Topics

- Using your mind to change your brain
- Loving nature
- Generosity
- Two wolves in the heart
- Taking in the good
Using Your Mind to Change Your Brain
A Neuron
Fact #1

As your brain changes, your mind changes.
Ways That Brain Can Change Mind

For better:
- A little caffeine: more alertness
- Thicker insula: more self-awareness, empathy
- More left prefrontal activation: more happiness

For worse:
- Intoxication; imbalances in neurotransmitters
- Concussion, stroke, tumor, Alzheimer’s
- Cortisol-based shrinkage of hippocampus: less capacity for contextual memory
Fact #2

As your mind changes, your brain changes.

Immaterial mental activity maps to material neural activity.

This produces temporary changes in your brain and lasting ones.

Temporary changes include:
- Alterations in brainwaves (= changes in the firing patterns of synchronized neurons)
- Increased or decreased use of oxygen and glucose
- Ebbs and flows of neurochemicals
The Rewards of Love
Tibetan Monk, Boundless Compassion
Mind Changes Brain in Lasting Ways

- What flows through the mind sculpts your brain. Immaterial experience leaves material traces behind.

- Increased blood/nutrient flow to active regions

- Altered epigenetics (gene expression)

- “Neurons that fire together wire together.”
  - Increasing excitability of active neurons
  - Strengthening existing synapses
  - Building new synapses; thickening cortex
  - Neuronal “pruning” - “use it or lose it”
Honoring Experience

One’s experience *matters*. Both for how it feels in the moment and for the lasting residues it leaves behind, woven into the fabric of a person’s brain and being.
Fact #3

You can use your mind to change your brain to change your mind for the better.

This is self-directed neuroplasticity.

How to do this, in skillful ways?
Loving Nature
Evolutionary History

The Triune Brain

The Triune Brain - (P. MacLean 1990)
Three Stages of Brain Evolution

- **Reptilian:**
  - Brainstem, cerebellum, hypothalamus
  - Reactive and reflexive
  - **Avoid** hazards

- **Mammalian:**
  - Limbic system, cingulate, early cortex
  - Memory, emotion, social behavior
  - **Approach** rewards

- **Human:**
  - Massive cerebral cortex
  - Abstract thought, language, cooperative planning, empathy
  - **Attach** to “us”
"With all due respects, I find your disparaging remarks about the 'reptilian brain' unnecessary"
Home Base of the Human Brain

When not threatened, ill, in pain, hungry, upset, or chemically disturbed, most people settle into being:

- **Peaceful** (the Avoid system)
- **Happy** (the Approach system)
- **Loving** (the Attach system)

This is the brain in its natural, **Responsive** mode.
The Responsive Mode

- Avoid
- Peace
- Approach

Wisdom
Contentment

Love
Attach

Happiness
The Social Brain

- Social capabilities have been a primary driver of brain evolution.

- Reptiles and fish avoid and approach. Mammals and birds attach as well - especially primates and humans.

- Mammals and birds have bigger brains than reptiles and fish.

- The more social the primate species, the bigger the cortex.

- Since the first hominids began making tools ~ 2.5 million years ago, the brain has roughly tripled in size, much of its build-out devoted to social functions (e.g., cooperative planning, empathy, language). The growing brain needed a longer childhood, which required greater pair bonding and band cohesion.
All sentient beings developed through natural selection in such a way that pleasant sensations serve as their guide, and especially the pleasure derived from sociability and from loving our families.

Charles Darwin
Generosity
If there is anything I have learned about [people], it is that there is a deeper spirit of altruism than is ever evident.

Just as the rivers we see are minor compared to the underground streams, so, too, the idealism that is visible is minor compared to what people carry in their hearts unreleased or scarcely released.

(Hu)mankind is waiting and longing for those who can accomplish the task of untying what is knotted, and bringing these underground waters to the surface.

Albert Schweitzer
If people knew, as I know, the results of giving and sharing,
they would not eat without having given,
nor would they allow the stain of niggardliness
to obsess them and root in their minds.

Even if it were their last morsel, their last mouthful,
they would not eat without having shared it,
if there were someone to share it with.

