

Brain Fitness: Mindsight Skill Training and the Brain

Welcome to ***Level 1, Course OL 102 !***

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General Neuroplasticity Principles

- **Exercise:** Aerobic...Move Your Body!
- **Novelty:** New experiences stimulate neuronal connections!
- **Sleep:** Consolidates learning...
- **Food:** The Soil in which Mental Seeds can grow...Omega-3's, Vitamins, Nutrition...
- Close Paying of **Attention!** The benefit of study...

Neuroplasticity and Reflective Practice

Basic Ideas:

- 1. The focus of attention drives the specific routes of energy and information flow in the brain.
- 2. BDNF (Brain-derived neurotropic factor) is released to increase neuroplasticity.
- 3. The close paying of attention may activate the nucleus basalis and lead to diffuse acetylcholine secretion which also increases neuroplasticity among activated neurons.

Brain Fitness

An IPNB approach to Brain Fitness involves:

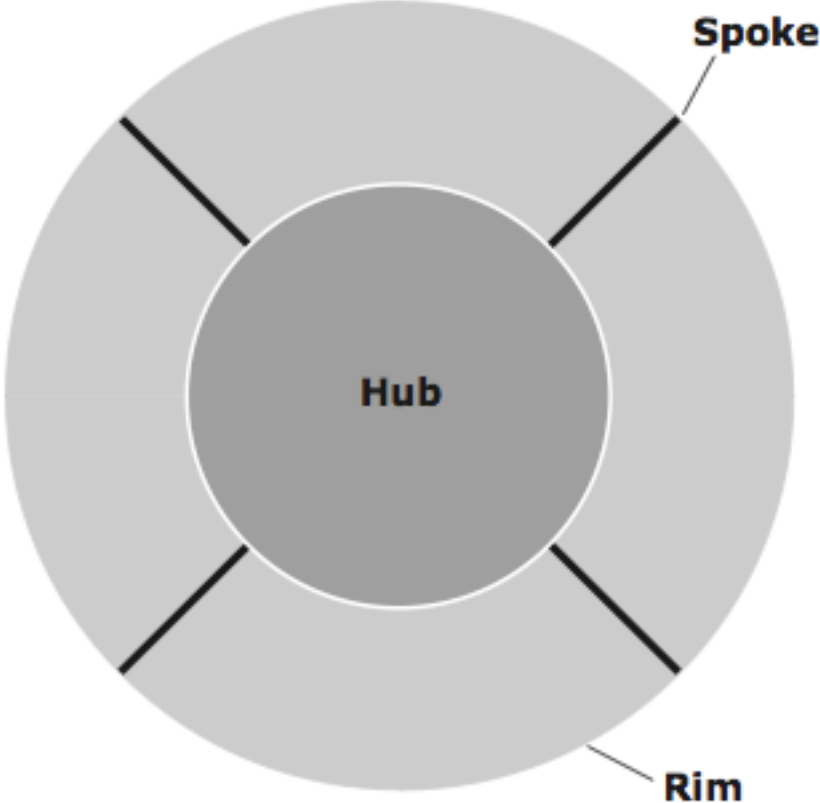
1. Intentional focus of attention to create states of neural firing that...
2. With practice these states can become traits.
3. If integrative states (the linkage of differentiated elements) can be intentionally created, long-term alterations in integrative connections may be consolidated.

