



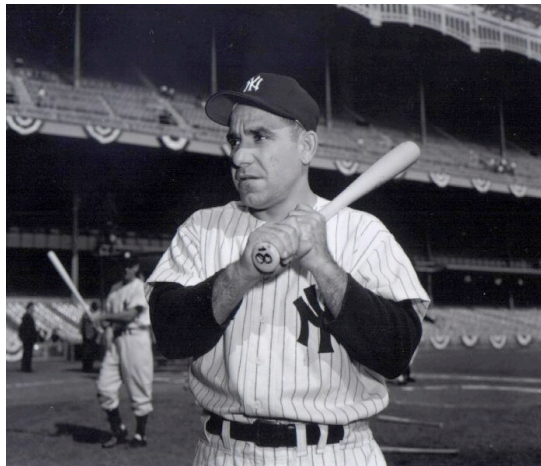
## Health and the Application of Mind-Body Science

July 8, 2020

**Mark C. Pettus M.D. FACP**  
**Director Population Health and Community Care**  
**Berkshire Health Systems**  
**Associate Professor of Medicine**  
**University of Massachusetts Medical School**



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“The future ain’t what it used to be.”

Yogi Berra




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If you want to find the secrets of the universe,  
Think in terms of...  
Energy  
Frequency  
Vibration  
- Nikola Tesla


Mind-Body Science: Moving beyond the scientific materialism paradigm



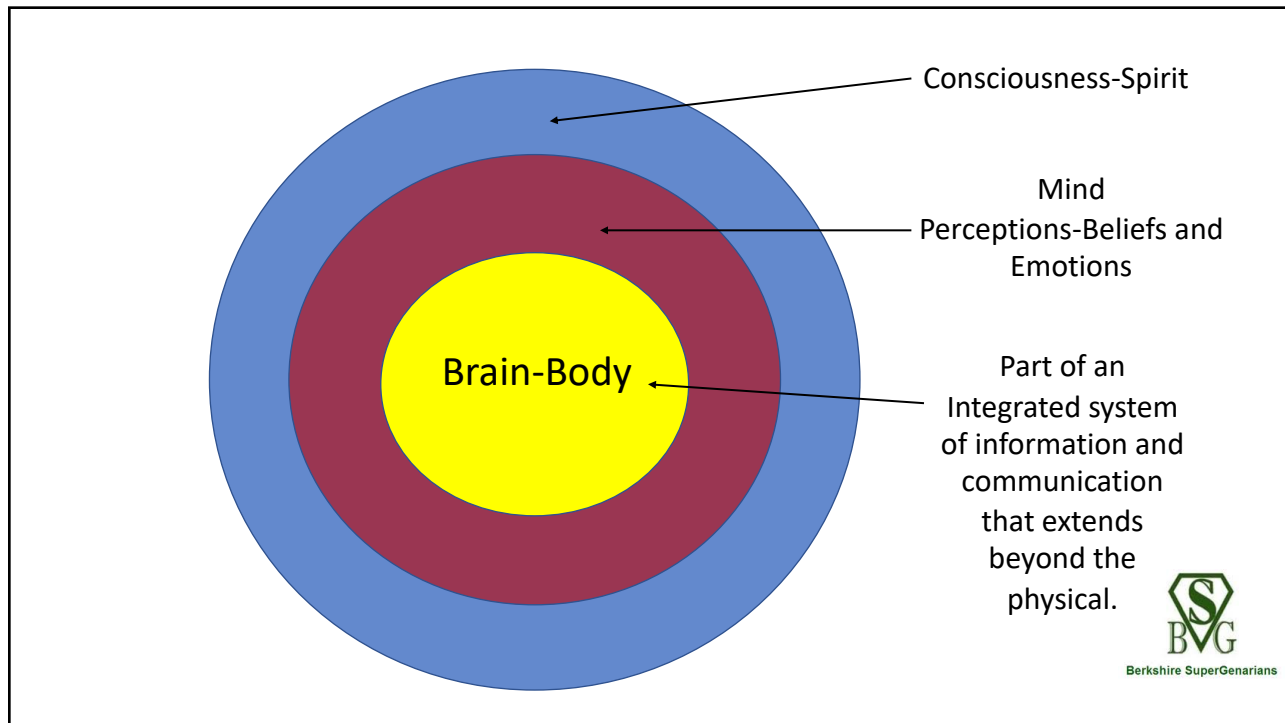
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Mind-Body at the Quantum Level  
Feedforward – Feedback of Information



