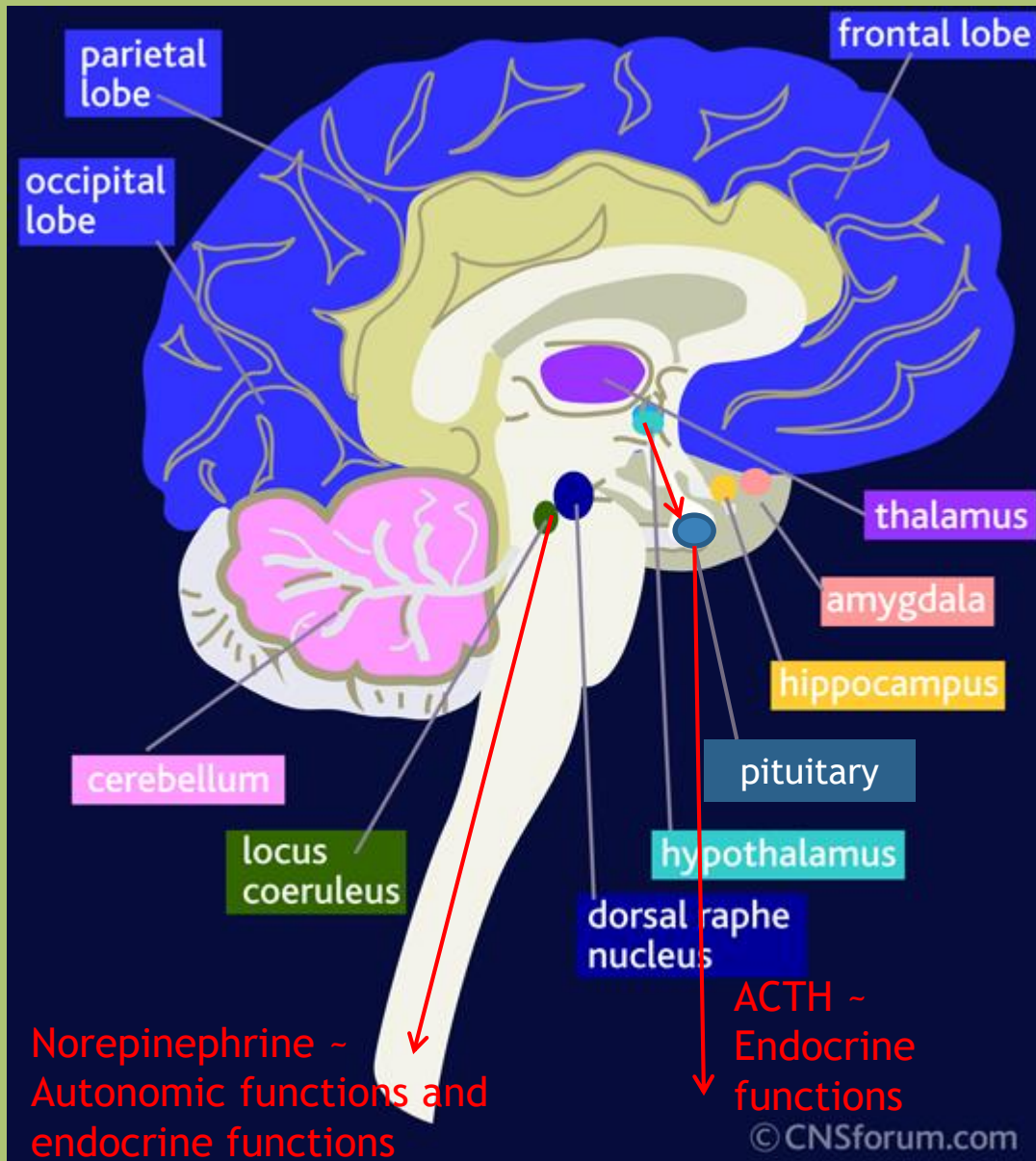
- overall, **disruption of adaptability** and stress resistance; increased vulnerability to chronic disease
- **reduced emotional resilience** and optimism, neuropsychiatric symptoms/dis-ease (anxiety, depression, panic, PTSD), maladaptive neural networks and function
- **alterations in overall endocrine** function, affecting sexuality, fertility, thyroid health and metabolism (e.g. diabetes)
- **digestive dysfunction**, hyperpermeability and dysbiosis
- chronic **inflammation** (as in CVD, auto-immunity, atopy) and/or **immunosuppression**, cancer
- **maladaptive epigenetic alterations**, which may be heritable

The Regulatory Process of the Autonomic Nervous System (Sympathetic and Parasympathetic)

Activation – Deactivation Cycles







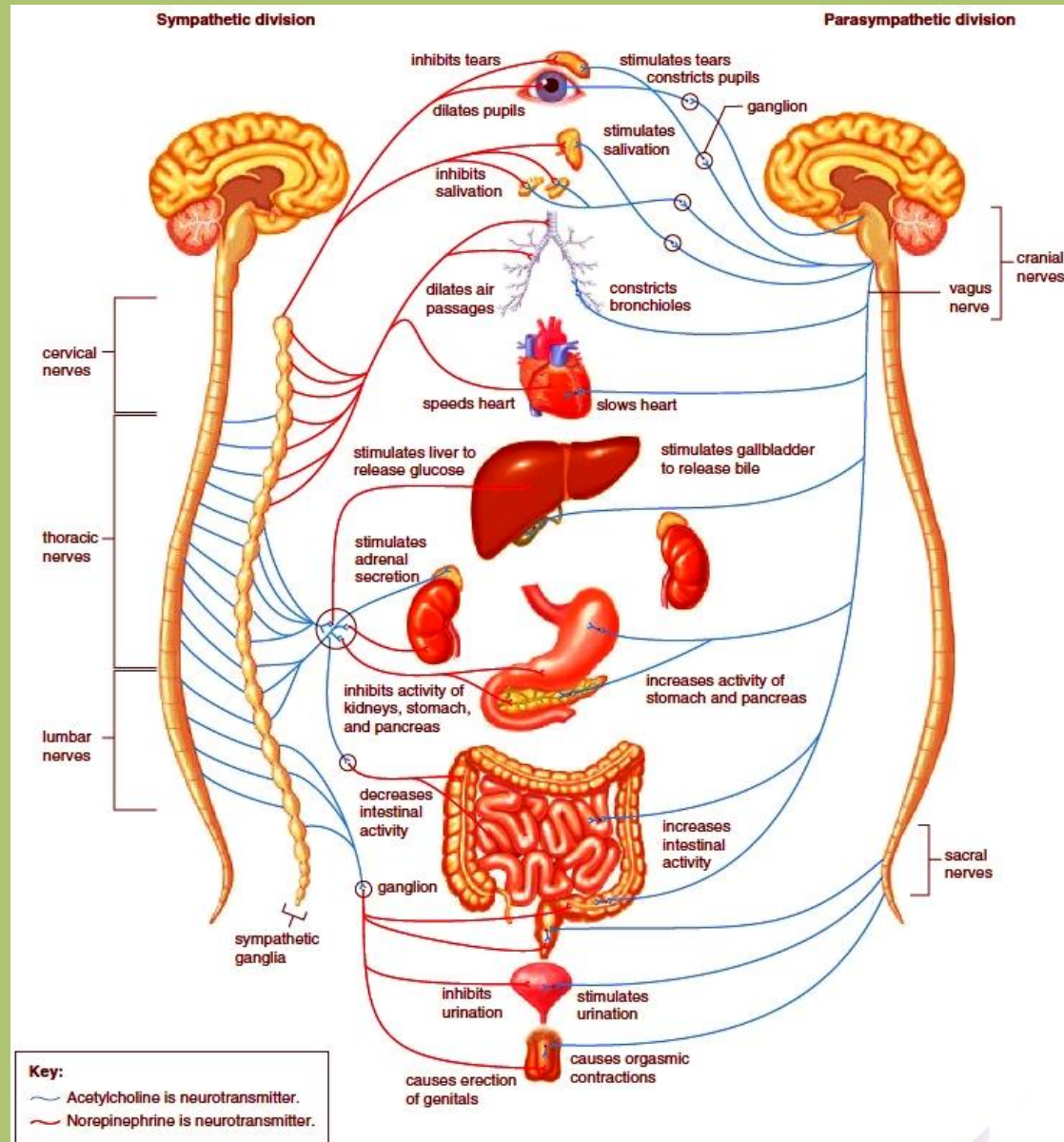
Mind-body nexus

The HPA axis acts interdependently with the nervous system to maintain many baseline functions, as well as respond to stressors.

The Vagus Nerve – Mind-Body Integrator

The vagus nerve is an important player in the parasympathetic nervous system, which mediates much of the communication between the gut, brain, and immune system, as well as the heart. It is responsive to the microbiome—our inner landscape—and to external stimuli, like the forest.

Vagal tone is measured through Heart Rate Variability (HRV). Higher tone (and HRV) is a measure of nervous system (and whole organism) resilience.



During perceived **emergencies**, the CNS, ANS and HPA work in tandem to carry out four important survival functions:

- **Fight**
- **Flight**
- **Freeze**
- **Social Engagement**



Understanding Stress and Trauma through Animal Biology and Behavior

Overwhelmed or threatened, animals go through predictable stages of responding to danger. Humans are animals, too...

In order to optimize chances for survival, the body:

