

Buddha's Brain:

***Growing Inner Strength and Peace
in Your Brain and Your Life***

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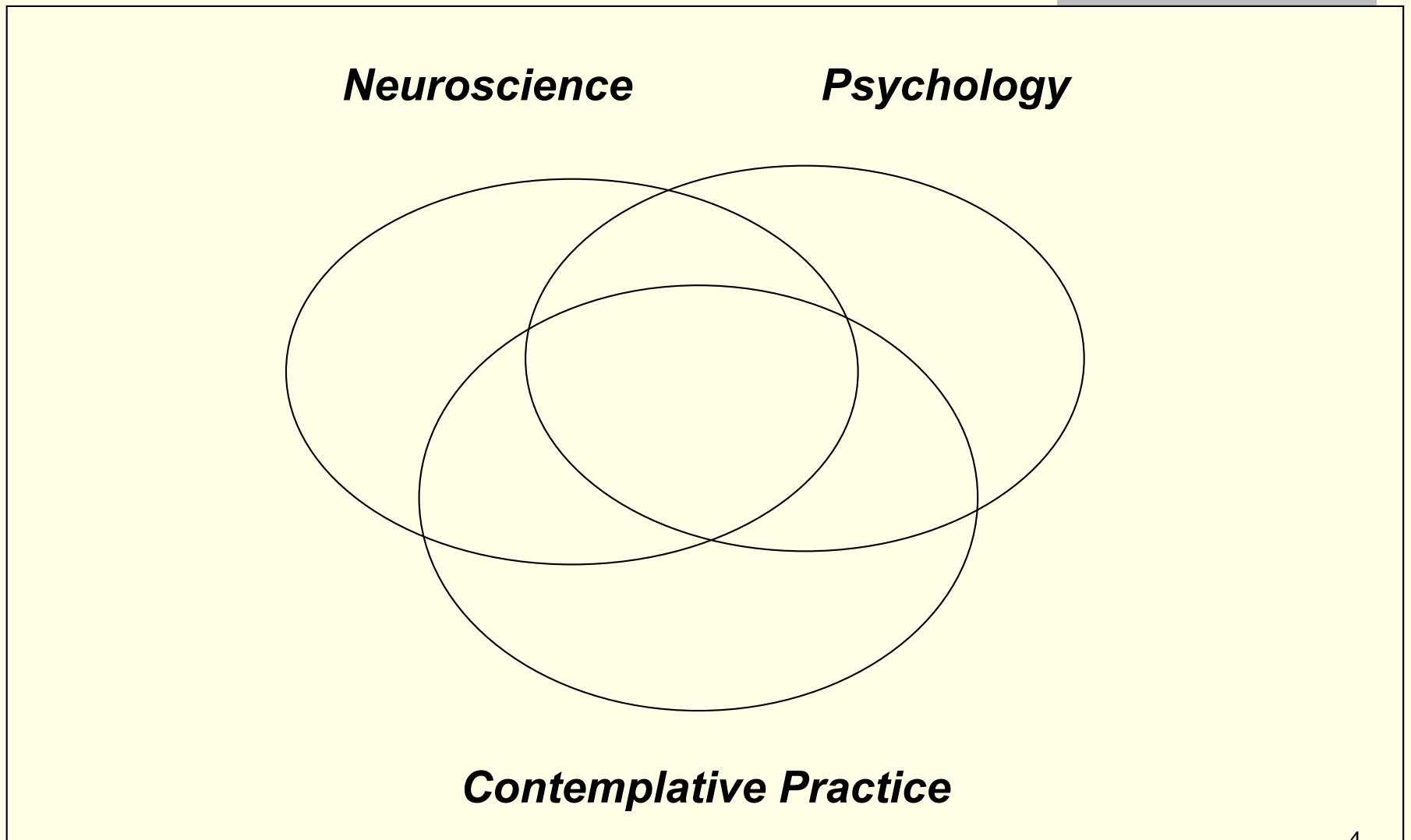
Topics

- **Grounding the mind in life**
- **Self-directed neuroplasticity**
- **Being on your own side**
- **Growing inner strengths**
- **The negativity bias**
- **Taking in the good**
- **Research on the HEAL process**
- **The evolving brain**
- **Key resource experiences**



Grounding the Mind in Life

Common - and Fertile - Ground

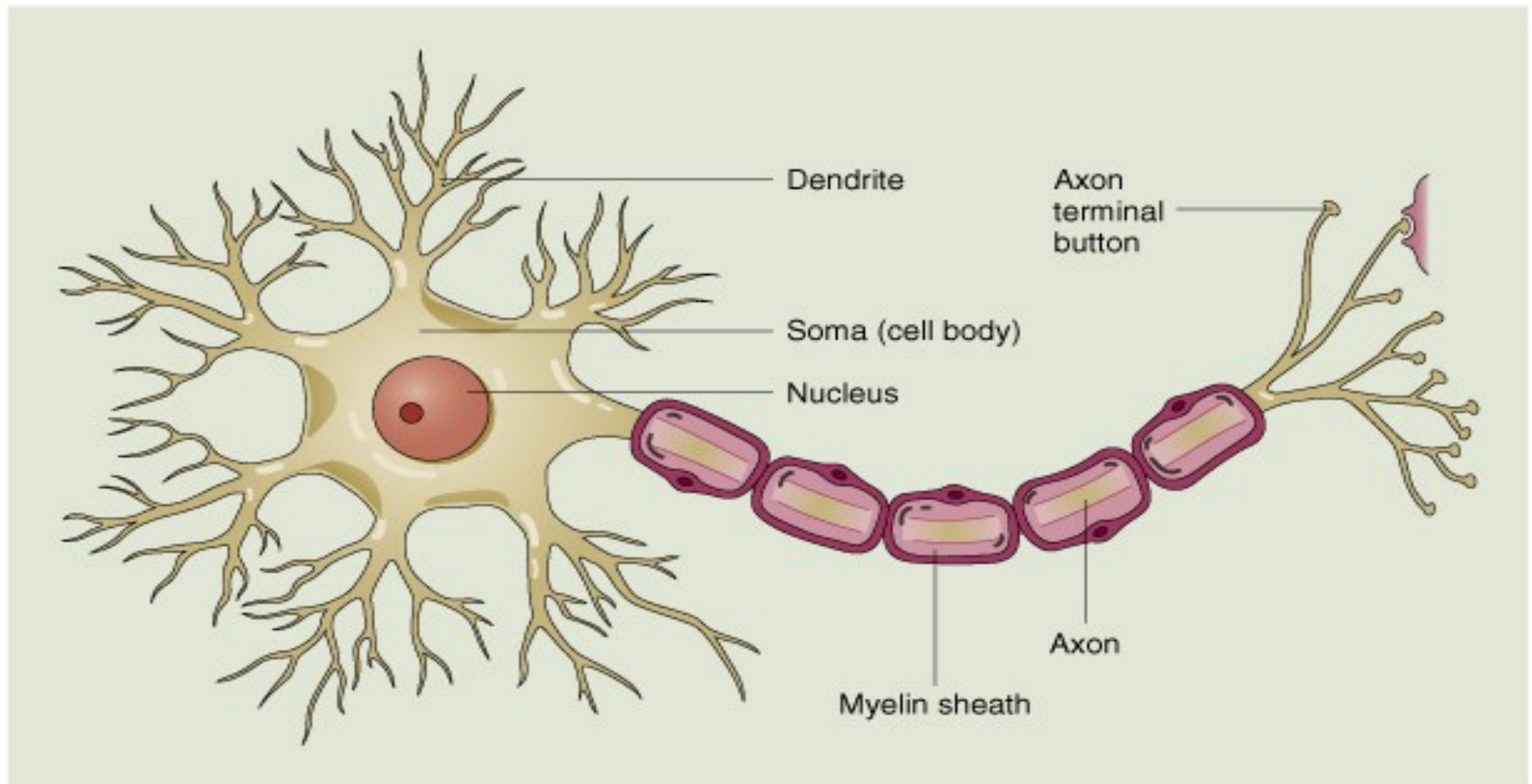


*[People] ought to know that
from nothing else but the brain
come joys, delights, laughter and sports,
and sorrows, griefs, despondency, and lamentations.*

Hippocrates



A Neuron



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All cells have specialized functions. Brain cells have particular ways of processing information and communicating with each other. Nerve cells form complete circuits that carry and transform information.

Electrical signaling represents the language of mind, the means whereby nerve cells, the building blocks of the brain, communicate with one another over great distances. Nerve cells generate electricity as a means of producing messages.

All animals have some form of mental life that reflects the architecture of their nervous system.