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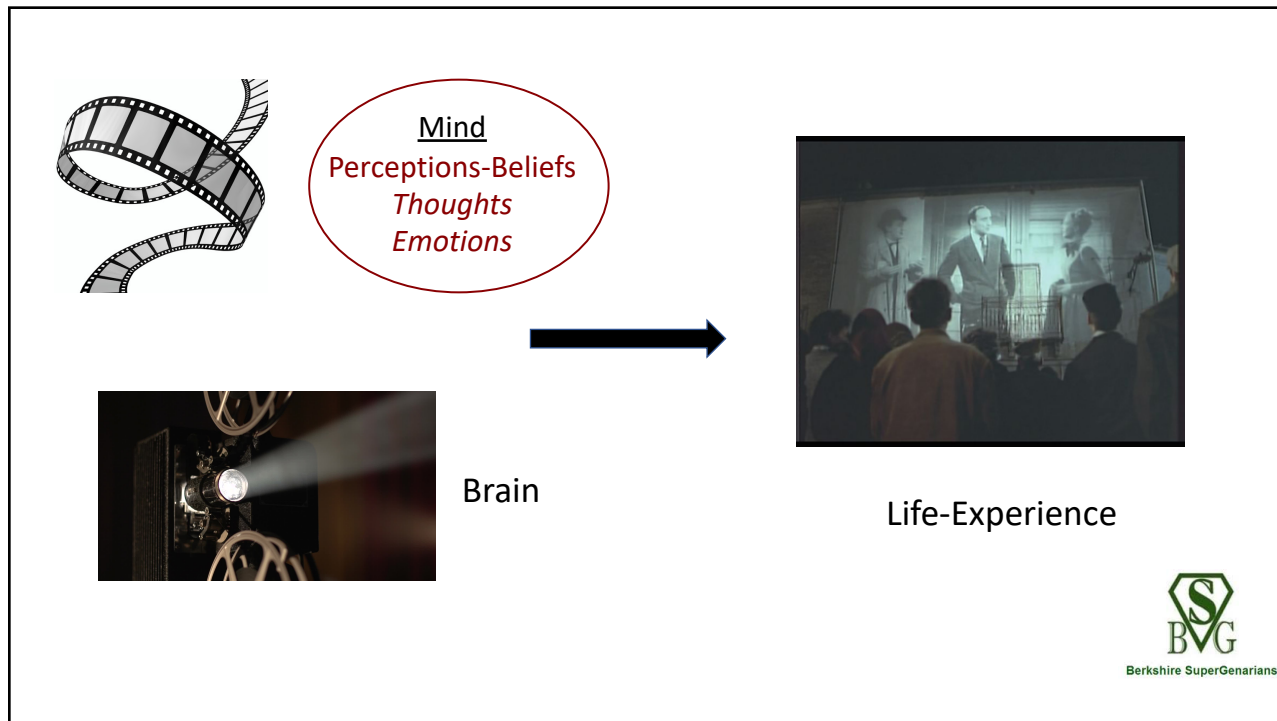


