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.

Dhammapada 9.122
Hardwiring Happiness

Nalanda Institute
For Contemplative Science
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Rick Hanson, Ph.D.
The Wellspring Institute for Neuroscience and Contemplative Wisdom
WiseBrain.org  RickHanson.net
Topics

- Grounding the mind in life
- Self-directed neuroplasticity
- Growing inner strengths
- The negativity bias
- Taking in the good
- Cultivation and craving
Grounding the Mind in Life
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.
"We ask, 'What is a thought?'

We don't know,

yet we are thinking continually."

Venerable Ani Tenzin Palmo
Self-Directed Neuroplasticity
Mental activity entails underlying neural activity.
Ardent, Diligent, Resolute, and Mindful
Repeated mental activity entails repeated neural activity.

Repeated neural activity builds neural structure.
Neurons that fire together, wire together.
The Activation/Installation Positive Cycle

States are temporary, traits are enduring.

Activated mental states are the basis for installed neural traits.

Positive traits foster positive states.

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

We can use the mind

To change the brain

To change the mind for the better

To benefit ourselves and other beings.
If one going down into a river, swollen and swiftly flowing, is carried away by the current -- how can one help others across?

The Buddha
Growing Inner Strengths
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 Causes of Inner Strengths

How do we build the neural traits of inner strengths?

Inner strengths are mainly built from positive experiences.

You develop mindfulness by repeatedly being mindful; you develop compassion by repeatedly feeling compassionate; etc.

The brain is like a VCR or DVR, not an iPod: you must play the song to record it - you must experience the strength to install it in your brain.
The Evolving Brain
Evolution of the Brain

The Triune Brain - (P. MacLean 1990)
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.
The Homeostatic Home Base

When not disturbed by threat, loss, or rejection [no felt deficit 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.
The Responsive Mode

- Avoid
- Peace
- Approach

Wisdom
Contentment

Love
Attach

Happiness
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.
Neurobiological Basis of Craving

When disturbed by threat, loss, or rejection [deficit 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:
- Hatred (the Avoiding system)
- Greed (the Approaching system)
- Heartache (the Attaching system)

This is the brain in allostatic, Reactive, craving mode.
The Reactive Mode

- Avoid
- Hatred
- Ignorance
- Suffering
- Heartache
- Attachment
- Approach
- Greed
Choices . . .

Or?

Reactive Mode

Responsive Mode
The Negativity Bias
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

good experiences

bad experiences
Unfortunately, the brain is inefficient at turning positive experiences into neural structure.

This design feature of the brain creates a kind of bottleneck that reduces the conversion of positive mental states to positive neural traits.

Most positive experiences are wasted on the brain.

This is the fundamental weakness in psychotherapy, mindfulness training, character education, human resources training, and informal efforts at growth.
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.

We need to engage positive experiences **actively** to weave them into the brain.
Learning to Take in the Good
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]
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
Targets of TG

- **Thoughts** - expectations; object relations; perspectives on self, world, past and future
- **Perceptions** - sensations; relaxation; vitality
- **Emotions** - both feelings and mood
- **Desires** - values, aspirations, passions, wants
- **Behaviors** - reportoire; inclinations
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 pleasured, 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
# Some Major Buddhist States/Traits

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<thead>
<tr>
<th>Mindfulness</th>
<th>Conviction</th>
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<tbody>
<tr>
<td>Investigation</td>
<td>Compassion</td>
</tr>
<tr>
<td>Energy</td>
<td>Kindness</td>
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<tr>
<td>Bliss</td>
<td>Altruistic joy</td>
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<td>Tranquility</td>
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<td>Concentration</td>
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<td>Equanimity</td>
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Cultivation and Craving
Cultivation in Context

- Three ways to engage the mind:
  - Be with it. Decrease negative. Increase positive.
  - Let be. Let go. Let in.
  - Mindfulness present in all three ways to engage mind

- While “being with” is primary, it’s often isolated and privileged in mindfulness-based practices.

- Skillful means for decreasing the negative and increasing the positive have developed over 2500 years. Why not use them?
Join us for **Cultivating Inner Strength - Monastic Daylong [Dana - No Fee Day]**
with Ayya Anandabodhi and Ayya Santacitta
on **Sunday, July 8**
from 9:30 am - 5 pm.

(Photo by Ed Ritger)
Choices . . .

Or?

Reactive Mode

Responsive Mode
Cultivation Undoes Craving

- All life has goals. The brain continually seeks to avoid harms, approach rewards, and attach to others - even that of a Buddha.

- It is wholesome to wish for the happiness, welfare, and awakening of all beings - including the one with your nametag.

- We rest the mind upon positive states so that the brain may gradually take their shape. This disentangles us from craving as we increasingly rest in a peace, happiness, and love that is independent of external conditions.

- With time, even the practice of cultivation falls away - like a raft that is no longer needed once we reach the farther shore.
A Fifth Yana?

The “Buddhastream” has developed through four major vehicles (*yanas*): Theravadan, Tibetan, Chan/Zen, and Pure Land.

Could we be helping develop an emergent Fifth Yana, with:
- Many householders engaging deep contemplative practice
- Multiculturalism as both a reality and a value
- Access to and eclectic use of the full array of Buddhist teachings
- Flattening hierarchies
- Naturalizing dharma practice; using science and psychology
- Skillful use of positive experiences; “Western tantra”
- Deconstructing and applying Buddhist practices in non-Buddhist settings (e.g., pain-control clinics, schools, psychotherapy)
Heartwood

This spiritual life does not have gain, honor, and renown for its benefit, or the attainment of moral discipline for its benefit, or the attainment of concentration for its benefit, or knowledge and vision for its benefit.

But it is this unshakable liberation of mind that is the goal of this spiritual life, its heartwood, and its end.

The Buddha
The Fruit as the Path

Peace

Contentment

Love
“Bahiya, you should train yourself thus.”

In reference to the seen, there will be only the seen. To the heard, only the heard. To the sensed, only the sensed. To the cognized, only the cognized.

When for you there will be only the seen in the seen, only the heard in the heard, only the sensed in the sensed, only the cognized in the cognized, then, Bahiya, there’s no you in that.

When there’s no you in that, there’s no you there. When there’s no you there, you are neither here nor yonder nor between the two.

This, just this, is the end of all suffering.

The Buddha
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.

Dhammapada 9.122
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


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

youtube.com/drrhanson  facebook.com/rickhansonphd