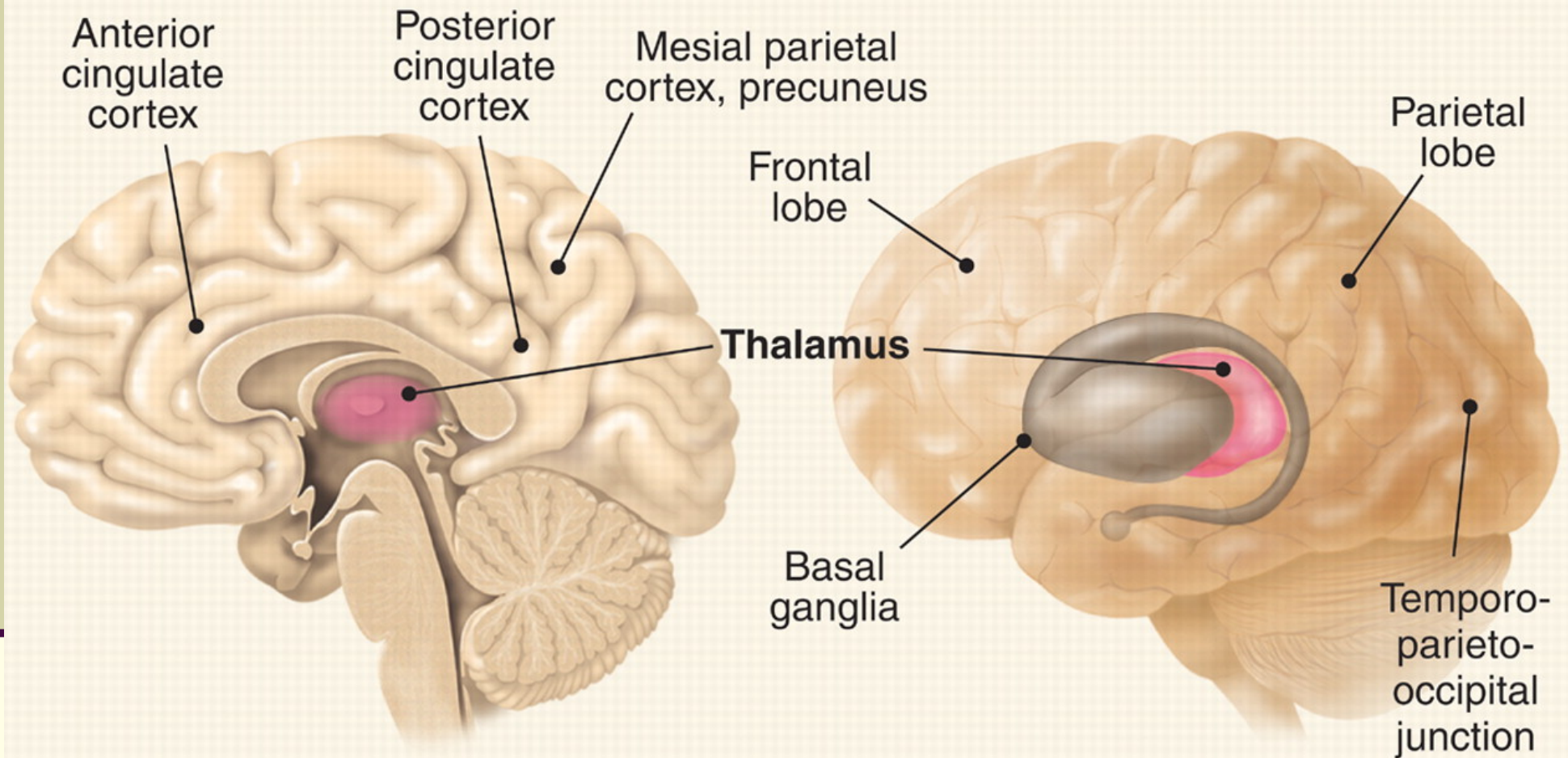
The Natural Mind

Apart from the hypothetical influence of a transcendental X factor . . .

Awareness and unconsciousness, mindfulness and delusion, and happiness and suffering must be natural processes.

Mind is grounded in life.

Key Brain Areas for Consciousness



(adapted from) M. T. Alkire et al., *Science* 322, 876-880 (2008)

We ask, "What is a thought?"


We don't know,

yet we are thinking continually.