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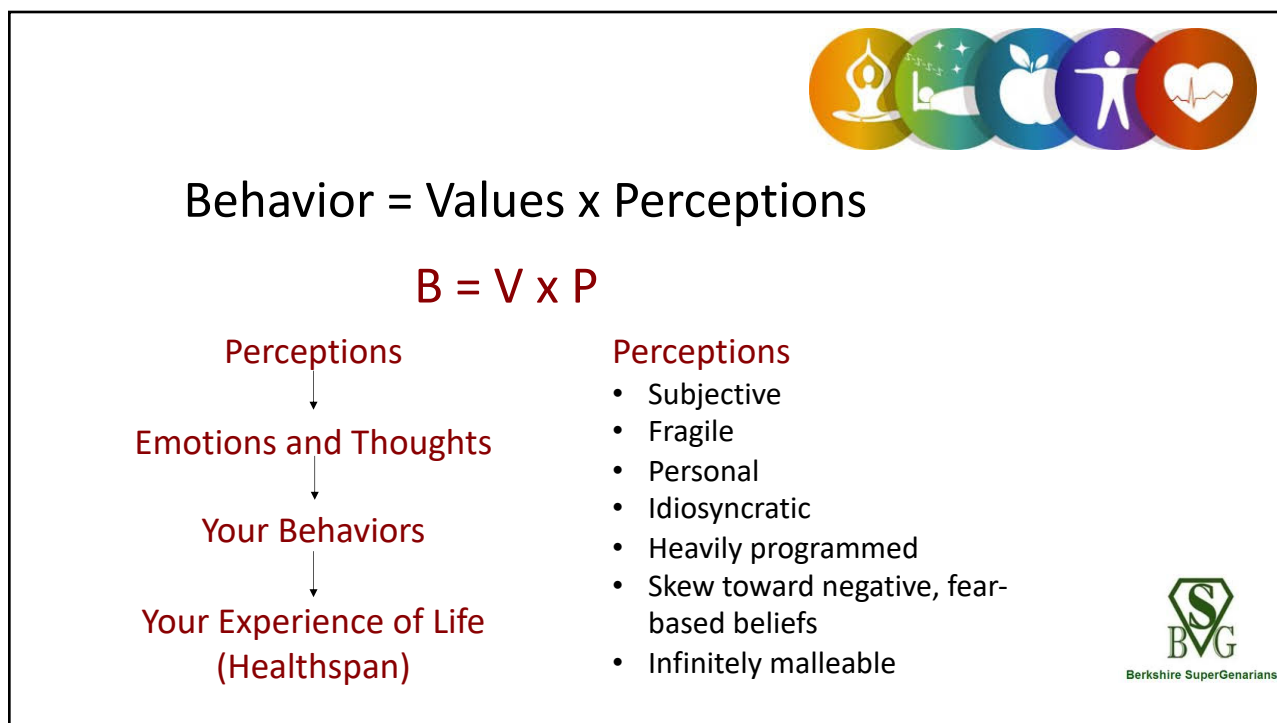
“It from bit symbolizes the idea that every item of the physical world has at bottom...an immaterial source and explanation...that all things physical are information-theoretic in origin and that this is a participatory universe”

**John Archibald Wheeler**

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Richard Davidson PhD  
Director, Waisman Lab Neurosciences  
University of Wisconsin Medical School



Bruce S. McEwen, Ph.D.  
Alfred E. Mirsky Professor  
Harold and Margaret Milliken Hatch Laboratory of  
Neuroendocrinology, Rockefeller University



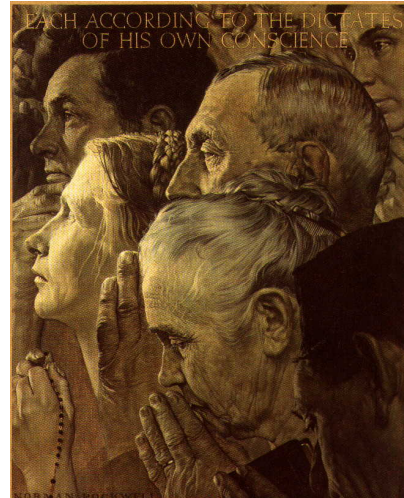
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## Fight-Flight or Sympathetic Tone



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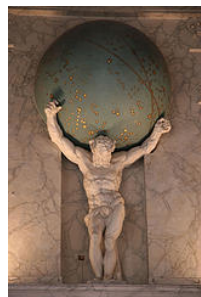
## Calm or Parasympathetic Tone.....Get “Para”



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## Allostasis and Allostatic Load