Activates implicit, hardwired survival sequences

Mobilizes high levels of energy to defend itself

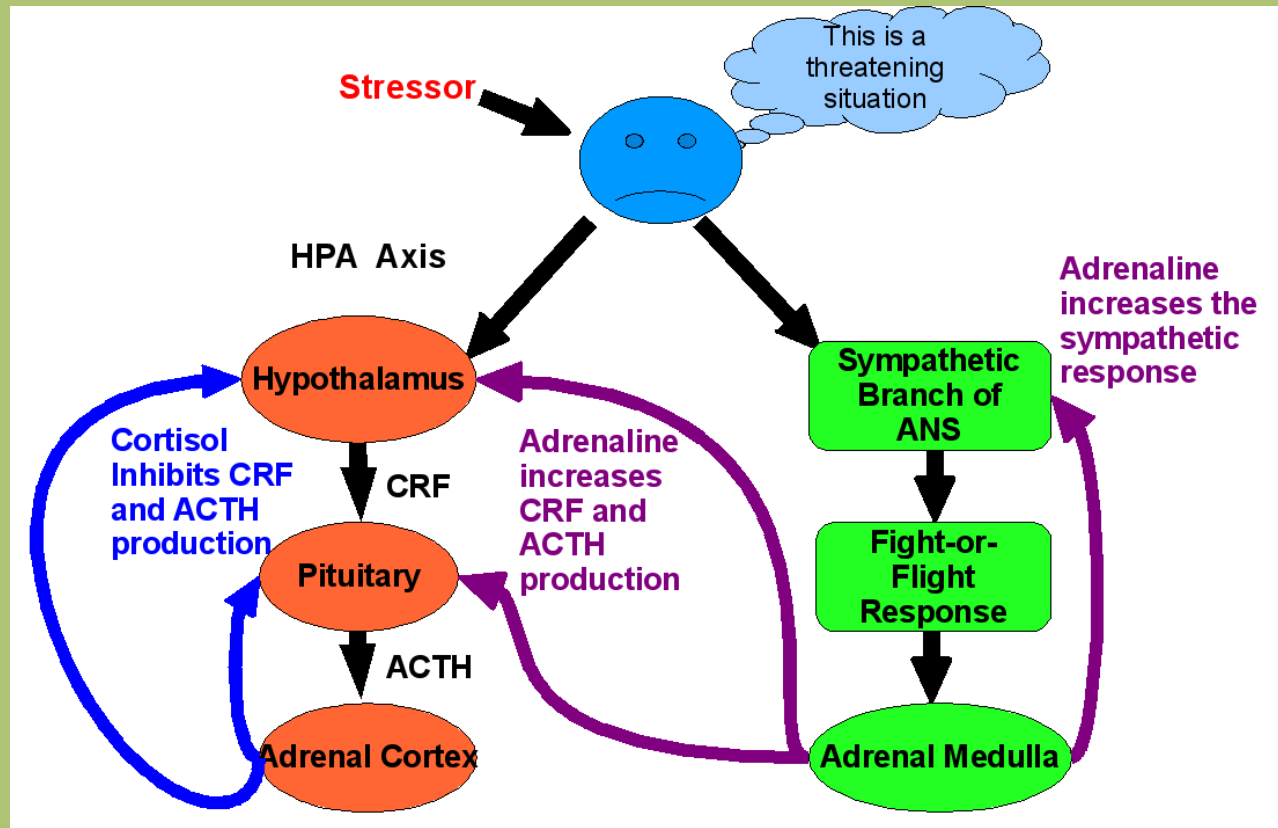
Shuts-down unnecessary bodily functions

After threat has passed, animals return to normal functioning by:

Discharging survival energy

Integrating excess activated energy

In addition to physical stress, emotional and mental stress triggers neuroendocrine arousal



Neurotransmitters released in response to our emotions and thoughts impact both the HPA and SAS (sympatho-adrenal system) cascades

- 5-HT and NE stimulate hypothalamic CRF release
- GABA and opioids inhibit CRF release

CRF also acts as a neurotransmitter itself, inducing conditioned fear and aversion, enhancing stress-induced freezing, decreasing food intake and disrupting sexual behavior and sleep

Normal Stress Response, aka HPA activation

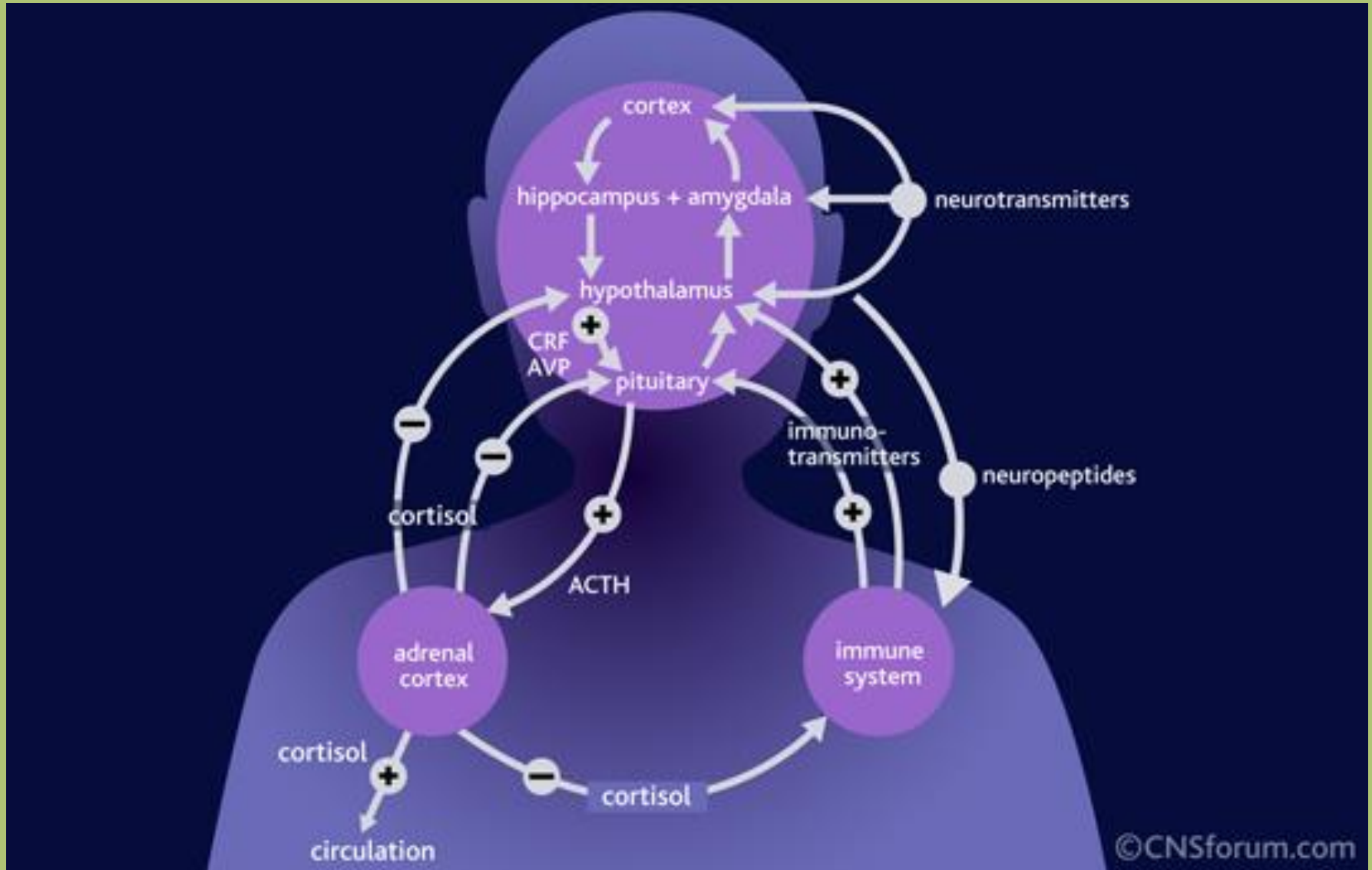


Image source: CNSforum.com, used w/permission

**Our understanding of stress is rooted in
Hans Selye's
General Adaptation Syndrome
(1950s)**

Alarm Stage

SNS arousal, including emotional arousal
defense mobilization - fight/flight/freeze

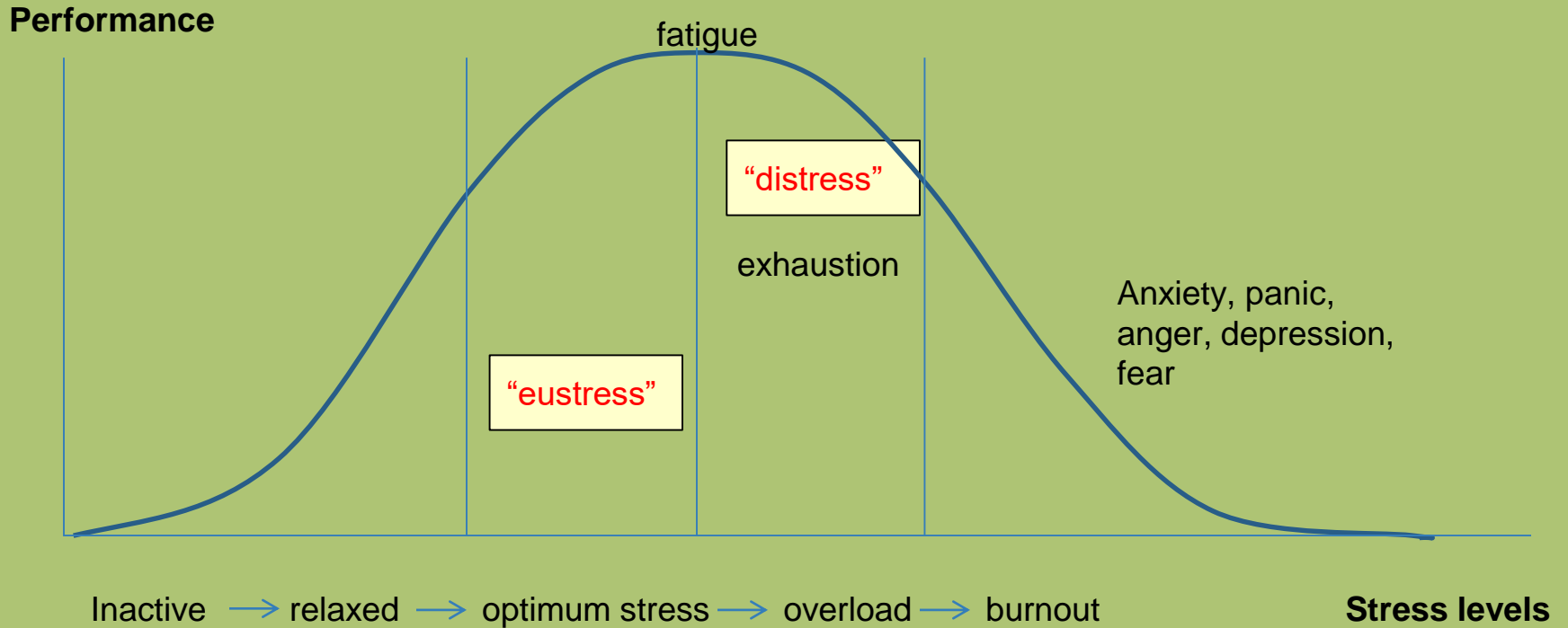
Stage of Adaptation/Resistance

further defense mobilization - fight/flight/freeze
attempts to adapt, return to calm, less activation (PNS)