The Central Role of Integration

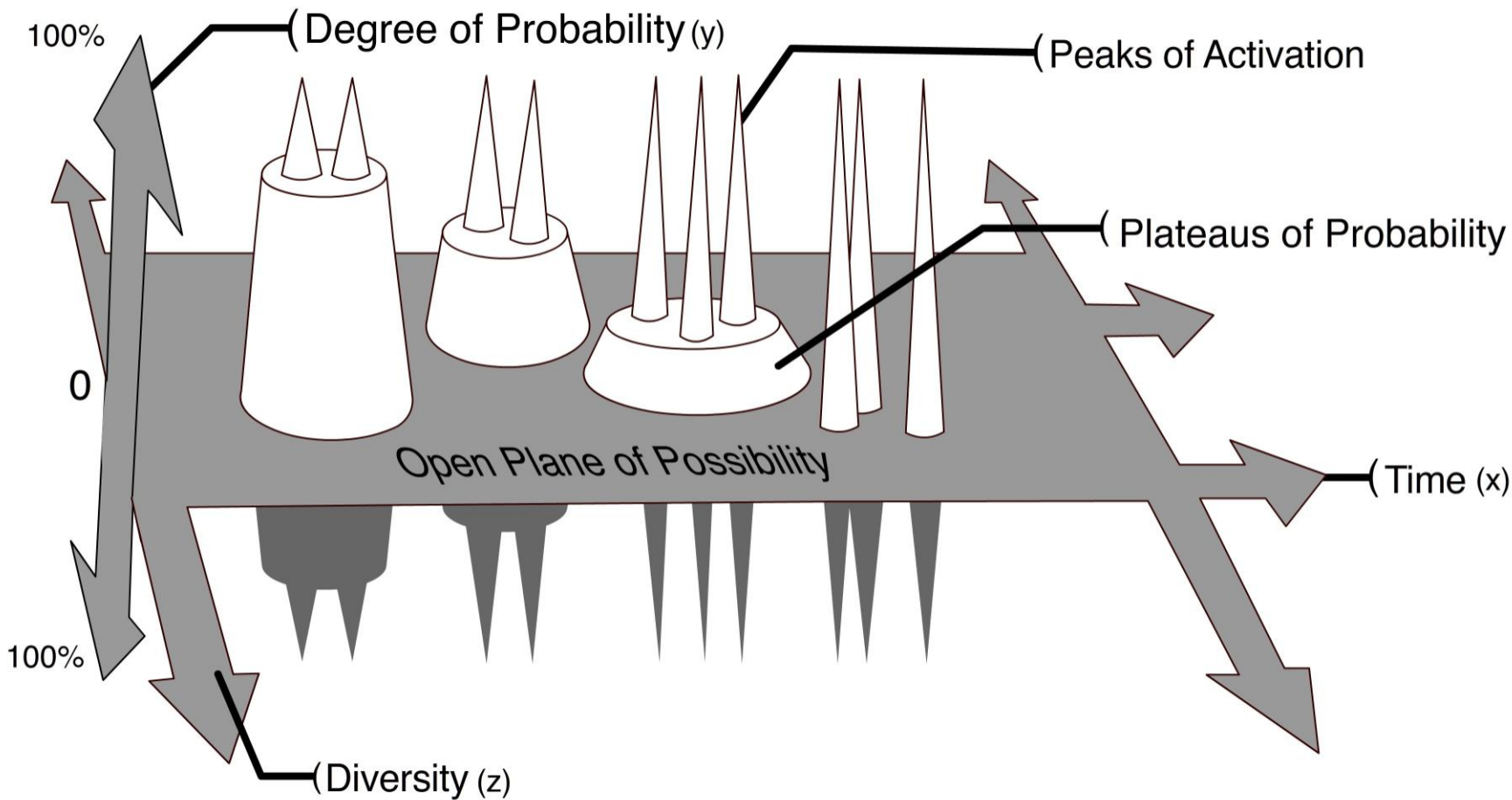
- An IPNB view of Health = Integration
- Without Integration → Chaos and/or Rigidity
- With Integration → FACES flow across time:
 - Flexible
 - Adaptive
 - Coherent
 - Energized
 - Stable

The Science of Coherence

- **COHERENCE** in contrast to Cohesion:
 - **C**onnected
 - **O**pen
 - **H**armonious
 - **E**ngaged
 - **R**eceptive
 - **E**mergent
 - **N**oetic
 - **C**ompassionate
 - **E**mpathic



Subjective Experience

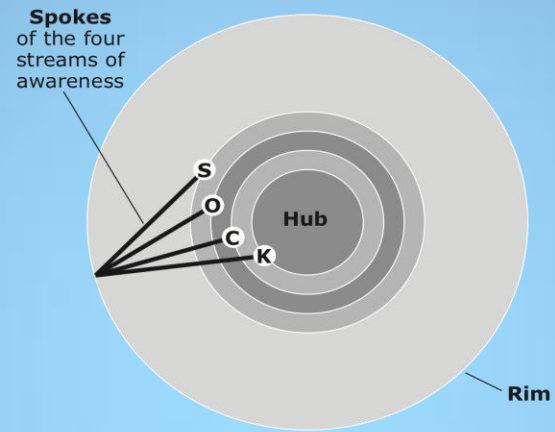


Neural Firing

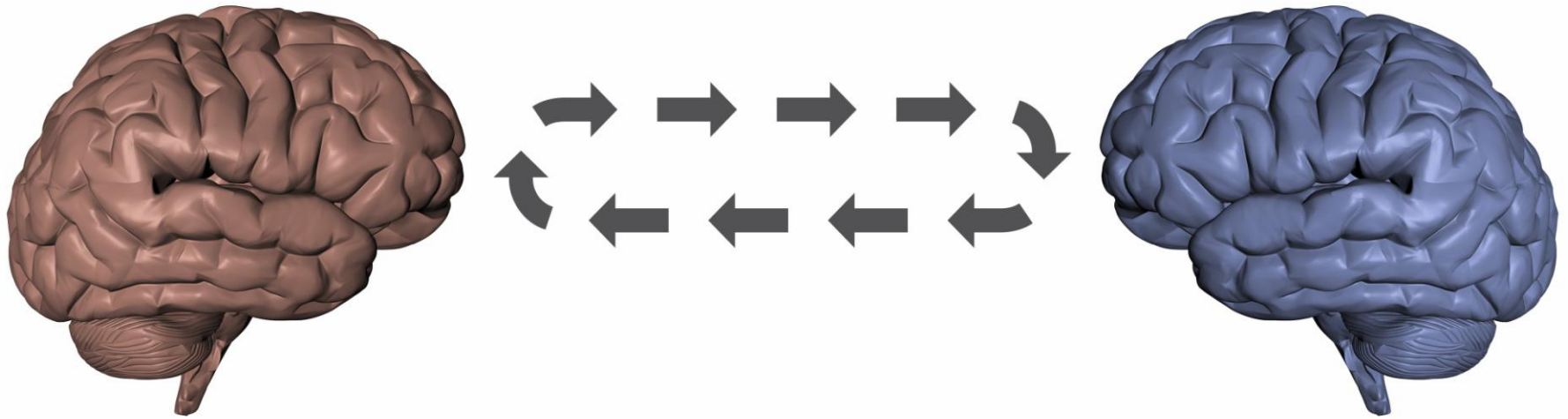
A Schematic of the Six-Layered Cortical **Column** and the Bottom-Up and Top-Down Flow of Information

