

Forming Your Spirit:

Practical Ways to Use Brain Science to Cultivate Wholesome States of Mind

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Neuroscience and Spiritual Practices: Transforming the Embodied Mind

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Some Foundations of Contemplative Practice

- Establish frontal lobe direction through forming an intention for your meditation.
- Activate the relaxing PNS through full exhalations, relaxing specific muscles, etc.
- Reduce external vigilance by evoking a sense of safety and security.
- Increase concentration (and support motivation) through opening to and even calling forth positive emotions such as gratitude, happiness, contentment, or tranquility.
- Register wholesome experiences in emotional memory by savoring them.

Mental Activity Changes Neural Structure

- “Neurons that fire together, wire together.”
- Conscious and unconscious mental activity *matters*, leaving an enduring trace behind.
- London taxi drivers have thicker regions that create visual-spatial memories.
- Long-term meditative practice leads to thicker insula (internal awareness, empathy) and anterior cingulate (focused attention), more active left frontal lobes (positive mood), and more gamma-band (very rapid) brainwave activity.

Taking in the Good

- Translating experiences into internal resources is important in child development, daily well-being, and spiritual practice.
- But the negativity bias of the brain makes that difficult due to:
 - The survival value of giving preferential processing to negative experiences
 - The amygdala is primed to label stimuli as threatening.
 - Once labeled as negative, experiences are stored for rapid access
 - Negative experiences trump positive ones and lead to vicious cycles
- Unless this bias is offset by many positive experiences, the result is an unfairly negative view of oneself and the world, and a slowly accumulating tilt toward the negative in emotional memory.
- How to take in the good:
 - #1 Turn positive events into positive experiences.
 - #2 Let the experience be as felt as possible and savored for many seconds.
 - #3 Sense that the experience is sinking in, becoming a part of oneself.
 - #4 Perhaps sense that the current, positive experience is sinking into, soothing, and replacing old negative ones.

Selected References

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