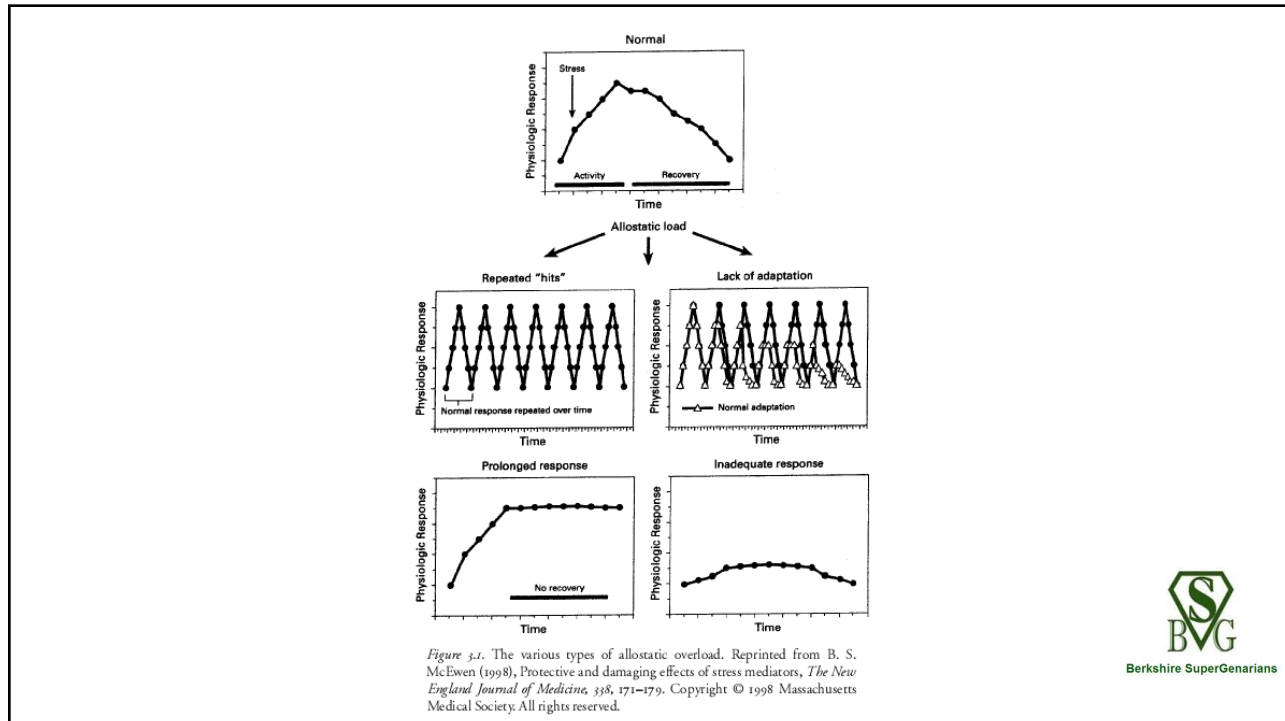
Ability to achieve stability through change



Balance



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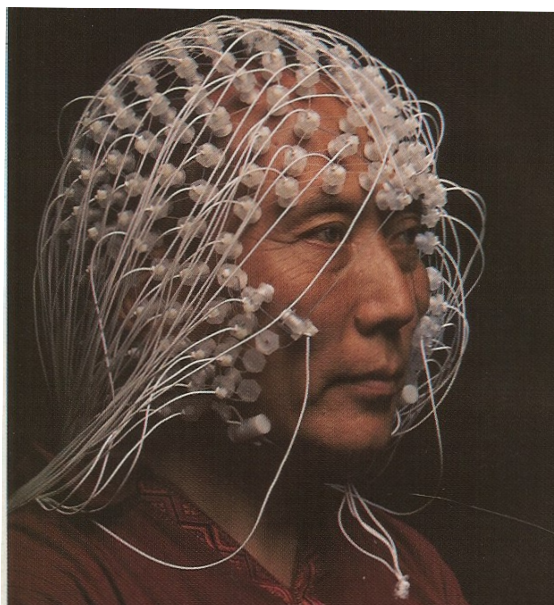
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Courtesy Herb Benson MD



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Courtesy Richard Davidson PhD



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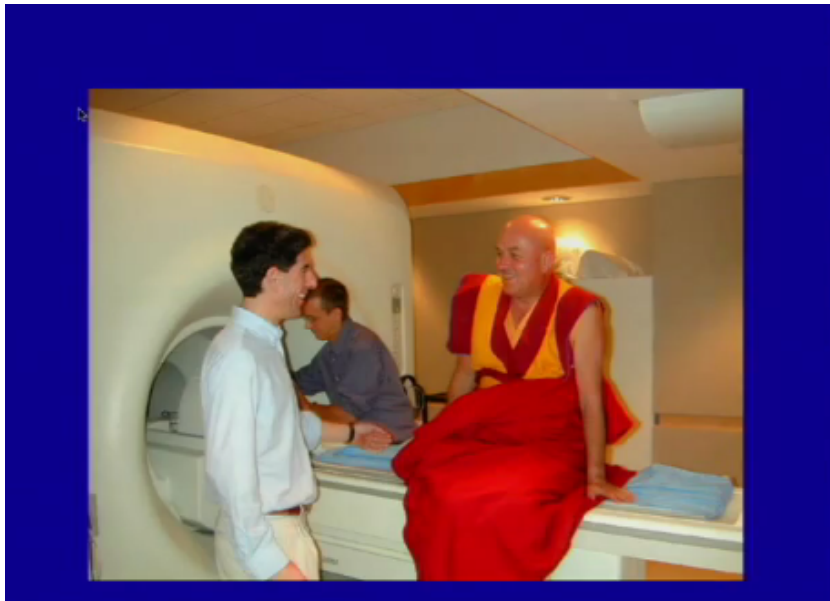