Venerable Tenzin Palmo

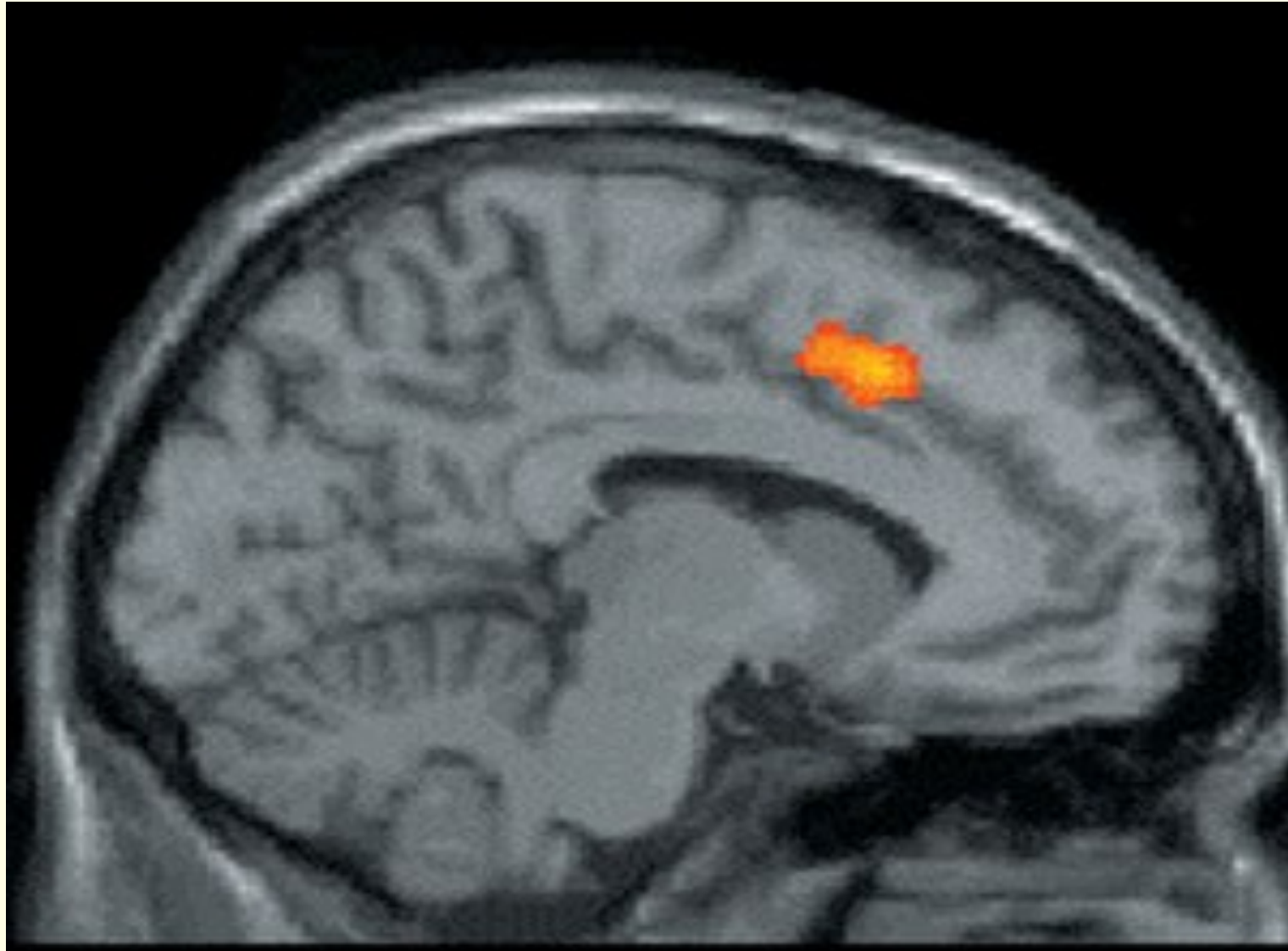


Self-Directed Neuroplasticity



**Mental activity entails
underlying neural activity.**

Steadiness of Mind



**Repeated mental activity entails
repeated neural activity.**

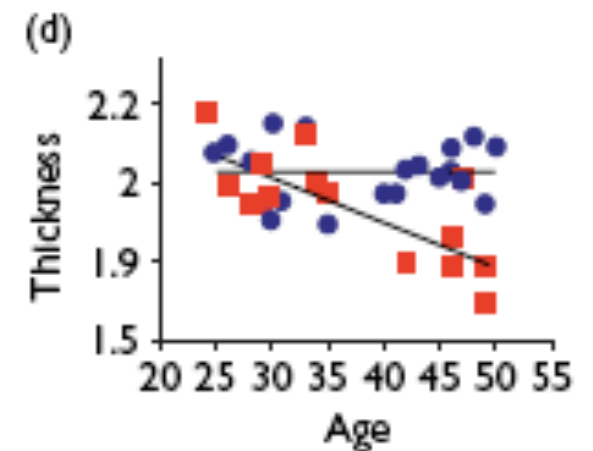
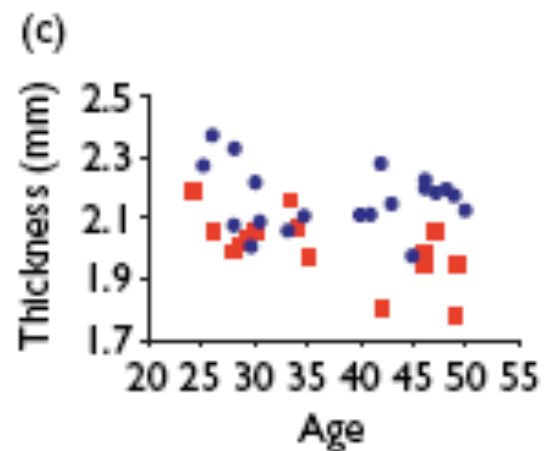
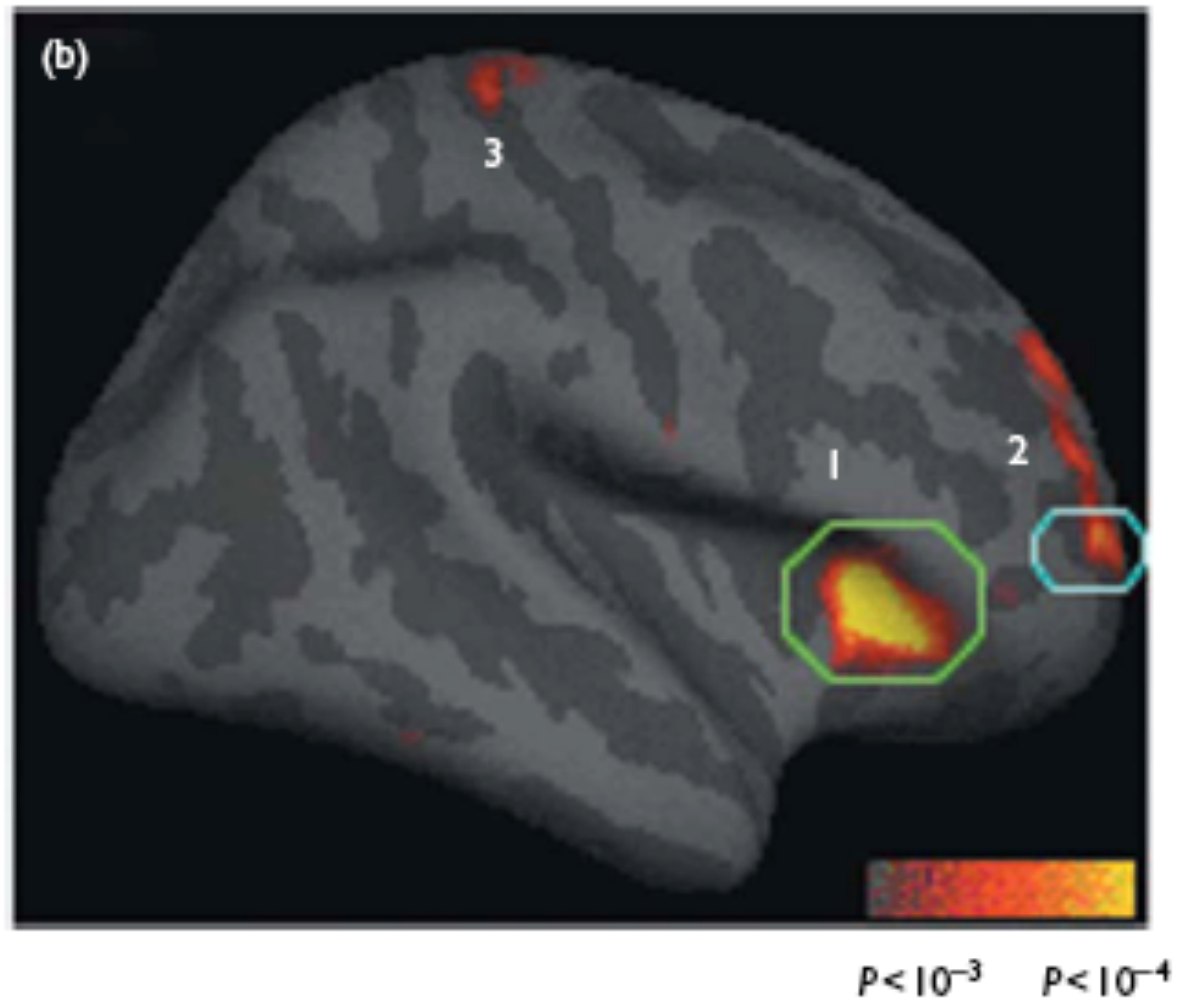
**Repeated neural activity
builds neural structure.**

A network of glowing yellow neurons with a central neuron highlighted in green. The neurons are interconnected by a dense web of thin, yellow, fiber-like structures. The central neuron has a bright green nucleus and is surrounded by a network of yellow fibers. The background is dark, making the glowing neurons stand out.

Neurons that fire together,

wire together.

Lazar, et al. 2005.
Meditation
experience is
associated
with increased
cortical thickness.
Neuroreport, 16,
1893-1897.




Self-Directed Neuroplasticity

We can use the mind

To change the brain

To change the mind for the better

To benefit ourselves and other beings.



Being on Your Own Side

*The good life, as I conceive it, is a happy life.
I do not mean that if you are good you will be happy;
I mean that if you are happy you will be good.*

Bertrand Russell

*The root of compassion is
compassion for oneself.*

Pema Chodron

Self-Compassion

- Compassion is the wish that a being not suffer, combined with sympathetic concern. Self-compassion simply applies that to oneself. It is not self-pity, complaining, or wallowing in pain.
- Studies show that self-compassion buffers stress and increases resilience and self-worth.
- But self-compassion is hard for many people, due to feelings of unworthiness, self-criticism, or “internalized oppression.” To encourage the neural substrates of self-compassion:
 - Get the sense of being cared about by someone else.
 - Bring to mind someone you naturally feel compassion for
 - Sink into the experience of compassion in your body
 - Then shift the compassion to yourself, perhaps with phrases like: “May I not suffer. May the pain of this moment pass.”

“Anthem”

*Ring the bells that still can ring
Forget your perfect offering
There is a crack in everything
That's how the light gets in
That's how the light gets in*