Stage of Exhaustion (or Recovery)

if exhaustion, break down of homeostasis is reached

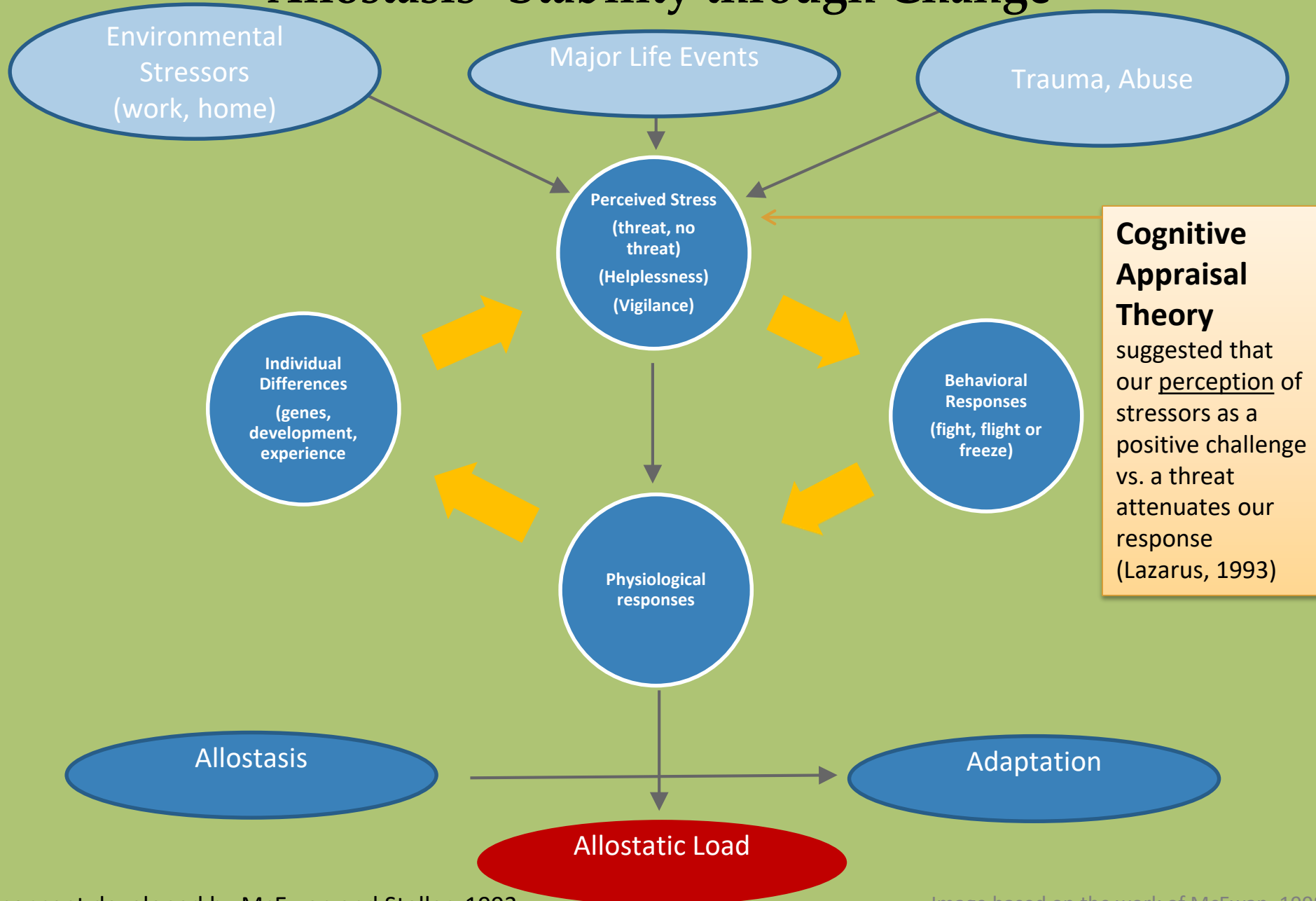
General Adaptation Syndrome



ALARM → RESISTANCE / ADAPTATION → EXHAUSTION

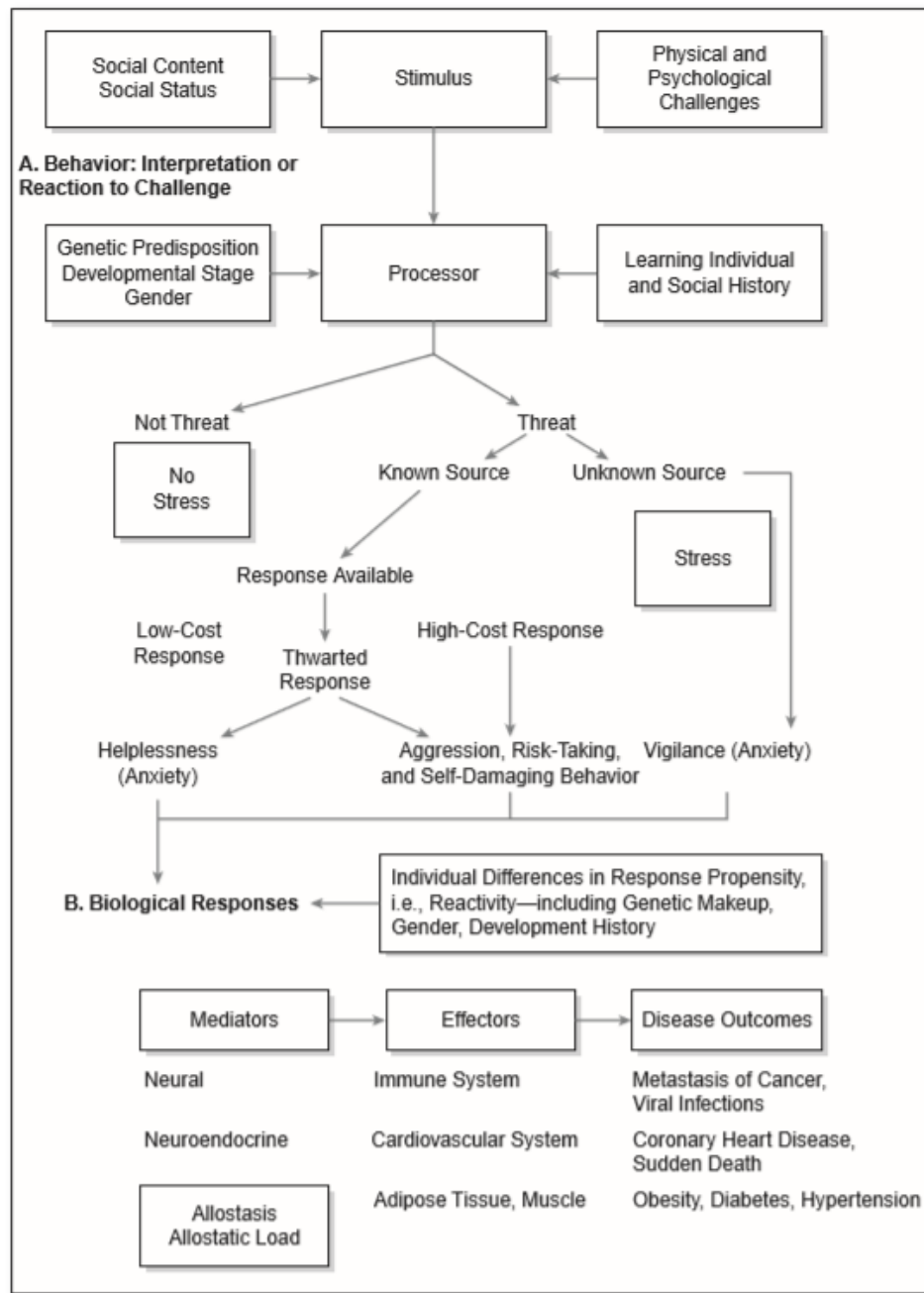
RECOVERY ←

Modern Concepts of Stress Response: Allostasis--Stability through Change



Cognitive Appraisal Theory
suggested that our perception of stressors as a positive challenge vs. a threat attenuates our response (Lazarus, 1993)

Figure 2.2 Allostatic Load



Why do we reach allostatic load?

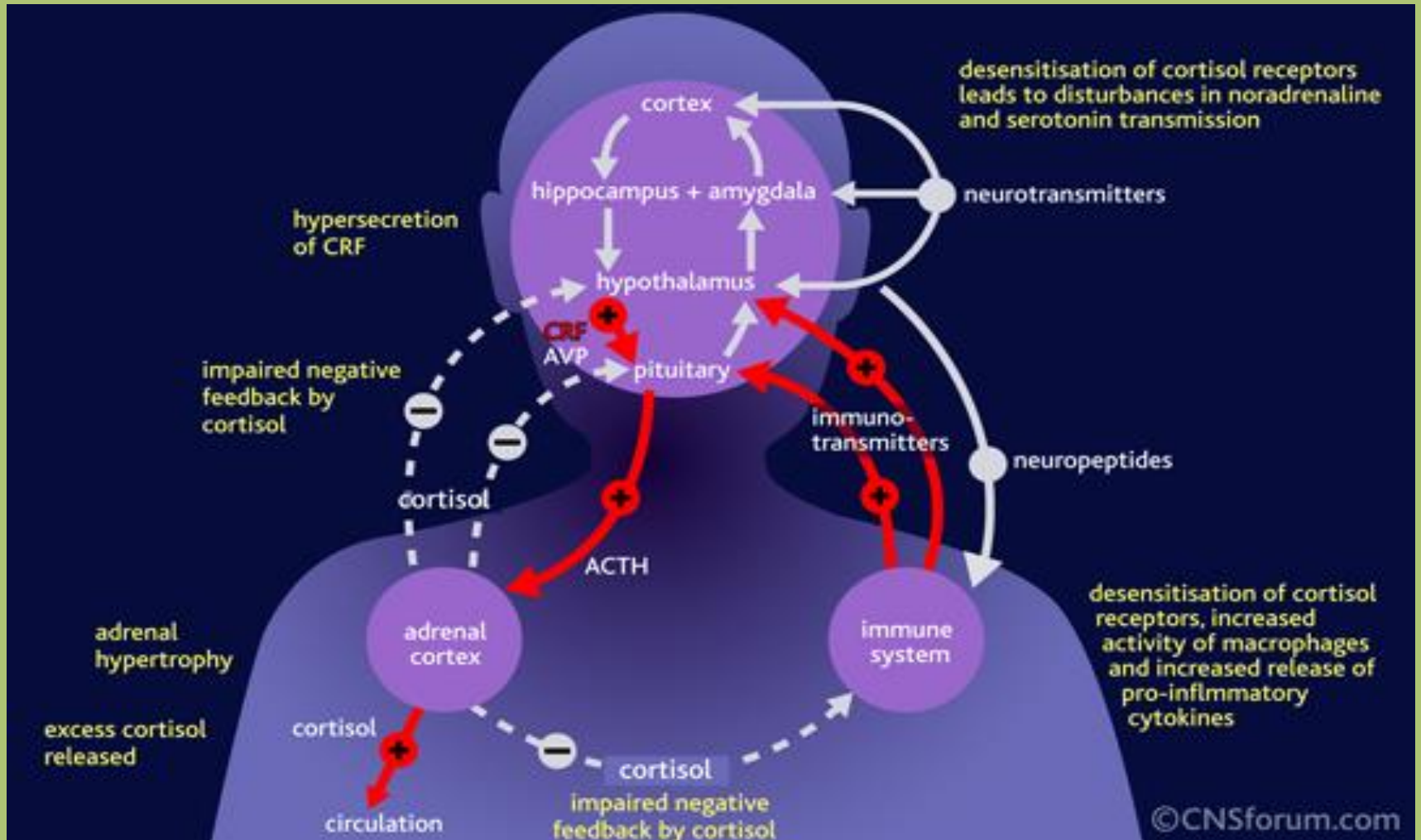


Summary of factors **contributing to** neuroendocrine dysregulation, experiences of “stress”, vulnerability to trauma:

**Note how similar the causes are to the outcomes, discussed earlier.*

- extreme physiological or psychological environment or demands (poor diet, sleep, exercise, relationships, structural oppression, pollution, etc.), resulting in cortisol resistance
- mood/psychiatric dis-ease (panic, depression, substance addiction, eating disorders, etc.)
- traumatic experiences and/or early life adversity
- digestive dysfunction, hyperpermeability and dysbiosis
- chronic inflammation or immune activation, as in CVD, auto-immunity, atopy, infection, etc.
- genetic variability and gene-environment interactions

Extreme, ongoing physiological or psychological environment or demands (poor diet, sleep, exercise, relationships, structural oppression, pollution, etc.), results in cortisol resistance as negative feedback loops collapse; exacerbated by inflammation and blood sugar dysregulation



Mood/psychiatric dis-ease (panic, anxiety, depression, substance abuse, eating disorders, etc.)

