

Richard Whitney reviews a workshop with Dr Rick Hanson a Neuropsychologist and author of *Buddha's Brain: The Practical Neuroscience of Happiness, Love and Wisdom*, (2009). In a nutshell the challenge is to train our minds to favour a responsive and positive bias in attention, emotion and memory.

Hanson describes the brain in three (Triune) layers. The base is Reptilian, followed by the Limbic system, and the Cortex at the top. Unfortunately, our brain has an evolutionary 'tilt towards the negative'.

The Reptilian and Limbic systems have a focus on survival. The Amygdala (limbic) sifts experience for negative stimuli and prepares us to deal with threats. As a result we are often locked and loaded in the reactive mode as opposed to the responsive mode.

Threat Reactivity

We have two options in a dangerous world:

1. Think there is a tiger – there is not one – get anxious
2. Think there is no tiger – there is one – get eaten

Those biased to option 1 survived as our ancestors. Bias for 2 was 'deselected'. Hence we have a tendency towards 'Paper Tiger Paranoia' where we:

1. Overestimate threat
2. Underestimate opportunities
3. Underestimate inner and outer resources
4. Update our appraisal of situations with information that confirms our bias and ignore/devalue/don't notice information that doesn't

5. Avoid 'cost' and 'play small'

This Negativity Bias sets the brain up to be Velcro for negative experience and Teflon for positive experience.

We focus longer on things that trigger the reactive mode – more communication between the Limbic system and Cortex burns this into long-term memory.

Positive is plain vanilla for memory – makes it to short-term memory but doesn't as easily make it into long-term memory.

Hanson's Responsive mode of being:

- Avoid: (Calm = Reptilian)
- Approach: (Contented = Limbic)
- Affiliate: (Caring = prefrontal cortex)



Versus the Reactive mode of being:

Avoid: feel threatened or harmed

Approach: miss important goals

Affiliate: feel isolated, disconnected, unseen, unappreciated, unloved



Mindfulness skills allow us to focus our attention, emotion and memory on the positive. Hanson used two phases:

‘Neurons that fire together wire together’ to describe how stimulation causes the brain to develop new cells (neurogenesis) and new connections (synaptogenesis).

‘The brain takes the shape of what it rests upon’ to describe how what we attend to shapes brain structure. Good experiences, thoughts and memories enable a virtuous loop. This is similar to the **positivity ratio** of Barbara Fredrickson.

Turning on the ‘Cooling System’

Core modules of our Resilience Training include calming, focusing and generating constructive emotion or coherence. This enables effective

thought and behaviour in complex and risky situations.

Hanson describes a heating system that activates, and a ‘cooling system’ that restores homeostasis. The heating system is associated with the hypothalamic-pituitary-adrenal axis (HPAA), which in turn is associated with sympathetic nervous system (SNS) activation - including amygdala hijacks.

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This system over-rides our Pre Frontal Cortex (PFC) mindfulness, pushing our attention, emotion, thought and memory in a negative direction. We call this the Death Spiral.

The Anterior Cingulate Cortex (ACC) has a downward influence on the structures below it. It is closely connected to the PFC part of which focuses on problem solving and decision-making. It is also the source of empathy and our connections to others. The ACC is able to turn on the cooling system and allows action aligned with our values and intentions. This system is also connected with the parasympathetic nervous system (PNS).

Hanson reinforces the value of our focus on diaphragmatic breathing, Heart Rate Variability (**EmWave/HeartMath**), and mindfulness meditation.

Taking in the Good

Because the brain is Velcro for the negative and Teflon for the positive – the positive must be made to stick! (think about privileging the positive – introducing a personal affirmation of the positive).

We can use the mind in a conscious way to wire the positive in – to burn it into long-term memory. This implicit memory influences our behaviour without conscious awareness of these previous experiences. Hanson encourages us to engage with positive experiences actively to weave them into the brain

Discerning Mindfulness

There are four levels of 'positive experience' that we can focus on:

1. Small pleasures of ordinary life; the satisfaction of attaining goals or recognising little accomplishments; feeling grateful, contented, and fulfilled.
2. Being included, valued, liked, respected, loved by others; the good feelings that come from being kind, fair, generous; feeling loving
3. Things are alright; nothing is wrong; there is no threat; feeling safe and strong; the peace and relief of forgiveness
4. Recognising your positive character traits; spiritual or existential realisations

Steps for allowing the Positive to 'burn in'

1. Turn positive facts into experiences
2. Savour the positive experience, sustain it for 20 seconds, feel it in your body and emotions, and intensify it
3. Sense and intend that the positive experience is soaking into your brain and body - registering deeply in emotional memory.

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