Leonard Cohen



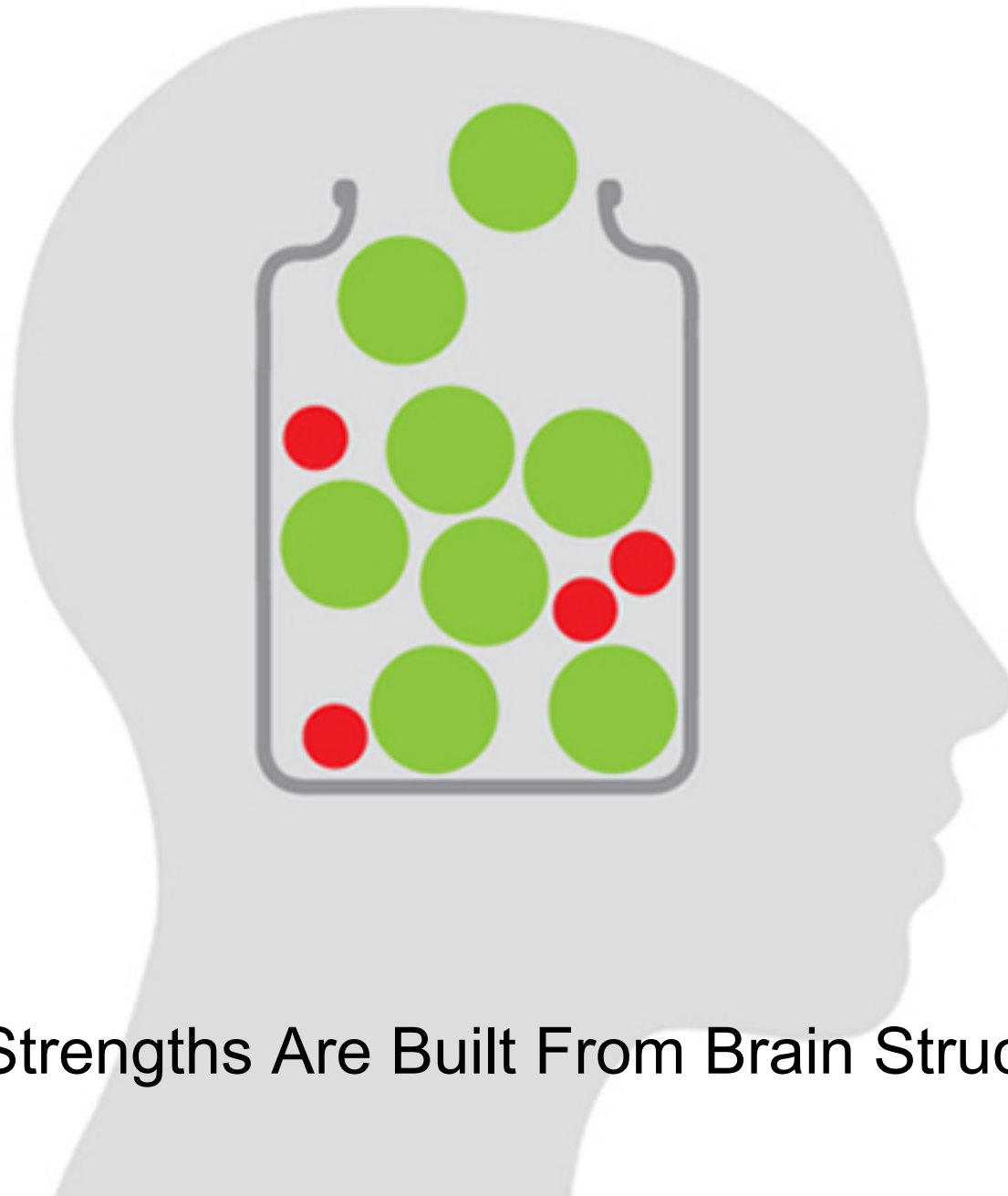
Growing Inner Strengths

The image is a split-screen comparison of two wolves. The left side shows a domesticated wolf, likely a husky, with a soft, white and grey coat and a gentle expression. The right side shows a wild wolf with a more rugged, brown and grey coat and a more intense, focused expression. The text "Two wolves in the heart" is centered across both images in a white, serif font.

Two wolves in the heart

Inner Strengths Include

- **Virtues** (e.g., patience, energy, generosity, restraint)
- **Executive functions** (e.g., meta-cognition)
- **Attitudes** (e.g., optimism, openness, confidence)
- **Capabilities** (e.g., mindfulness, emotional intelligence, resilience)
- **Positive emotions** (e.g., gratitude, self-compassion)
- **Approach orientation** (e.g., curiosity, exploration)



Inner Strengths Are Built From Brain Structure

The Machinery of Memory

States are temporary, traits are enduring.

States foster traits, and traits foster states

Activated states --> Installed traits --> Reactivated states --> Reinforced traits

Negative states --> Negative traits --> Reactivated negative states --> Reinforced negative traits

Positive states --> Positive traits --> Reactivated positive states --> Reinforced positive traits

Growing Inner Strengths

Inner strengths are grown from positive mental states that are turned into positive neural traits.

Change in neural structure and function (learning, memory) involves activation and installation.

We become more compassionate by repeatedly internalizing feelings of compassion; etc.

Without **installation**, there is no growth, no learning, no lasting benefit.



The Negativity Bias

Negative Experiences In Context

- Going negative about negative --> more negative
- Some inner strengths come only from negative experiences, e.g., knowing you'll do the hard thing.
- But negative experiences have inherent costs, in discomfort and stress.
- Many inner strengths could have been developed without the costs of negative experiences.
- Many negative experiences are pain with no gain.

The Brain's Negativity Bias

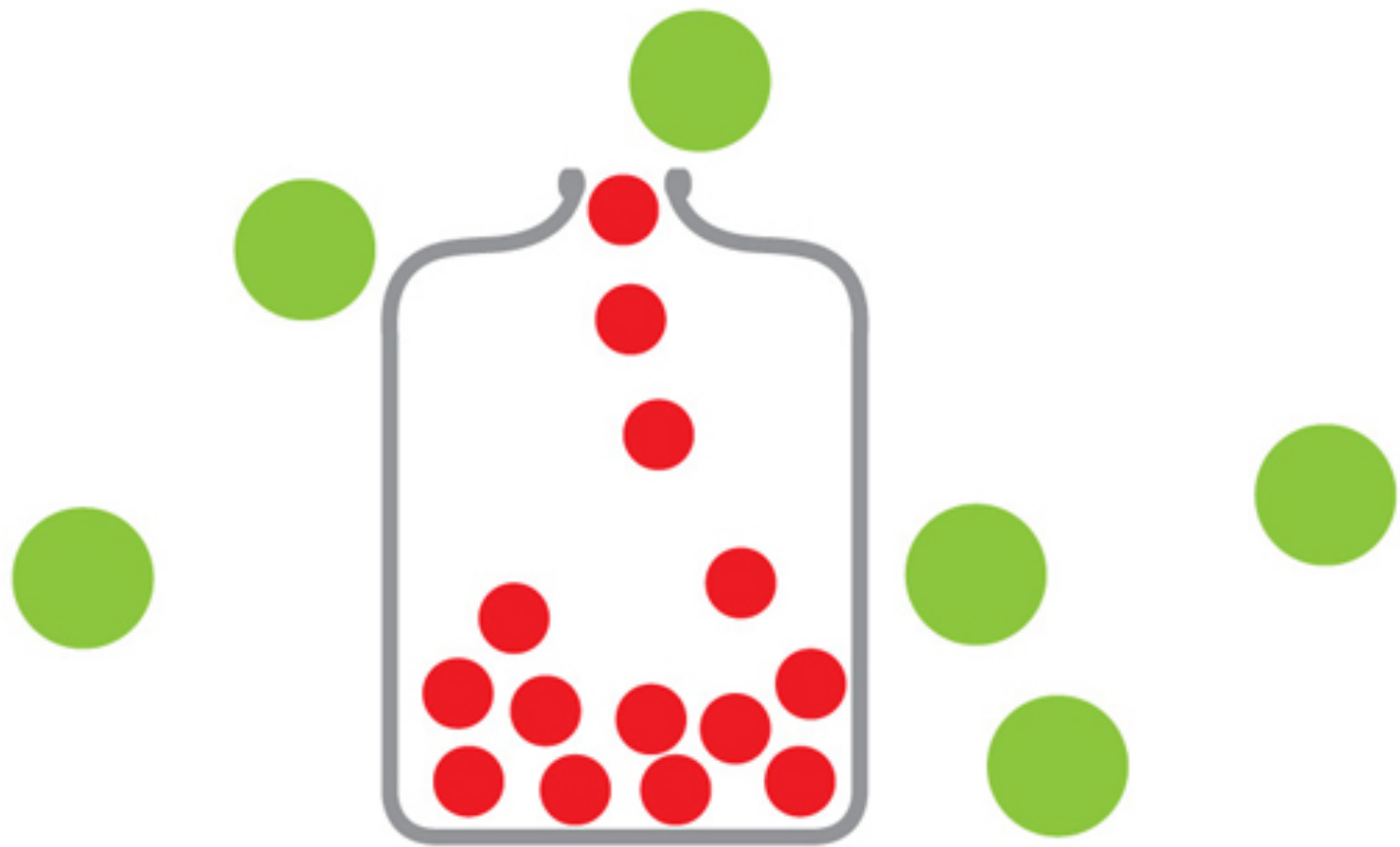
- As our ancestors evolved, avoiding “sticks” was more important for survival than getting “carrots.”
- Negative stimuli:
 - More attention and processing
 - Greater motivational focus: loss aversion
- Preferential encoding in implicit memory:
 - We learn faster from pain than pleasure.
 - Negative interactions: more impactful than positive
 - Easy to create learned helplessness, hard to undo
 - Rapid sensitization to negative through cortisol

Velcro for Bad, Teflon for Good

The negativity bias

bad experiences

good experiences



The Negativity Bias



Stone age brains in the 21st century

*We can deliberately use the mind
to change the brain for the better.*



Taking in the Good

Just having positive experiences is not enough.


They pass through the brain like water through a sieve, while negative experiences are caught.

This is the fundamental weakness in most psychotherapy, human resources training, and spiritual practices.

We need to engage positive experiences actively to weave them into the brain.