Often characterized by neurotransmitter system dysfunctions
(the monoamine hypothesis says this is the “cause”, but research suggests these changes are actually symptoms):

- alterations can occur in secretion, re-uptake, or degradation of neurotransmitters (e.g. serotonin, norepinephrine and dopamine)
- receptor binding
- receptor expression

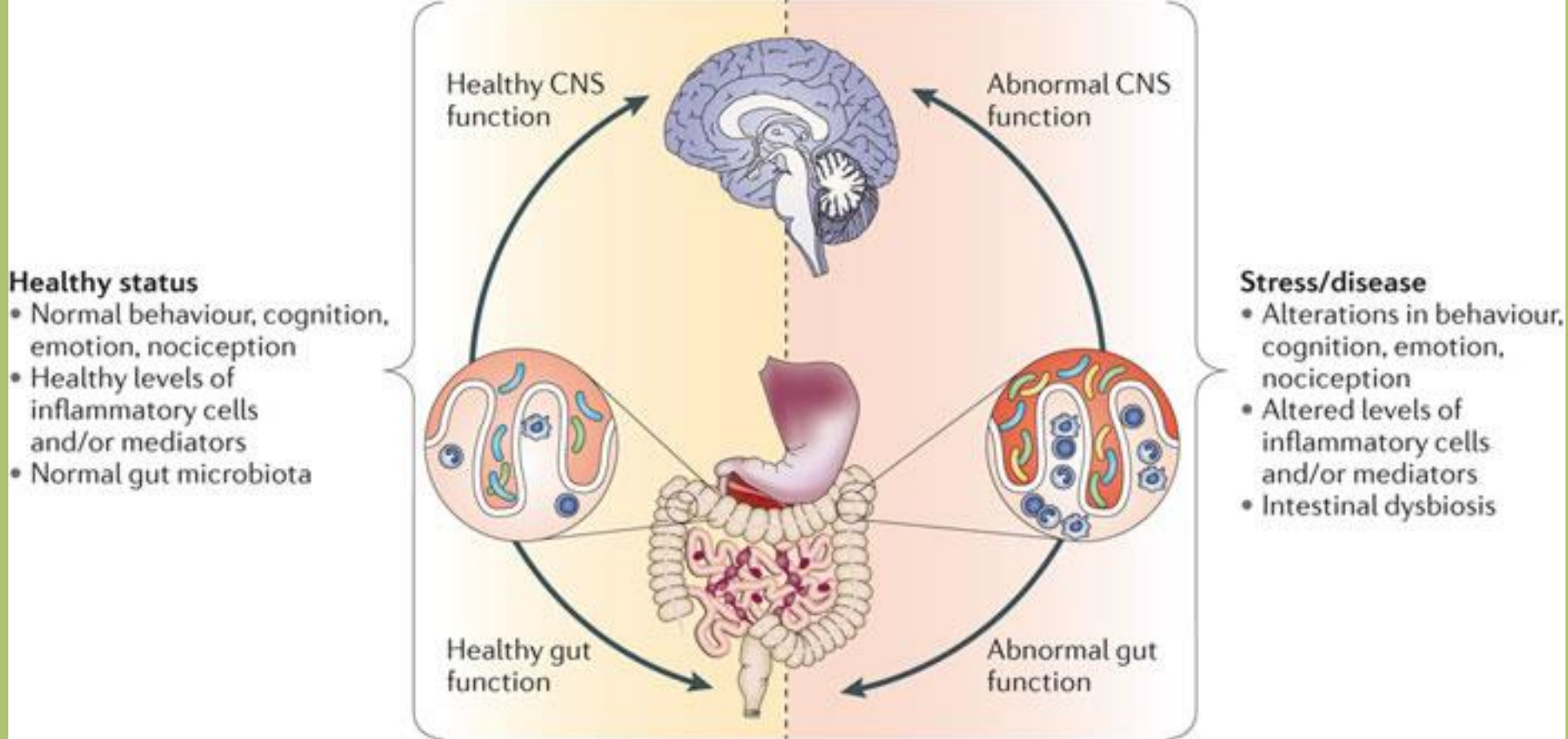


Traumatic experiences and/or early life adversity, or “insecure” attachment can lead to reduced physiological and emotional resilience and optimism, and contribute to mood dysregulation and intensified experience of stress



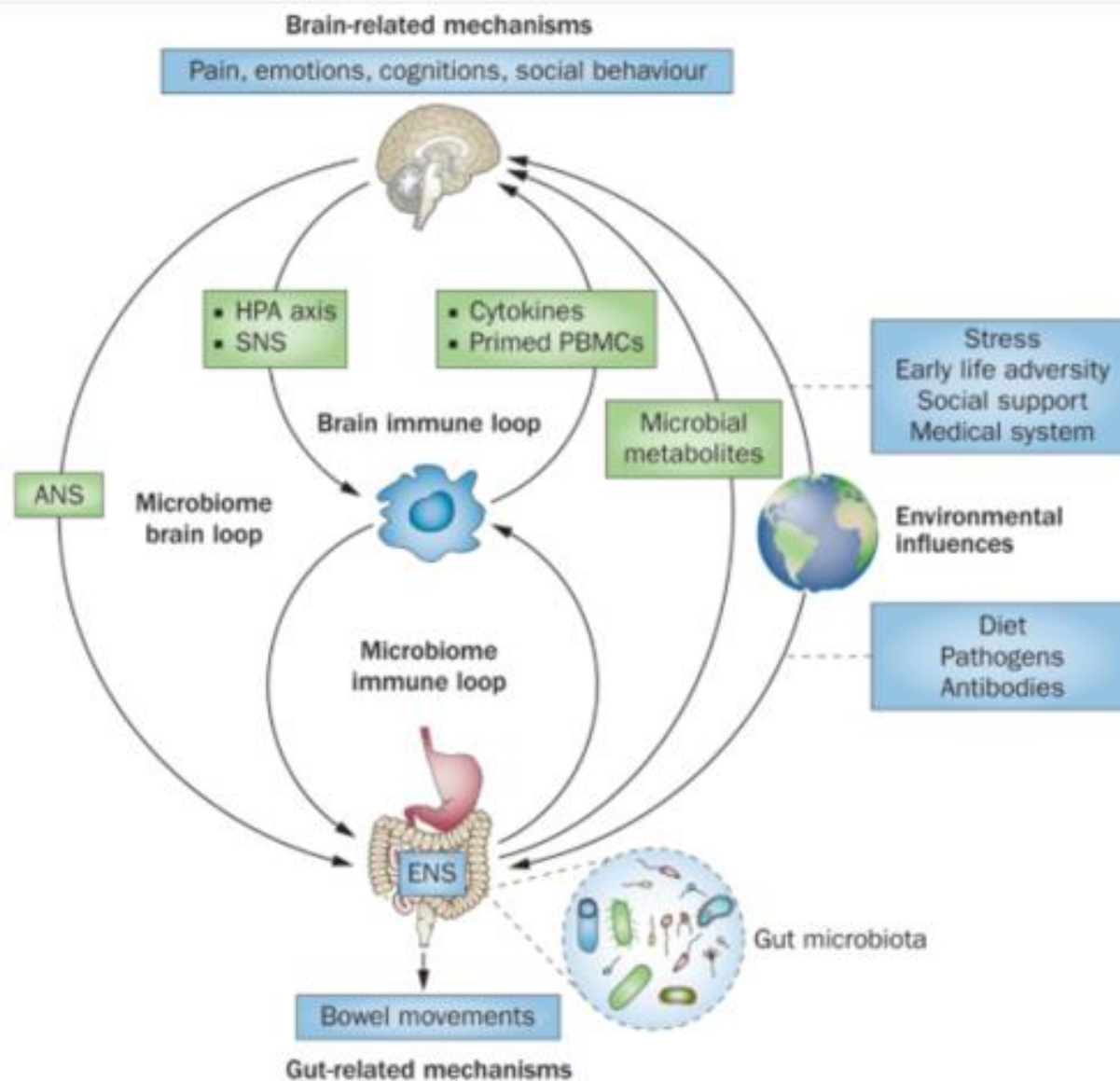
GI dysfunction, hyperpermeability and/or dysbiosis