Courtesy Richard Davidson PhD



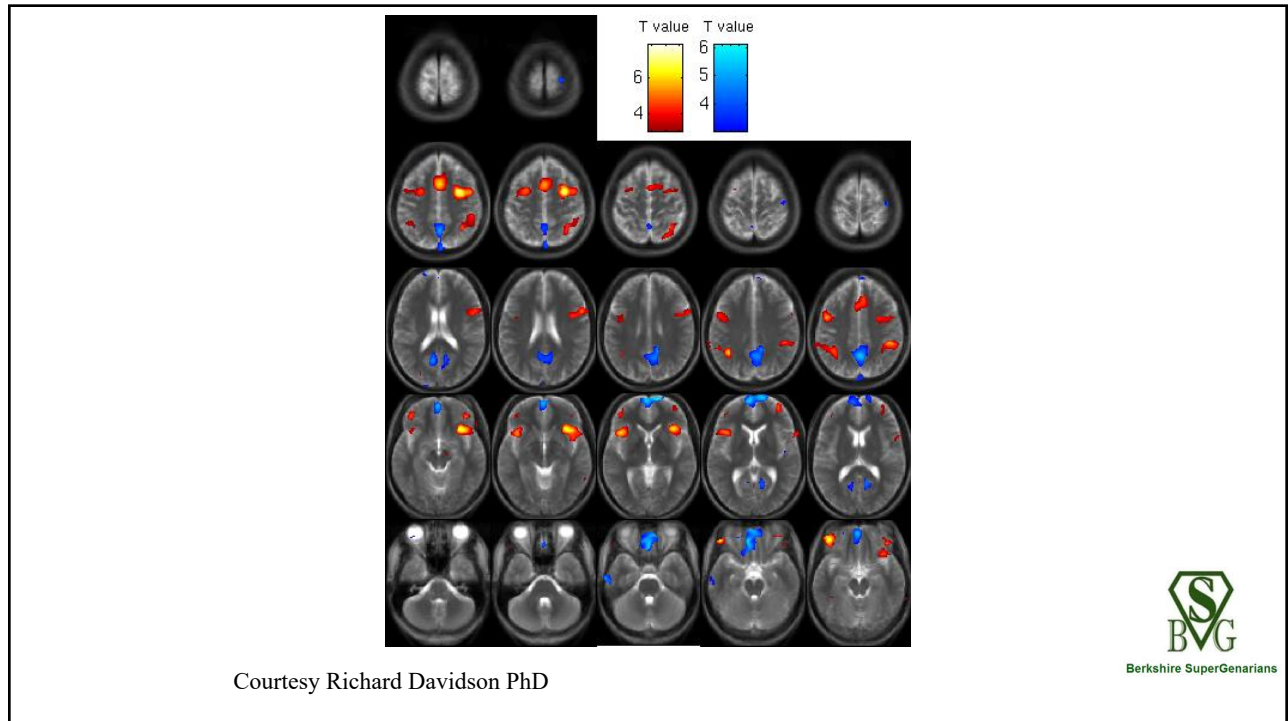
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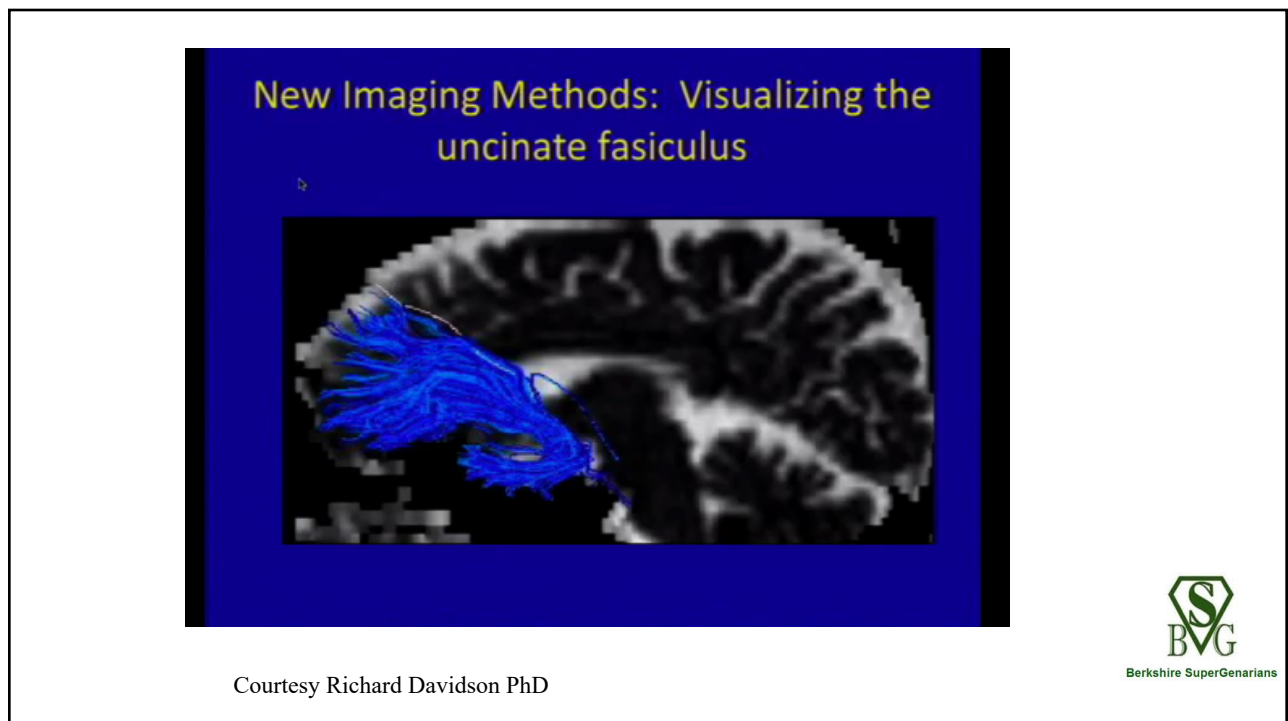
Courtesy Richard Davidson PhD