*The same research that proves therapy works
shows no improvement in outcomes
over the last 30 or so years.*

Scott Miller



*To see what is in front of one's nose
takes a constant struggle.*

George Orwell

The Humility of Receptivity

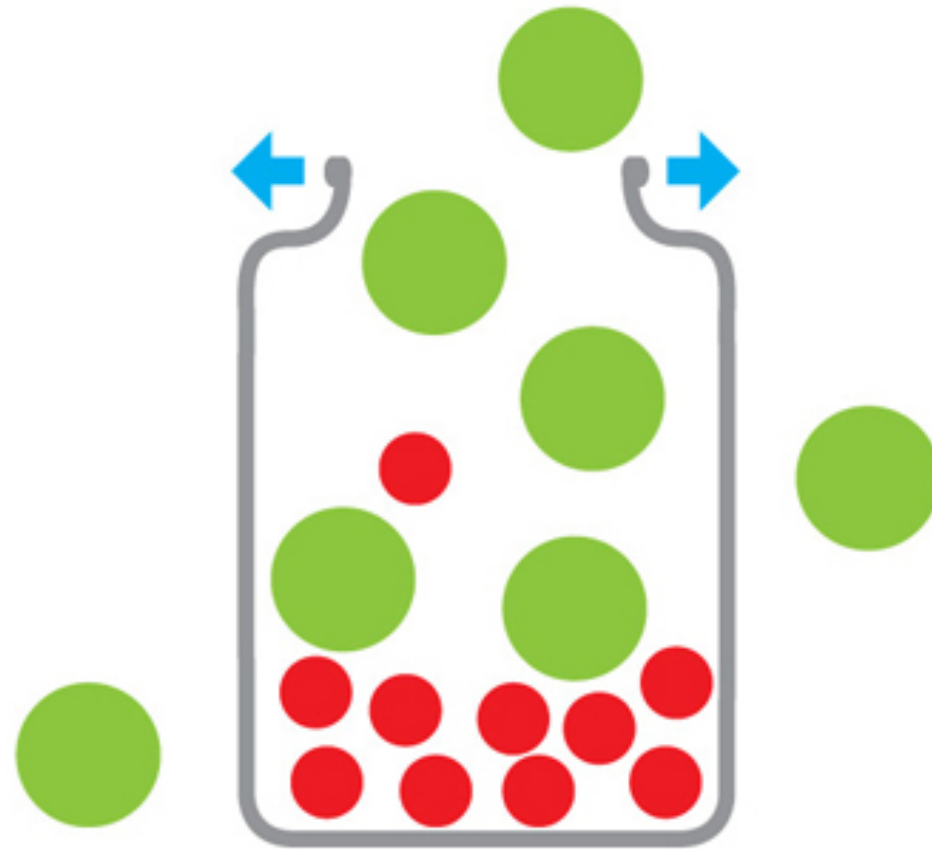
It's easy and tempting to be fascinated with the rapid flow of thought, and with a mind darting toward or away from anticipated pleasures or pains.

But the memory-making – neural structure and function changing – processes of the brain, especially for emotional, somatic, and motivational learning, are generally slower than cascading thought.

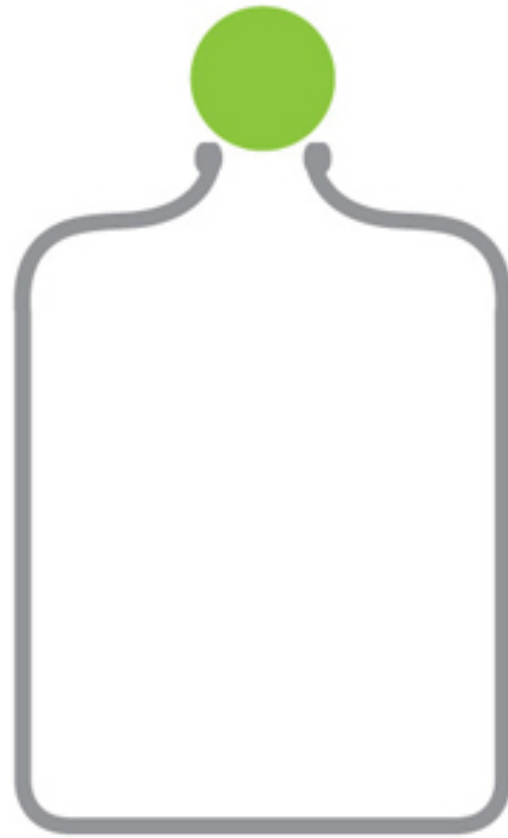
To consolidate useful experiences in the brain takes time . . . Accepting the rhythms of the flesh.

*The education of attention
would be the education par excellence.*

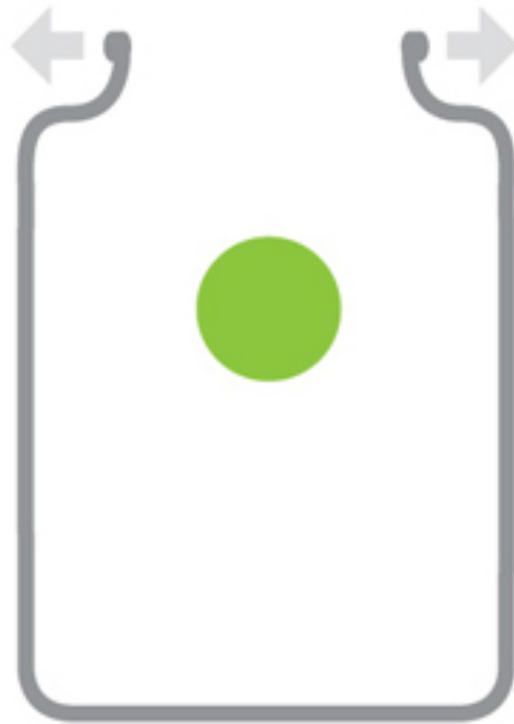
William James



Learning to Take in the Good



Have a Good Experience



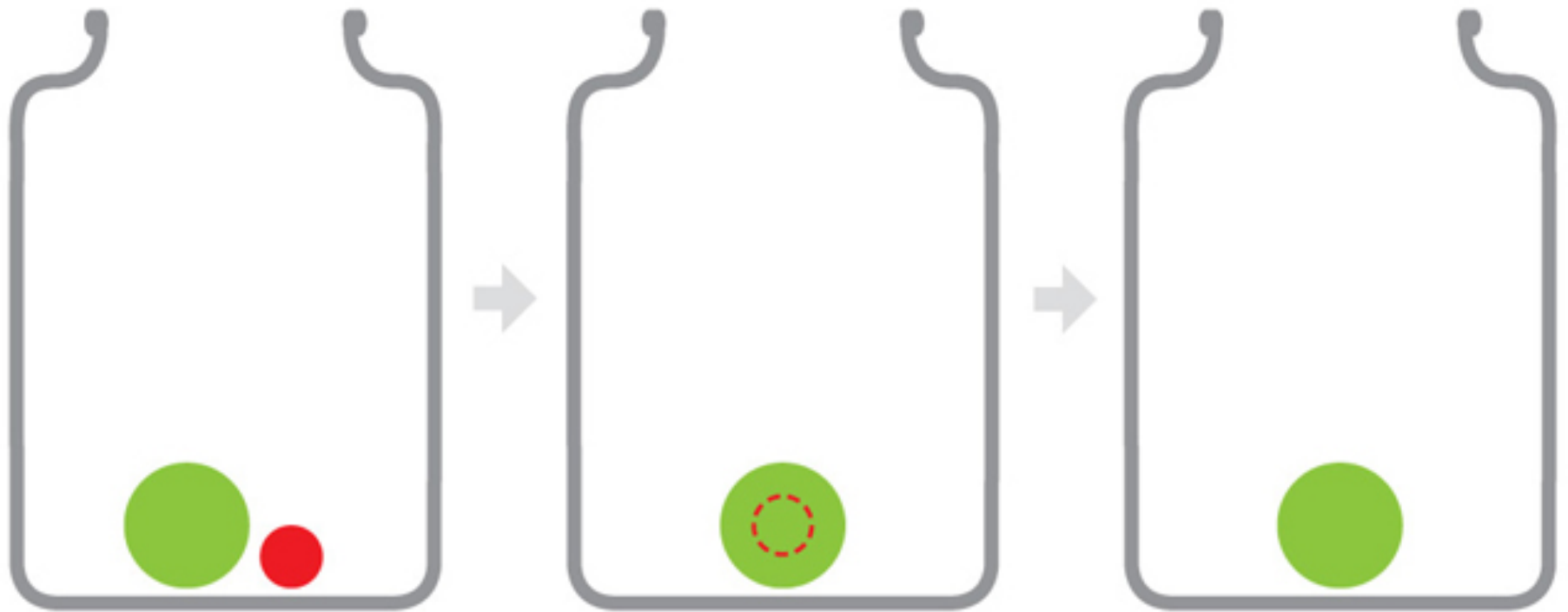
Enrich It

“Enriching” Factors

- Duration
- Intensity
- Multimodality – thought, perception, emotion, desire, action
- Novelty
- Personal relevance