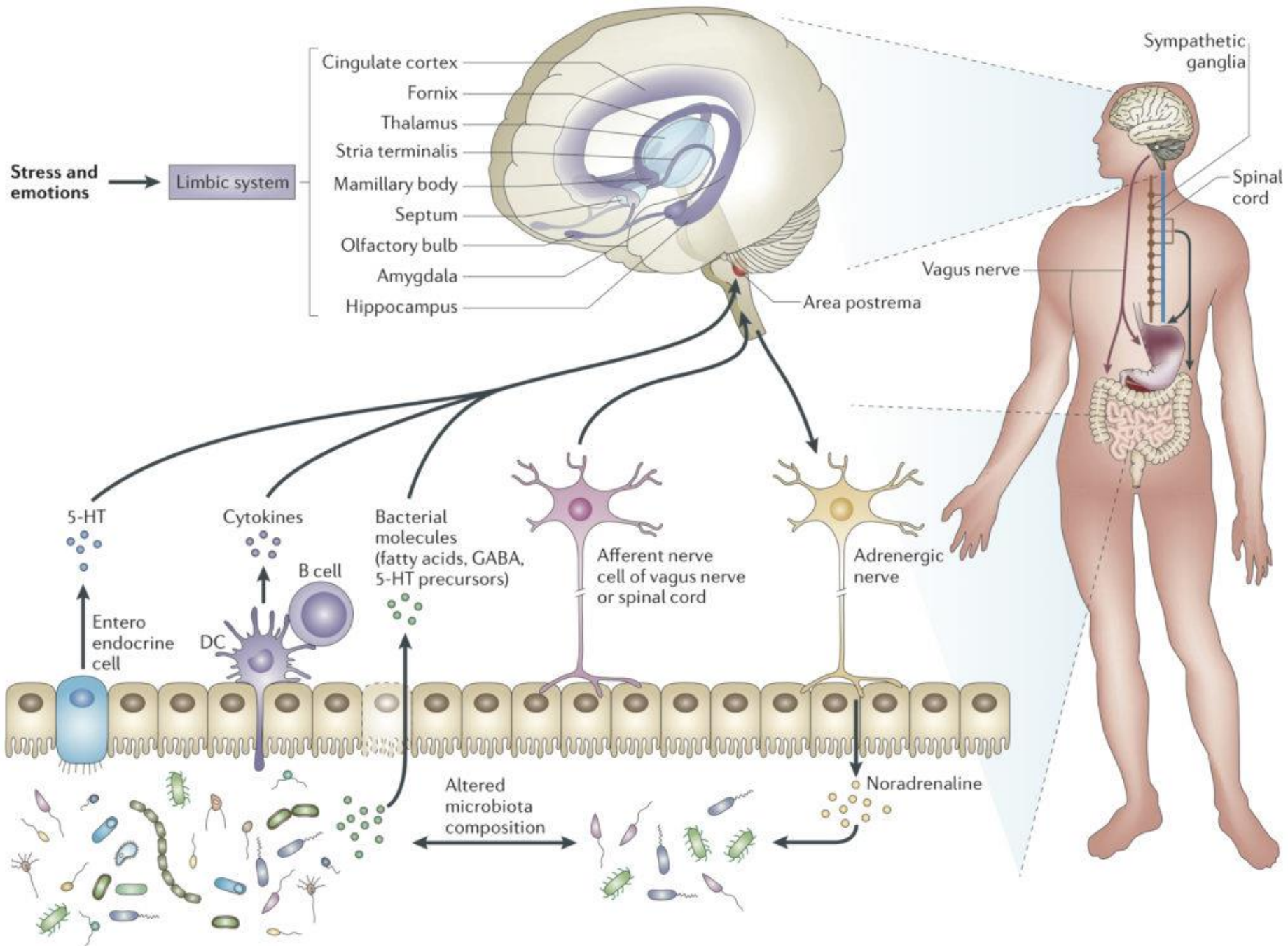
Nature Reviews | Neuroscience

Mind-altering microorganisms: the impact of the gut microbiota on brain and behaviour



Nature Reviews | **Gastroenterology & Hepatology**

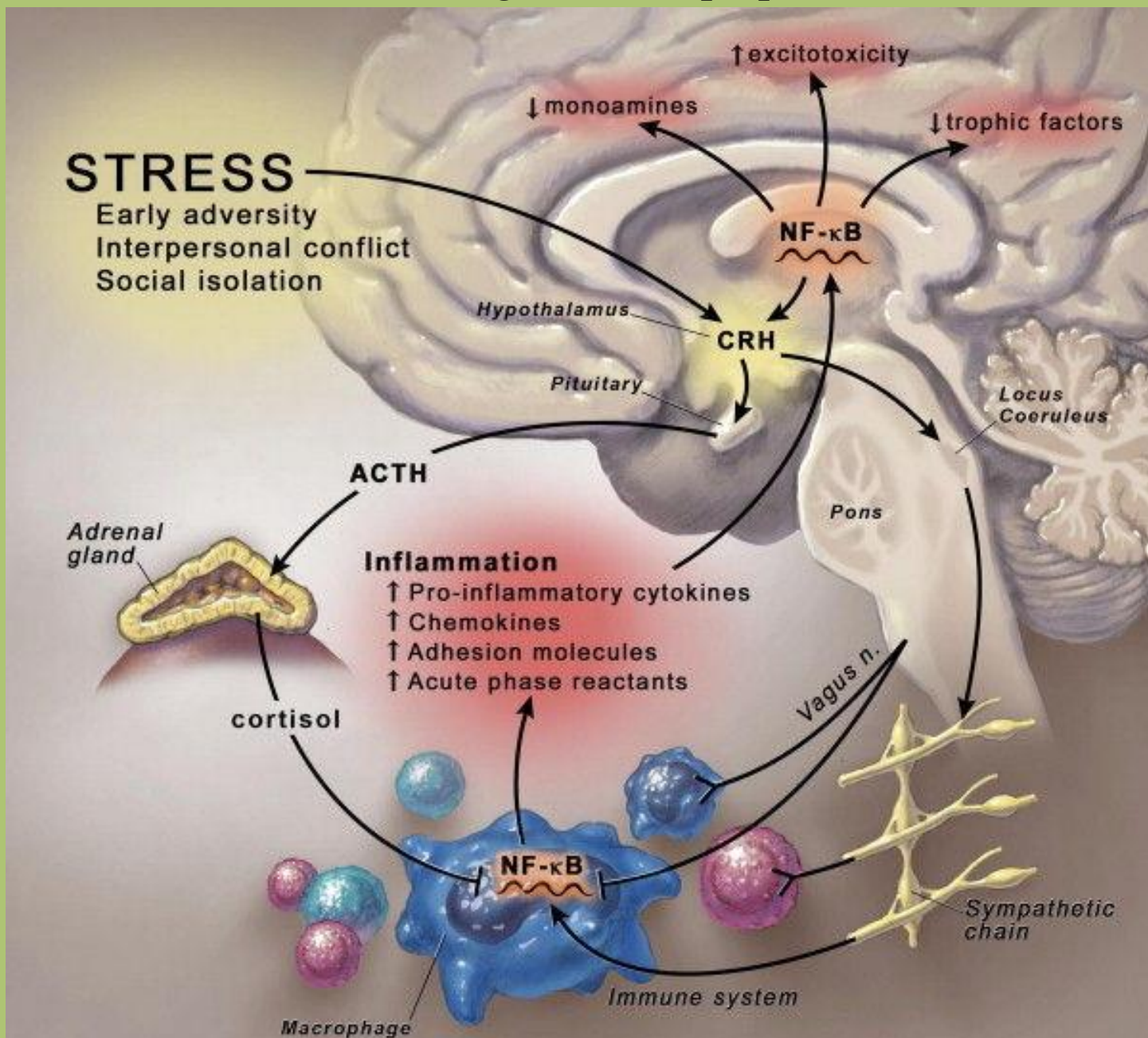
Schematic of the brain-gut axis, including inputs from the gut microbiota, the ENS, the immune system and the external environment. The model includes both peripheral and central components, which are in bidirectional interactions. Bottom-up influences are shown on the right side, top-down influences on the left side of the graph. Abbreviations: ENS, enteric nervous system; HPA, hypothalamic-pituitary-adrenal; PBMC, peripheral blood mononuclear cell; SNS, sympathetic nervous system. Modified with permission from Nature Publishing Group © Irwin, M.R. & Cole, S.W. *Nat. Rev. Immunol.* 11, 625-632 (2011).¹⁰³



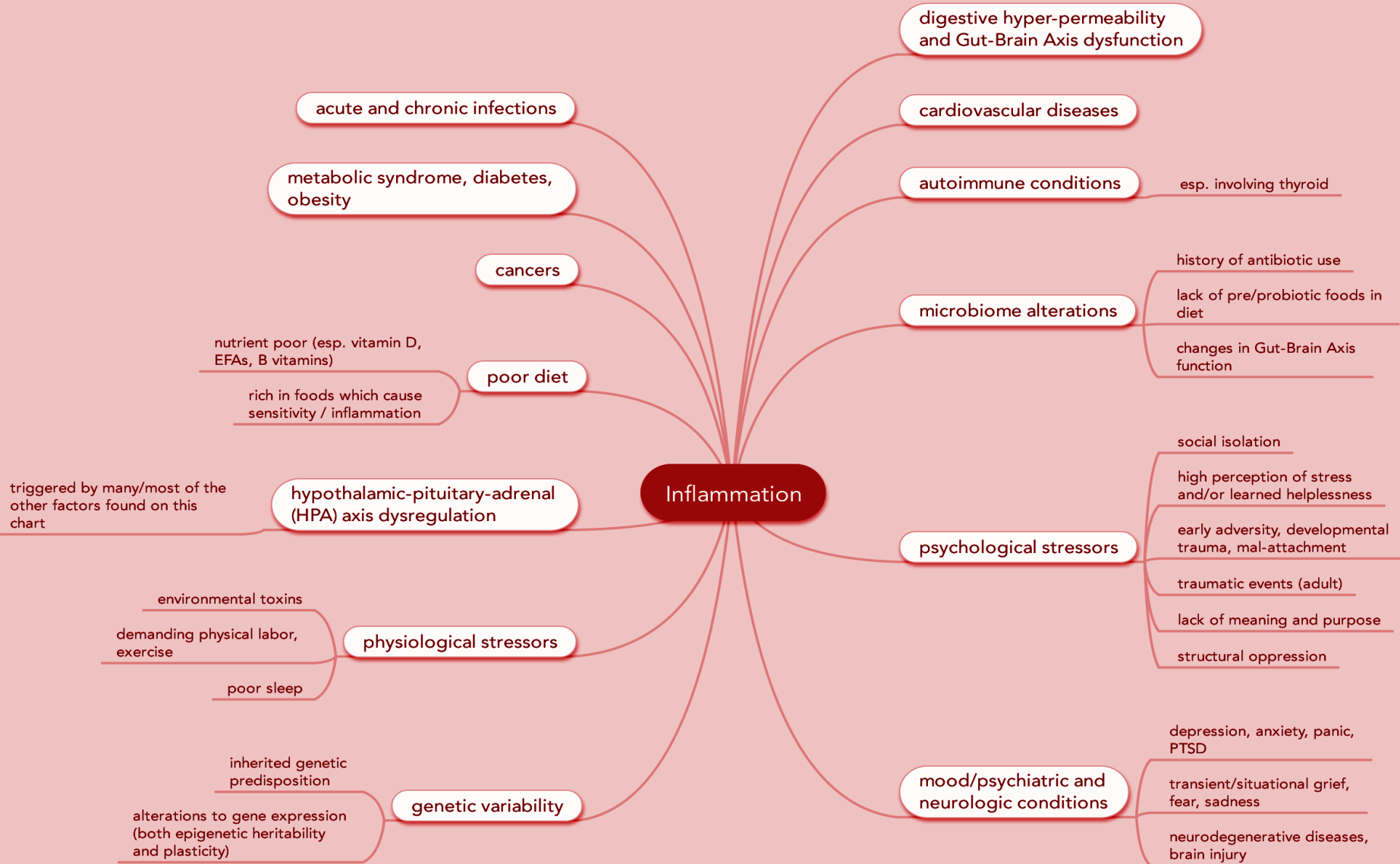
Chronic and systemic inflammatory conditions, e.g. cardiovascular disease, GI inflammation, auto-immunity, atopy



stress and inflammation engender and perpetuate each other...