Layer	Top-Down	Top-Down Dominance	Top-Down
1	⇓	⇓⇓⇓	⇓
2	⇓	⇓⇓⇓	⇓
3	⇓	⇓⇓⇓	⇓
AWARENESS	⇒⇒⇒⇒	⇒⇒⇒⇒	⇒⇒⇒⇒⇒⇒
4	↑	↑	↑↑↑↑↑
5	↑	↑	↑↑↑↑↑
6	↑	↑	↑↑↑↑↑
	Bottom-Up	Bottom-Up	Bottom-Up Dominance

Figure 6.2 Information from sensation flows “bottom-up” from the lower layers of the **column** streaming from layers 6 to 5 to 4. Information from prior learning, called “top-down,” streams from layers 1 to 2 to 3. Awareness is thought to emerge by the co-mingling of these two streams. In the first condition, bottom-up and top-down are balanced and the resultant awareness blends the two streams. In the second condition, top-down input is dominant and prior expectations and categorizations overshadow incoming sensory streams within awareness. In the third condition, sensory input in the here-and-now is dominant and awareness reflects a predominance of input from this sensory flow. Mindfulness may enable layers 3 and 4 to be disentangled by at first practicing enhancement of the bottom-up flow of present sensory experience.



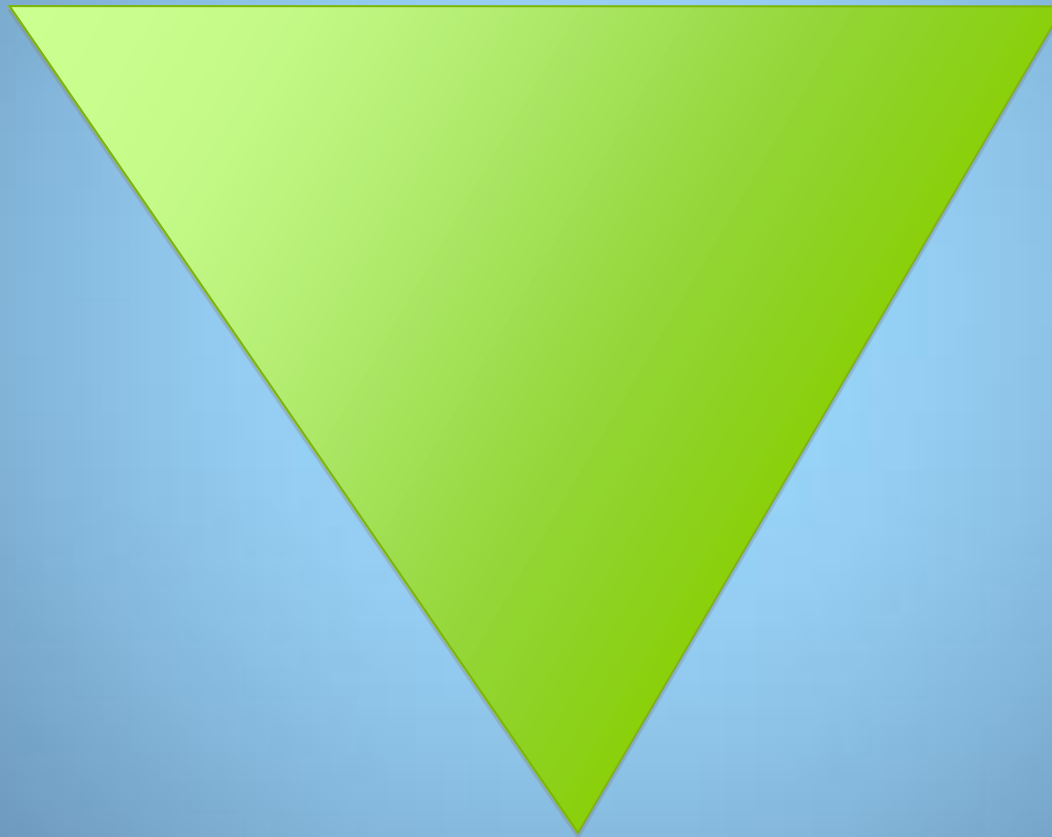
Mindsight and Neural Integration



A TRIANGLE OF WELL-BEING & RESILIENCE

MIND

BRAIN



RELATIONSHIPS



The Triangle of Health
& the Cultivation of

Integration and
Well-Being

Middle Prefrontal Functions

- Bodily Regulation
- Attuned Communication
- Emotional Balance
- Fear Extinction
- Flexibility
- Insight
- Empathy
- Morality
- Intuition