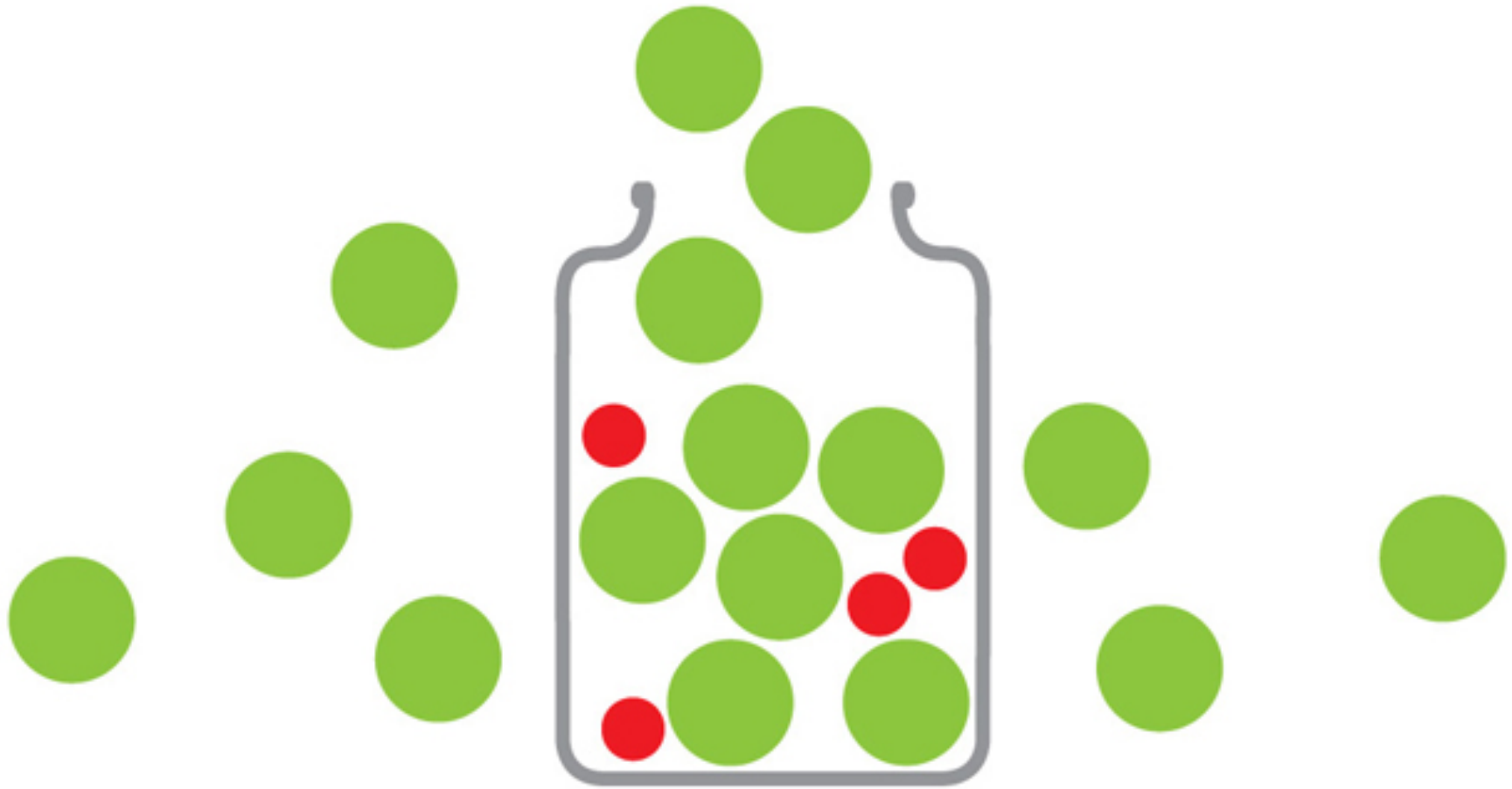
Absorb It



Link Positive and Negative Material

HEAL by Taking in the Good

1. Have a positive experience. Notice it or create it.
2. Enrich the experience through duration, intensity, multimodality, novelty, personal relevance
3. Absorb the experience by intending and sensing that it is sinking into you as you sink into it.
4. Link positive and negative material. [optional]



Have It, Enjoy It

Let's Try It

- **Notice** the experience already present in awareness that you are alright right now
 - Have the experience
 - Enrich it
 - Absorb it

- **Create** the experience of compassion
 - Have the experience - bring to mind someone you care about . . . Feel caring . . . Wish that he or she not suffer . . . Open to compassion
 - Enrich it
 - Absorb it

It's Good to Take in the Good

- Development of specific inner strengths
 - General - resilience, positive mood, feeling loved
 - “Antidote experiences” - Healing old wounds, filling the hole in the heart
- Implicit benefits:
 - Shows that there is still good in the world
 - Being active rather than passive
 - Treating yourself kindly, like you matter
 - Rights an unfair imbalance, given the negativity bias
 - Training of attention and executive functions
- Sensitizes brain to positive: like Velcro for good

*Keep a green bough in your heart,
and a singing bird will come.*

Lao Tsu

The Role of Cultivation

- Three fundamental ways to engage the mind:
 - Be with it. Decrease negative. Increase positive.
 - The garden: Observe. Pull weeds. Plant flowers.
 - Let be. Let go. Let in.
 - Mindfulness present in all three ways to engage mind
- While “being with” is profound, it can be isolated and over-valued in some therapies or spiritual practices.
- Skillful means for decreasing the negative and increasing the positive have developed over thousands of years. Why not use them?



Research on the HEAL Process

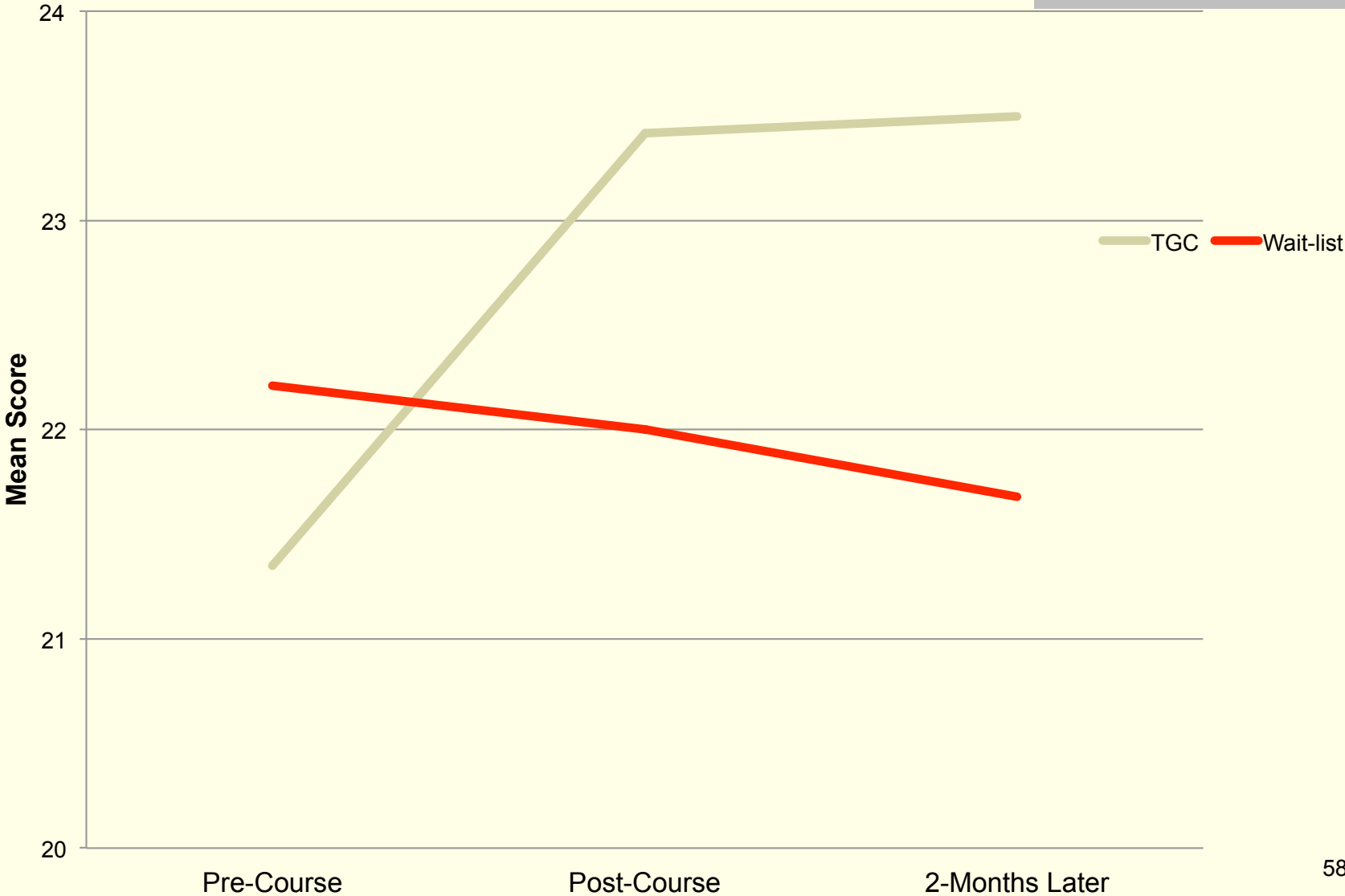
Teaching the HEAL Process

- 18 hour course, currently formatted in 3-hour classes spread over six or seven weeks
- First two classes lay a foundation and teach the first three steps of HEAL; third class teaches the fourth step (Link); remaining classes focus on internalizing experiences and growing inner strengths related to the Avoiding harms, Approaching rewards, and Attaching to others systems
- Information about taking the course, training in applying it in professional settings, and training to teach it is available at www.RickHanson.net.