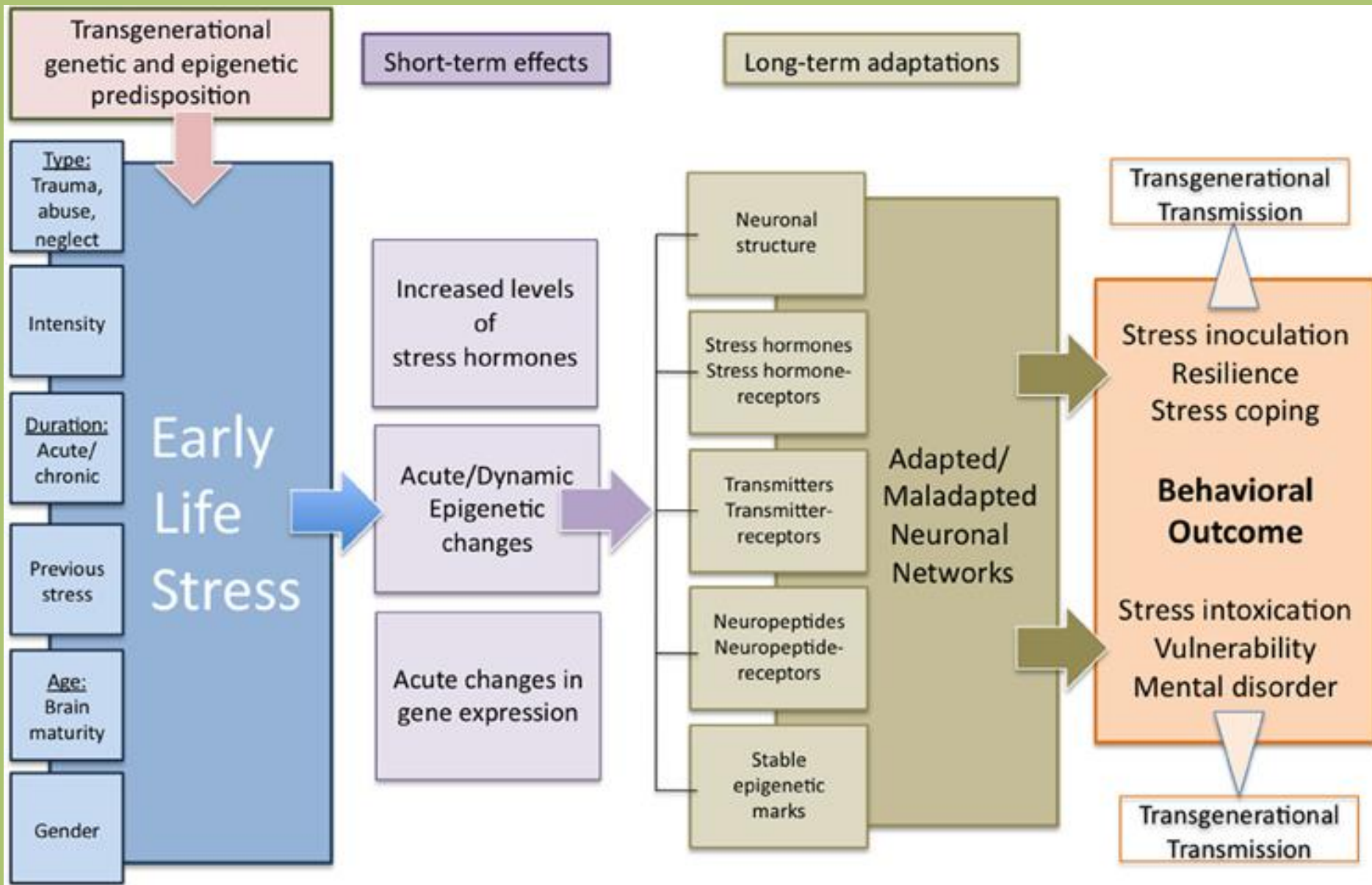


INFLAMMATION: A central mediator of health and disease, including EXPERIENCES OF STRESS, TRAUMA & RESILIENCE



Genetic variability and gene-environment interactions

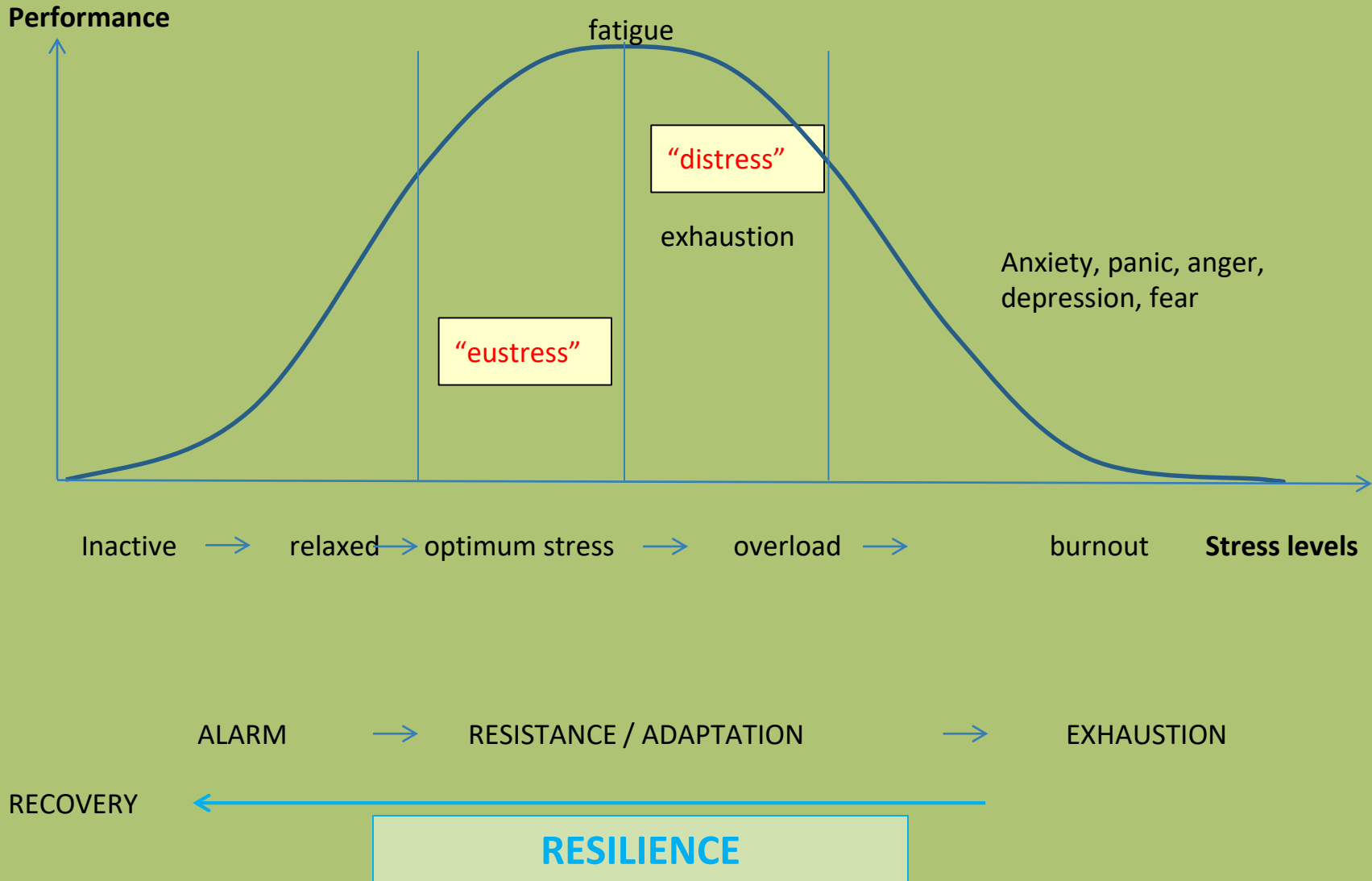




The orchid-dandelion hypothesis suggests variations in certain genes (e.g. the 5-HT transporter gene) may cause some to be more vulnerable to stressful environments, as well as more responsive to supportive environments, especially during childhood.

However, in vulnerability, may also be plasticity and resilience...

General Adaptation Syndrome Meets Resilience



Resilience

“In the context of allostasis, resilience denotes the ability of an organism to **respond to stressors** in the environment by means of the **appropriate engagement** and **efficient termination** of allostatic responses.”

Karatsoreos and McEwen, 2011. Psychobiological allostasis: resistance, resilience and vulnerability. [Trends Cogn Sci](#). Dec;15(12):576-84.

“The brain regulates responses that allow for adaptation to challenges in the environment. **The capacity of the brain and body to withstand challenges to stability can be considered as ‘resilience’**. While adverse childhood experiences can have long-term negative consequences, under the right circumstances, **the brain can re-enter plastic states, and negative outcomes may be mitigated, even later in life.**”

[Karatsoreos IN](#)¹, [McEwen BS](#). (2013). Annual Research Review: The neurobiology and physiology of resilience and adaptation across the life course. [J Child Psychol Psychiatr](#). Apr;54(4):227-47.

How do we build resilience?





Key Actions for Stress and Resilience (based on causative factors as we understand them):

- adaptogen (regulates HPA axis and functional recovery)
- nervine (regulates NS activity, trophorestorative)
- immunomodulant, esp. anti-inflammatory
- digestive support (e.g bitter, aromatic, vulnerary)
- prebiotic and probiotic (aka “psychobiotics”)
- circulatory stimulant and lymphatic
- mineral-rich herbs, nutrient-dense “special foods” (for specific vitamins, minerals, fats, etc.)

How to choose plants?

Differentiation of people and plants:

chaos  **orderly complexity**
via
pattern recognition

**Human patterns can be physiological,
behavioral, psychological**

Personality and Stress Response: Type A, B, C and D

types A-C characterized by Freidman and Rosenman, 1974

D characterized by Denollet, 1990s

Type A: **competitive**, desires to be recognized, longs for development and advancement, wants to achieve **goals** and therefore, tends to rush in order to finish tasks; typically **active** and alert, both mentally and physically

Type B: apparent **lack** of motivation, drive, **urgency**, competitive spirit, ambition or desire; **calm, relaxed** and non-competitive

Type C: a personality which involves **passion** for work and desire to achieve goals (typical of Type A), but when faced with **stress**, the person becomes **apathetic** (typical of Type B). Seems less likely to be distressed than A, but **may also be less resilient** in face of challenge

Type D (for “distressed”): “behavior characterized by the joint tendency to **experience negative emotions and to inhibit these emotions**, while avoiding social contacts with others” (Sher, 2005); experience increased **anxiety**, anger, stress and **loneliness**



*We are nature seeing Nature.
~ Susan Griffin*

Human patterns can be physiological, behavioral, psychological

Traditionally, all of the above have been synthesized into observable, qualitative patterns (e.g. **constitution** or tissue state).

These patterns are usually associated with qualities in the natural environment, often called “**energetics**” in traditional medical systems.

Irritable/Overactive	Hot
Stagnant	Damp
Atrophic/Underactive	Dry
Unresponsive/Decaying	Cold
Tense	Hot or Cold
Lax/Permeable	Damp or Dry

*These aren't absolute or complete correlations ~ nature is nuanced and complex.

Four Basic Patterns of Adaptation/Maladaptation:

Hot/Dry/Overactive/Tense

Cool/Moist/Lax/Stagnant

Warm/Moist/Lax/"Permeable"

Cold/Dry/Depleted/Tense

Basic Patterns of Distress/Expression of Allostatic Load

Psychology meets Traditional Energetics

Working Model

Hot/Overactive/Excessive/Tense

Type A (active/aggravated?)