The Buddha
Generosity Takes Many Forms

- Attention
- Heart
- Practice
- Time
- Patience
- Service
- Food
- Money
Two Wolves in the Heart
But to Cope with Urgent Needs, We Leave Home . . .

- **Avoid**: When we feel threatened or harmed
- **Approach**: When we can’t attain important goals
- **Attach**: When we feel isolated, disconnected, unseen, unappreciated, unloved

This is the brain in its **Reactive** mode of functioning - a kind of inner homelessness.
The Reactive Mode

- Avoid
- Hatred
- Greed

- Approach
- Ignorance
- Suffering

- Attach
- Heartache
Us and Them

- Core evolutionary strategy: within-group cooperation, and between-group aggression.

- Both capacities and tendencies are hard-wired into our brains, ready for activation. And there is individual variation.

- Our biological nature is much more inclined toward cooperative sociability than toward aggression and indifference or cruelty. We are just very reactive to social distinctions and threats.

- That reactivity is intensified and often exploited by economic, cultural, and religious factors.

- Two wolves in your heart:
  - Love sees a vast circle in which all beings are “us.”
  - Hate sees a small circle of “us,” even only the self.

*Which one will you feed?*
In between-family fights, the baboon’s ‘I’ expands to include all of her close kin; in within-family fights, it contracts to include only herself.

This explanation serves for baboons as much as for the Montagues and Capulets.

Dorothy Cheney and Robert Seyfarth
A Poignant Truth

Mother Nature is tilted toward producing gene copies.

But tilted against personal quality of life.

And at the societal level, we have caveman/cavewoman brains armed with nuclear weapons.

*What shall we do?*
We can deliberately use the mind
to change the brain for the better.
Choices . . .

Reactive Mode

Responsive Mode

Or?
Taking in the Good
The Importance of Inner Resources

Examples:
- Freud’s “positive introjects”
- Intrapersonal factors/processes of resilience, such as: learned optimism, emotional intelligence, “ego strength,” self-worth, determination, problem-solving skills, and personally meaningful spirituality

Benefits
- Lift mood and increase positive emotions: many physical and mental health benefits
- Improve self-regulation
- Improve outlook on world, self, and future
- Increase resilience
How to Take in the Good (TIG)

1. **Have** a good experience.
   - You are already having one.
   - You deliberately recognize a good fact and let it become a good experience.

2. **Extend** the good experience in:
   - Time - for 10-20-30+ seconds
   - Space - in your body and feelings
   - Intensity - help it become stronger

3. **Absorb** the good experience by intending and sensing that is becoming a part of you, woven into the fabric of your brain and being.
Types of Good Facts

- **Conditions** (e.g., food, shelter, fresh air, have friends, dog loves you, flowers blooming, ain’t dead yet)

- **Events** (e.g., finished a load of laundry, someone was friendly to you, this cookie tastes good)

- **Qualities within oneself** (e.g., fairness, decency, determination, good at baking, loving toward kids)
Components of a Good Experience

- Bodily states - healthy arousal; PNS; vitality
- Emotions - both feelings and mood
- Views - expectations; object relations; perspectives on self, world, past and future
- Behaviors - repertoire; inclinations
Instances of Taking in the Good

- You find yourself already having a good experience.

- You self-activate a good experience by:
  - Looking for a good fact
  - Recalling a good fact
  - Creating a good fact
  - Imagining a good fact that has never been

- Situations:
  - On the fly
  - At specific times (e.g., meals, before bed)
  - When prompted (e.g., by a therapist)
“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
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
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 “Us”
- Attunement, inclusion --> Not seen, rejected, left out
- Recognition, acknowledgement --> Inadequacy, shame
- Friendship, love --> Abandonment, feeling unloved or unlovable
True Nature

Peaceful

Happy

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

Lao Tsu
Great Books

See www.RickHanson.net for other great books.

Key Papers - 1

See www.RickHanson.net for other scientific papers.


Key Papers - 2


- Hanson, R. 2008. Seven facts about the brain that incline the mind to joy. In *Measuring the immeasurable: The scientific case for spirituality.* Sounds True.
Key Papers - 3


Key Papers - 4


Where to Find Rick Hanson Online

http://www.youtube.com/BuddhasBrain
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