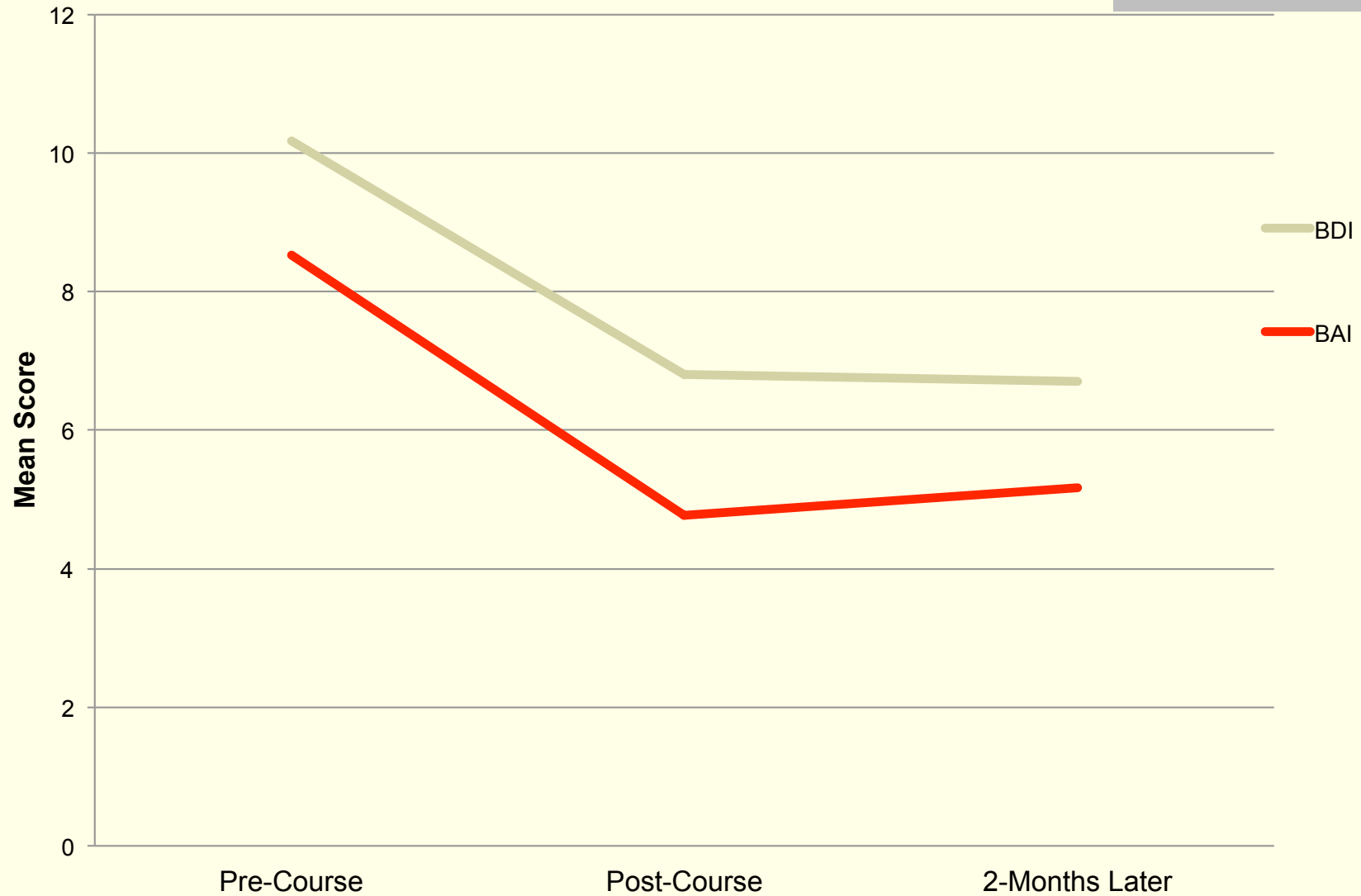
Study on the HEAL Process

- With collaborators from the University of California, a 2013 study on the HEAL course, using a randomized waitlist control group design (46 subjects).
- Course participants, compared to the control group, reported more Contentment, Self-Esteem, Satisfaction with Life, Savoring, and Gratitude.
- After the course and at two month follow-up, pooled participants also reported more Love, Compassion, Self-Compassion, Mindfulness, Self-Control, Positive Rumination, Joy, Amusement, Awe, and Happiness, and less Anxiety and Depression.

Self-Esteem



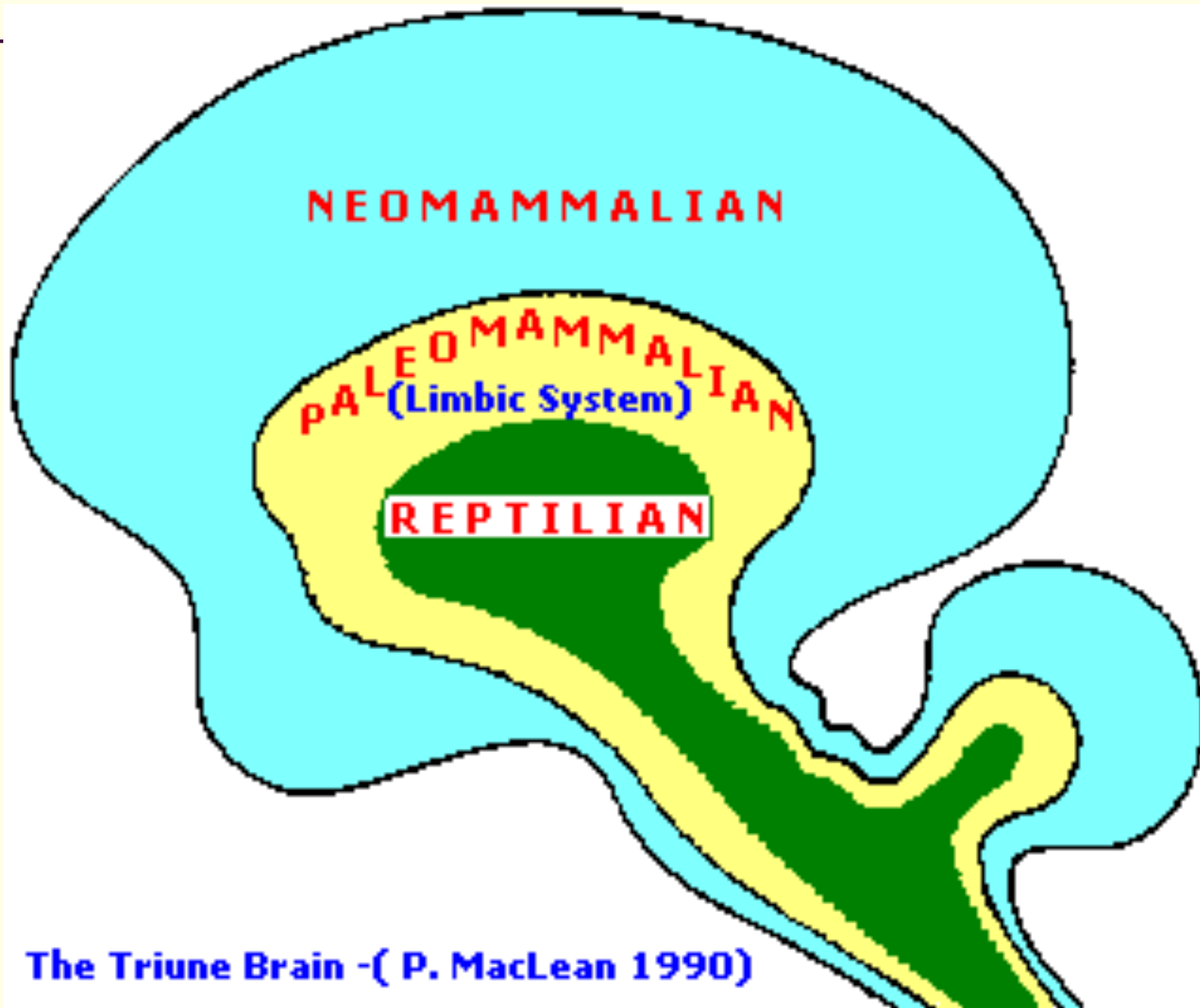
Combined Sample: Depression (BDI) & Anxiety (BAI)





The Evolving Brain

Evolution of the Brain



Three Motivational and Self-Regulatory Systems

■ Avoid Harms:

- Predators, natural hazards, aggression, pain
- Primary need, tends to trump all others

■ Approach Rewards:

- Food, shelter, mating, pleasure
- Mammals: rich emotions and sustained pursuit

■ Attach to Others:

- Bonding, language, empathy, cooperation, love
- Taps older Avoiding and Approaching networks

Each system can draw on the other two for its ends.⁶²

The Homeostatic Home Base

When not invaded by threat, loss, or rejection [no felt deficit or disturbance of safety, satisfaction, and connection]

The body defaults to a sustainable equilibrium of refueling, repairing, and pleasant abiding.