Cool/Moist/Relaxed/Stagnant

Type B (boggy/blasé?)

Warm/Moist/Lax

Type C (changeable/combo?)

A+B characteristics suggest tendency towards heat + dampness

Cold/Dry/Depleted/Tense

Type D (distressed/depleted?)

**After the broad adaptation pattern,
get to specifics**

What makes this person unique?

the particular experiences, perspectives and narrative of the individual; nuances of history and present circumstances

What do they believe about cause or history?

What do they believe is necessary for change?

What kind of support or ally resonates most?

What plants do they love (or avoid)?

Hunches? Affinities?

Unique details of pathology

(e.g. specific hormone profile that a plant might target)

**We can group plants in the same way
we look at people:**

First, the broad categories of action and
adaptation pattern:

e.g. an adaptogen for a hot, tense, irritable
presentation

Selected Nervines and Adaptogens for Stress, Trauma and Resilience Grouped by Adaptation Pattern

Hot/Excessive/Dry/Tense

Type A (active/aggravated?)

Chamomile

Mimosa

Hawthorn

Gotu kola

Kava**

Vervain

Linden

Motherwort

Hops

Baikal skullcap

Raw Rehmannia

Eleuthero

Cool/Moist/Relaxed/Stagnant

Type B (boggy/blasé?)

Mugwort

Rosemary

Lavender

Damiana

Valerian

Lemon balm^

Turmeric

St John's wort*

Holy Basil

Rhodiola

Schisandra*

** use w/care with some medications, **avoid in liver damage, ^avoid high dose in hypothyroidism, ^^avoid high dose in hypertension*

Warm/Moist/Lax

Type C (changeable/combo)

Ginkgo

Gotu kola

Rose

Skullcap

Chamomile

Anise hyssop

Lavender

Mugwort

Angelica

Baikal skullcap

Turmeric*

Reishi

Rhodiola

Cold/Dry/Depleted/Tense

Type D (distressed/depleted)

Gotu kola

Oat

Rose

Lavender

Skullcap

Passionflower

Ashwagandha

Shatavari

Holy Basil

Prepared Rehmannia

Licorice^^

Maca

Codonopsis

Astragalus

**use w/care with some medications, **avoid in liver damage. ^avoid high dose in hypothyroidism;*

^^avoid high dose in hypertension

**Second, ask
what makes each plant unique?**

**To differentiate among plants with the same actions
and “energetic” patterns, we draw on:**

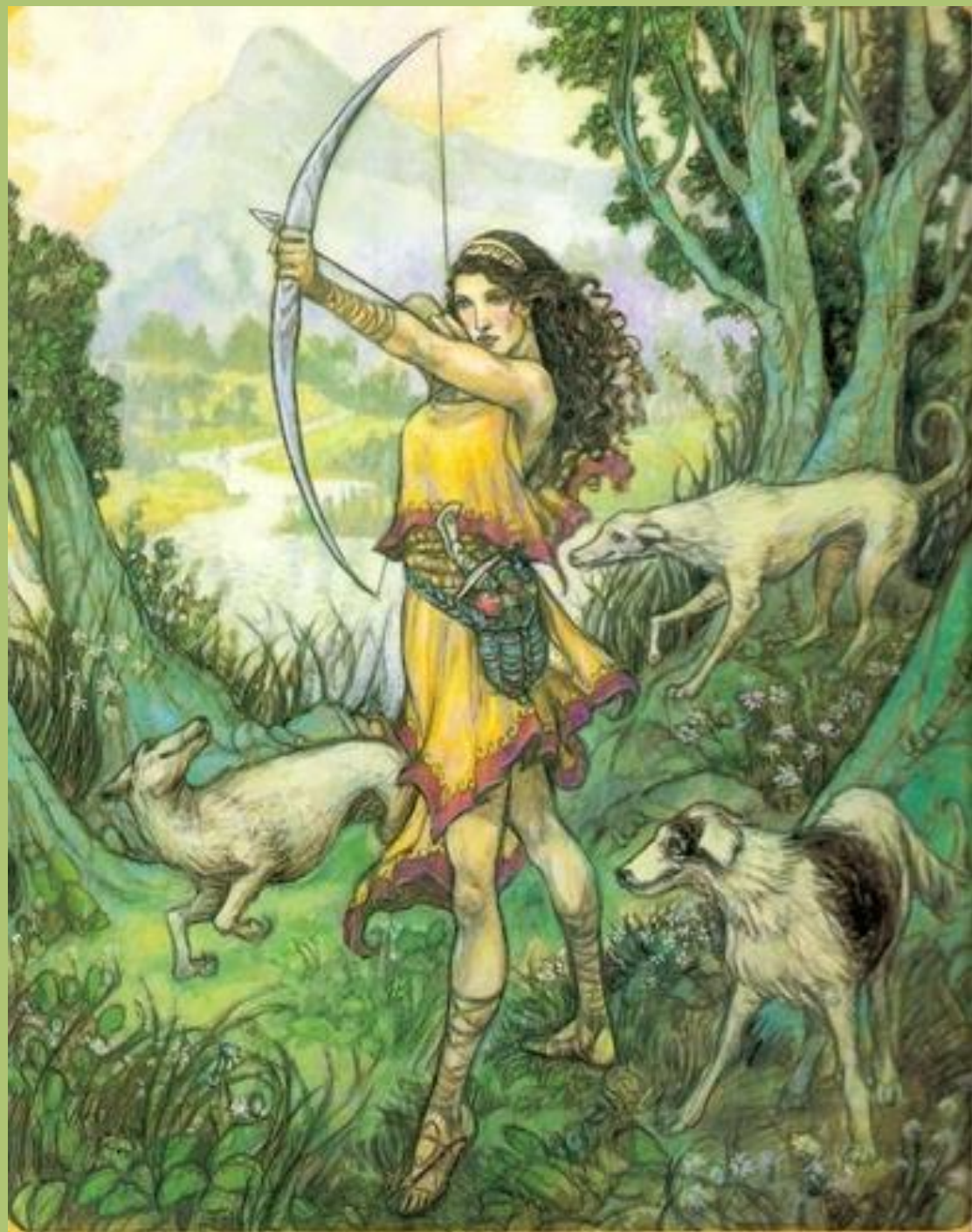
- personal and clinical experience of self and peers
- **specific indications** and unique energetic qualities (from historical use, empirical evidence)
- pharmacologic activity and/or clinical research
- secondary actions and organ tropisms of plant
- **mytho-poetics and meaning-making** (shared cultural or personal narratives, natural history and habits of plant, client affinity or associations)

The stories of plants and the stories of people often help us make meaning with our clients...

Meaning-making is actually a resilience-building strategy!

Artemis,
namesake of the
artemisiae
(e.g. mugwort)...

What is her story?



Let's take a virtual resilience-building herb walk...



American Skullcap (*Scutellaria lateriflora*)
*excellent all-purpose, relaxing nervine for
somaticized tension and stress, anxiety*



Gotu kola (*Centella asiatica*)

anti-inflammatory, vulnerary, circulatory stimulant, anxiolytic, nootropic



Rose (*Rosa rugosa*)

*a euphoriant nervine, both calming and uplifting;
anti-inflammatory*



Motherwort (*Leonurus cardiaca*)

Relaxing nervine, negative chronotrope, bitter, circulatory stimulant



Blue vervain (*Verbena hastata*)
relaxing and stimulating nervine, as needed;
excellent digestive bitter



Baikal skullcap

(Scutellaria baicalensis)

powerful anti-inflammatory, especially for cardiovascular and liver concerns; anxiolytic

Lemon Balm (*Melissa officinalis*)
nervine (relaxing and uplifting),
digestive, antispasmodic, antiviral



Anise hyssop (*Agastache foeniculum*)
digestive antispasmodic,
relaxing nervine





Bee balm (*Monarda didyma*)
strong aromatic digestive, amphoteric nervine



St. John's Wort (*Hypericum perforatum*)

*nervine (esp. stimulating, but possibly relaxing, as well), antiviral (esp. HSV),
vulnerary, neural analgesic*

**Turmeric (*Curcuma
longa*)**

*anti-inflammatory,
aromatic bitter, vulnerary,
“anti-depressant”*





Milky oat (*Avena sativa*)
*safe, nourishing nerve “tonic”, useful
in most all mood disorders, chronic
stress and trauma*



Ashwagandha root
(*Withania somnifera*)
excellent building adaptogen with
strong GABAnergic activity,
anti-inflammatory



Rehmannia glutinosa
adaptogen, "blood builder", anti-inflammatory



Codonopsis pillosula
gentle adaptogen, digestive tonic, immunomodulant



Burdock (*Arctium lappa*)
prebiotic, alterative, gentle
bitter

In addition to herbs, lifestyle and diet are paramount:

- constitutionally appropriate, nutrient-dense, anti-inflammatory diet (rainbow), emphasizing blood sugar regulation, protein, EFAs
- stress management tools, again appropriate to constitution/personality type

e.g: nature, movement, spiritual practice/inspiration, human connection, play, sleep, talk therapy, biofeedback, **somatic therapies**



Neocortex

"Thinking"

Cognition, Language, Speech,
Social and Regulatory Centers

Limbic/Mid-Brain

(Amygdala)

"Feeling"

Memory, Emotions and Alarm Center

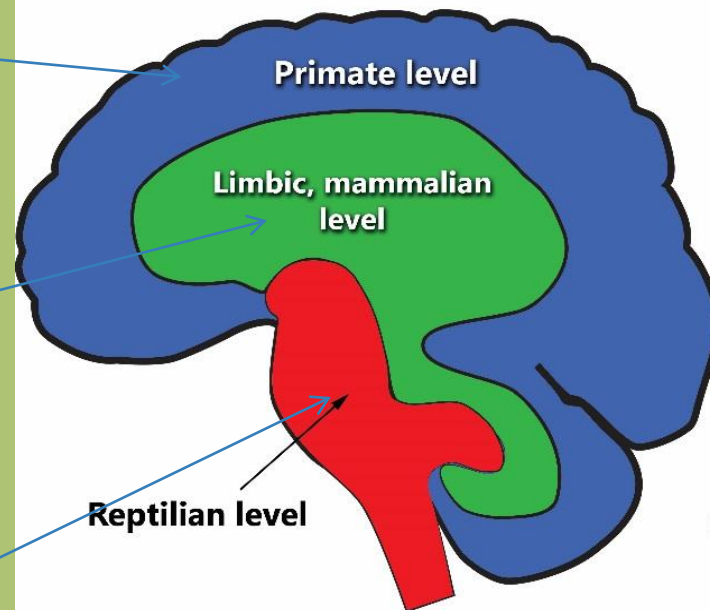
The Brainstem ("Reptilian Brain")

"Sensing"

Survival and Instinctual Centers (*fight, flight, freeze*)

Digestion, Reproduction, Circulation, Breathing,
Sleeping

The Triune Brain



Primate level:
Thinking, conscious
memory, symbols, planning
& inhibition of impulses