The mind defaults to a sustainable equilibrium of:

- **Peace** (the Avoiding system)
- **Contentment** (the Approaching system)
- **Love** (the Attaching system)

This is the brain in its homeostatic **Responsive**,
minimal craving mode.

But to Cope with Urgent Needs, We Leave Home . . .

When invaded by threat, loss, or rejection [felt deficit or disturbance of safety, satisfaction, or connection]:

The body fires up into the stress response; outputs exceed inputs; long-term building is deferred.

The mind fires up into:

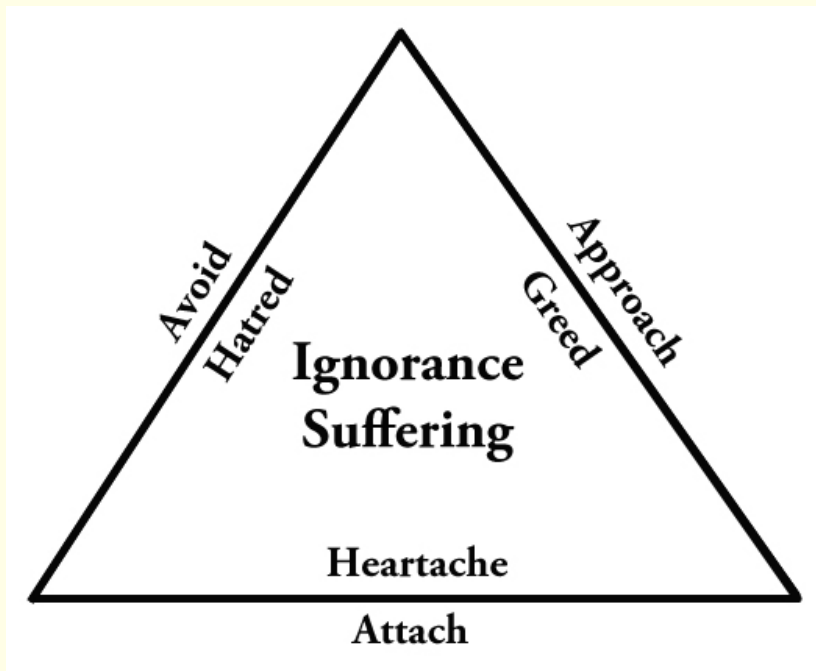
- **Fear** (the Avoiding system)
- **Frustration** (the Approaching system)
- **Heartache** (the Attaching system)

This is the brain in allostatic, **Reactive**, *craving* mode.⁶⁴

Reactive Dysfunctions in Each System

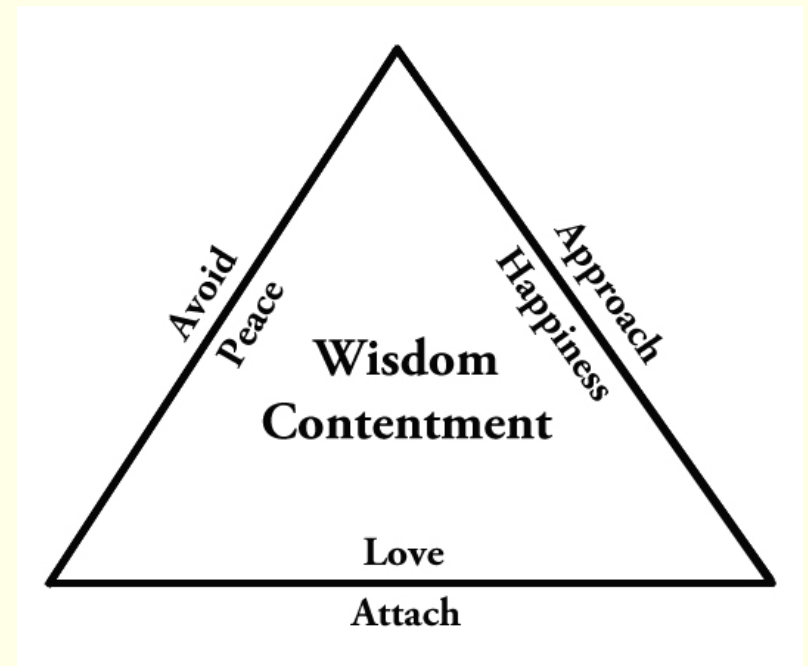
- **Avoiding** - Anxiety disorders; PTSD; panic, terror; rage; violence
- **Approaching** - Addiction; over-drinking, -eating, -gambling; compulsion; hoarding; driving for goals at great cost
- **Attaching** - Borderline, narcissistic, antisocial PD; symbiosis; “looking for love in all the wrong places”

Choices . . .



Reactive Mode

Or?



Responsive Mode

Coming Home, Staying Home

Positive experiences of core needs met - the felt sense of safety, satisfaction, and connection - activate Responsive mode.

Activated Responsive states can become installed Responsive traits. Responsive traits foster Responsive states.

Responsive states and traits enable us to stay Responsive with challenges.



Key Resource Experiences

Pet the Lizard



Feed the Mouse



Hug the Monkey



Some Types of Resource Experiences

Avoiding Harms

- Feeling basically alright right now
- Feeling protected, strong, safe, at peace
- The sense that awareness itself is untroubled

Approaching Rewards

- Feeling basically full, the enoughness in this moment as it is
- Feeling pleased, glad, grateful, satisfied
- Therapeutic, spiritual, or existential realizations

Attaching to Others

- Feeling basically connected
- Feeling included, seen, liked, appreciated, loved
- Feeling compassionate, kind, generous, loving

Psychological Antidotes

Avoiding Harms

- Strength, efficacy --> Weakness, helplessness, pessimism
- Safety, security --> Alarm, anxiety
- Compassion for oneself and others --> Resentment, anger

Approaching Rewards

- Satisfaction, fulfillment --> Frustration, disappointment
- Gladness, gratitude --> Sadness, discontentment, “blues”

Attaching to Others

- Attunement, inclusion --> Not seen, rejected, left out
- Recognition, acknowledgement --> Inadequacy, shame
- Friendship, love --> Abandonment, feeling unloved or unlovable

Coming Home

Peace

Contentment

Love

*Think not lightly of good, saying,
"It will not come to me."*

Drop by drop is the water pot filled.

*Likewise, the wise one,
gathering it little by little,
fills oneself with good.*

Suggested Books

See www.RickHanson.net for other suggestions.

- Austin, J. 2009. *Selfless Insight*. MIT Press.
- Begley, S. 2007. *Train Your Mind, Change Your Brain*. Ballantine.
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- Johnson, S. 2005. *Mind Wide Open*. Scribner.
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Key Papers - 1

See www.RickHanson.net for other scientific papers.

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- Baumeister, R., Bratlavsky, E., Finkenauer, C. & Vohs, K. 2001. Bad is stronger than good. *Review of General Psychology*, 5:323-370.
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Key Papers - 2

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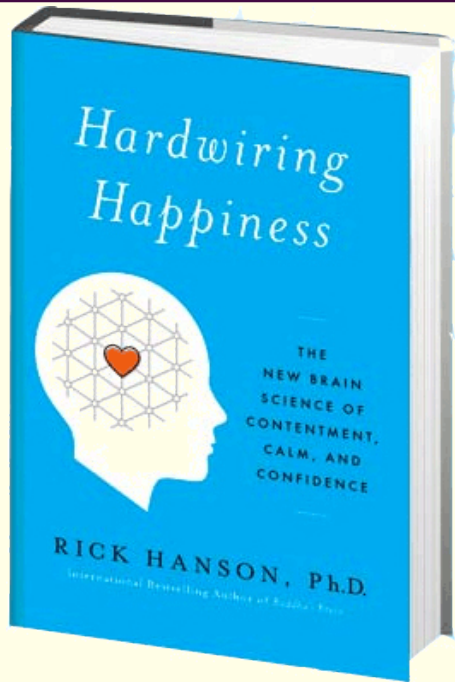
Key Papers - 3

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Where to Find Rick Hanson Online



Hardwiring Happiness: The New Brain Science of Contentment, Calm, and Confidence

www.rickhanson.net/hardwiringhappiness

Personal website: www.rickhanson.net

Wellspring Institute: www.wisebrain.org



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