**Limbic,
mammalian level:**
Feelings, motivation,
interaction
& relationship

Reptilian level:
Sensation,
arousal-regulation
(homeostasis) & initiation of
movement impulses

From Paul MacLean

Accessing the Subcortical Brain

*Trauma is in the nervous system,
not in the event (or our stories about it).*

Traditional therapies approach trauma resolution via the cortical brain systems (*language, conscious thought, explicit memory*)

Somatic therapies recruit the subcortical brain systems (*body sensations, unconscious dynamics, implicit memory*) to support safety and re-regulation in the nervous system

Somatic Therapies Broaden Traditional Approaches to Trauma Treatment

Cognitive Approaches:

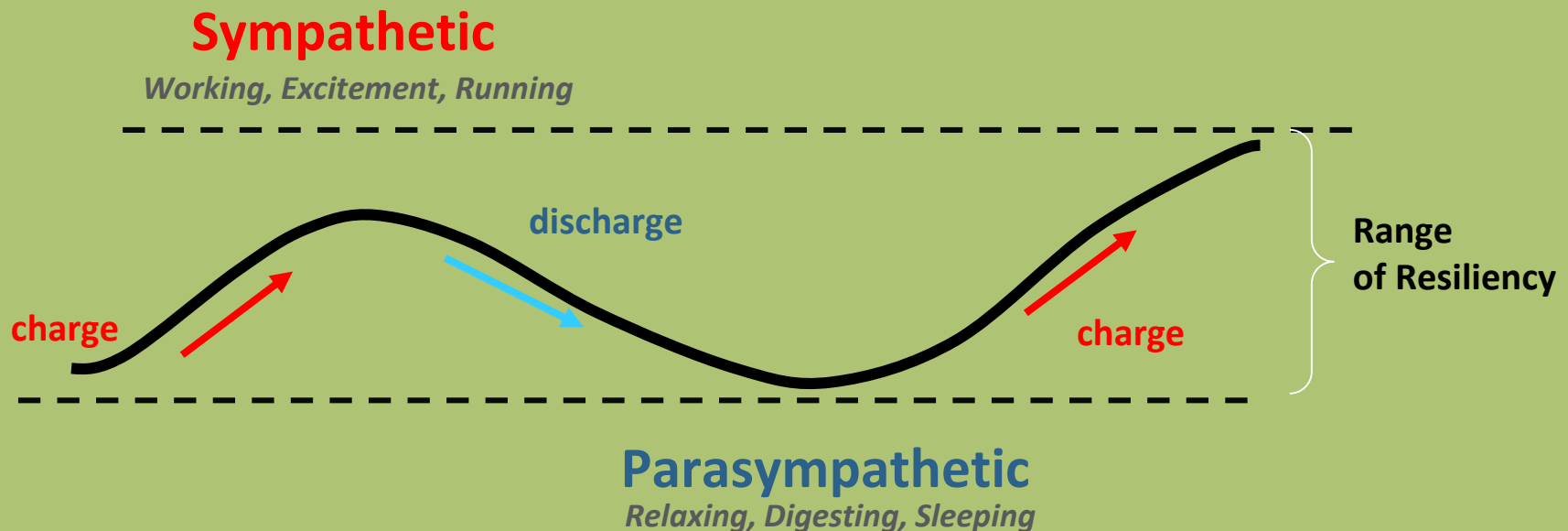
- Focus on how thoughts influence emotions and behaviors (“**top-down**”)
- Help identify distorted cognitive beliefs and maladaptive behaviors
- Target reduction of symptoms
- Help create more adaptive self-beliefs and behaviors
- *Rely on insight and behavior change*

Somatic Approaches:

- Focus on how the body influences thoughts, emotions, and behaviors (“**bottom-up**”)
- Help people become aware of body sensations and procedural memories
- Target underlying dysregulation in the nervous system that causes/maintains symptoms
- Help create a greater control over debilitating symptoms and unconscious dynamics
- *Rely on body awareness and physiological regulation*

We're working on building the range of resilience and capacity for self-regulation

Activation – Deactivation Cycles



Basic Skills used in Somatic Experiencing:



- **Orientation**
- **Felt Sense**
- **Tracking**
- **Resourcing**

Orientation

employs *exteroception*:

receiving direct information from the external environment

Detects and informs us of the external environment via:

Sight

Hearing

Smell

Taste

Touch



Felt Sense

employs *interoception*:

Becoming aware of the internal states of one's body

Detects and informs us of internal regulation responses, such as:

Respiration

Heart rate

Body temperature

Balance

Hunger/Thirst

Need for digestive elimination

Emotions

Pleasure/Pain



Felt Sense: The Language of Sensation

Intensity of Sensations

Sharp Dull
Intense Weak
Hard Soft
Pressure Solid

Muscle Sensations

Trembling Achy
Shuddering Crampy
Shivery Twitching
Pulsing Fluttery
Shaky Shuddering
Throbbing Tense
 Spasming

Skin Sensations

Itchy Prickly
Tingly Sweaty
Moist Clammy
Dry Flushed
Goosebumps

Temperature

Frozen Icy
Cold Cool
Numb Warm
Hot Boiling
 Steaming

Constriction Sensations

Stuck Contracted
Knotted Tight
Blocked Congested
Tense Constricted
 Breathless
 Compressed
 Suffocating

Whole Body Sensations

Trembling Heavy Thick
Vibrating Flaccid Full
Puffy Jittery Gurgling
Energized Light Calm
Fidgety Jumpy Tingling
Faint Fuzzy Wobbly
 Spinning Buzzing

Expansion Sensations

Expansive Moving
Floating Flowing
Fluid Relaxed
Radiating Glowing
Waves Streaming

Tracking

Following the felt sensations in the body through focused inward attention

Consciously becoming aware of the body and the information it provides about our “true” experience of safety, alarm, overwhelm, etc.

Resourcing

Resources are anchors that help stabilize the nervous system

External

- **People, places or activities** (in reality or in imagination) that are comforting, calming, settling
 - *Safe people, pets, places in nature, home, special rooms, music, exercise, travel, vacation, spiritual community*
- **The therapist's/herbalist's engagement:** capacity to track well, to be in resonance/attunement, to create a safe space

Resourcing

Internal

- When client experiences settling, less constriction, more **breath**, more **presence**, **pleasure**
- **Positive sensations** in the body:
 - *relaxed, more spacious, less tense, grounded, stable, connected, have a freer range of movement, tingling, move alive*

Nature Time as Somatic Therapy

Reduces neuroendocrine hyperactivation, regulates allostatic mechanisms, including HRV

Offers orienting and sensing opportunities

Can be a resource for later use, even when not in natural environment

“Forest bathing”
(Shinrin-yoku)
anyone?



Plants can be Somatic Resources

External

Herb shapes, colors, scents, tastes, textures that are pleasurable can be experienced in the moment or brought to mind later

Internal

Ingesting, inhaling, sitting with plants can engender noticeable shifts in internal sensation which can then be anchored as a resource to return to, even without the plant's presence



Just looking at this photograph can be a resource...



Stress-reducing effects of real and artificial nature in a hospital waiting room.
[Beukeboom CJ](#)¹, [Langeveld D](#), [Tanja-Dijkstra K](#). (2012). *J Altern Complement Med.* Apr;18(4):329-33.

Exercises for Self Regulation

Giving people tools to settle themselves during arousal is the first step in healing from and preventing further damage from stress and trauma.

Most, if not all, mind-body practices guide us towards a predominantly parasympathetic state where we can be **calm, but curious, and tolerant to new stimuli.**

Exercises don't need to be complicated or require special equipment. We can harness our capacity for presence and pleasure, however small, in each moment.

Orienting and Felt Sense Exercise

1. Using your senses (sight, hearing, touch, etc.), identify 3 things you're drawn to in your environment.
2. Sensing internally, identify 1 sensation you're aware of from within your body.
3. Again, using your senses identify 3 things you're drawn to in your environment.
4. Notice what's happening now: *How do you feel overall?*

Orienting and Felt Sense Exercise Application

This external orientation “sandwich” is especially useful when a client seems to spiral into activation when “going inside” too much. It is a way of **easing into the body (titrating) without overwhelming the nervous system.**

Orienting to the environment with eyes open--while being curious about what’s pleasurable--is a gentle place to begin and a safe place to come back to.

Sometimes just orienting to a space and identifying and focusing on what’s pleasurable is enough.

Resource and Felt Sense Exercise

1. Think of an experience or person that makes you happy, brings a smile to your face.
2. Identify one sensation as you bring this resource to mind.
3. What is the size, shape, texture, movements, or even color associated with this sensation?
4. As you become aware of these qualities inside, notice what's happening now: *How do you feel overall?*

Resource and Felt Sense Exercise Application

This is a useful tool for a person in need of support who doesn't always have access to people or places that feel safe or friendly.

Anchoring the symbol or story and attendant positive emotions (higher and mid brain) down into the body (brain stem) makes these resources more real and ultimately more impactful.

When a person isn't comfortable in their body or frequently dissociates, this is a way to begin to bring goodness (as Peter Levine calls it) back to the body.



Anemone (*Anemone pulsatilla*)
an excellent anxiolytic in times
of panic and dissociation from
the body
(*low-dose botanical: 1-5 drops tincture
diluted in water/dose)

Social Connection

Engaging in community in a way that is meaningful to us is one of the most reliable paths to resilience.

Positive social connections and a sense of purpose or meaning:

- increase vagal tone, positive emotions, and physical health (Kok, 2010)
- increase expression of a suite of genes associated with reduced inflammation and increased immune resistance (Cole, 2015)



Plants & Community – Embodying Resilience



May your journey with the plants be long and joyful.

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For Further Exploration

Waking the Tiger and *In an Unspoken Voice*, Peter Levine

The Polyvagal Theory, Steven Porges

The Body Keeps the Score, Bessel van der Kolk

Why Zebras Don't Get Ulcers, Robert Sapolsky

Biology of Belief, Bruce Lipton

MacArthur Research Network on
SocioEconomic Status and Health

[http://www.macses.ucsf.edu/research/allostatic/
default.php](http://www.macses.ucsf.edu/research/allostatic/default.php)

More References and Links

Re: Stress and Trauma

- Heller, Laurence and Lapierre, Aline (2012). *Healing Developmental Trauma*.
- Levine, Peter (2004). *Trauma Healing*.
- Levine, Peter and Kline, Maggie (2006). *Trauma Through a Child's Eyes*.
- Poole Heller, Diane and Heller, Laurence (2001). *Crash Course*.
- Ross, Gina (2007). *Beyond the Trauma Vortex*.
- Scaer, Robert (2014). *The Body Bears the Burden*.
- Scaer, Robert (2005). *The Trauma Spectrum*.
- Siegel, Daniel (2008). *The Neurobiology of We*.
- Siegel, Daniel (2001). *The Developing Mind*.
- van der Kolk, Bessel (1996). *Traumatic Stress*.

David Baldwin's Trauma Information Pages: <http://www.trauma-pages.com/>, especially a very thorough reading list: <http://www.trauma-pages.com/bookstore.php>