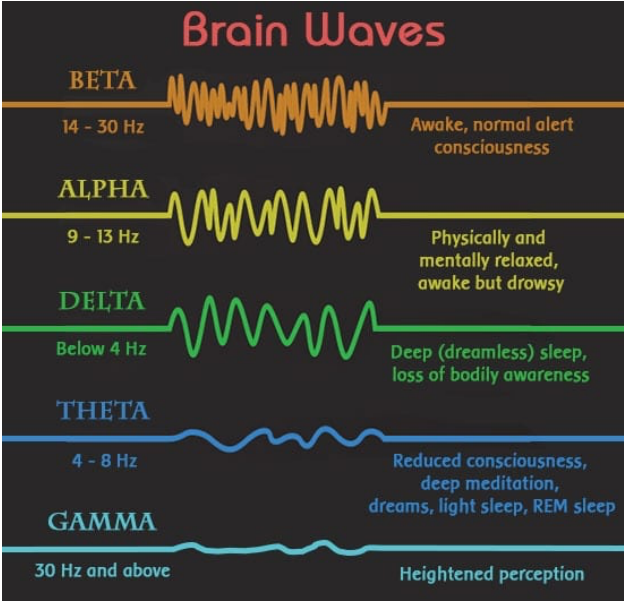
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**Brain Waves**

Wave Type	Frequency Range	State/Description
BETA	14 - 30 Hz	Awake, normal alert consciousness
ALPHA	9 - 13 Hz	Physically and mentally relaxed, awake but drowsy
DELTA	Below 4 Hz	Deep (dreamless) sleep, loss of bodily awareness
THETA	4 - 8 Hz	Reduced consciousness, deep meditation, dreams, light sleep, REM sleep
GAMMA	30 Hz and above	Heightened perception

### Theta/Gamma States


- Love
- Calm-still
- Passion-creative expression
- Meaning-maker
- Flow state
- Gratitude
- Connection with others
- Alignment of "self" with "Self"
- Connection to the whole


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## Placebo Effect

"The power over which a person's thoughts has over his body to heal it or to make it sick is a force which none of us are born without."  
Mark Twain



- HK Beecher "The Powerful Placebo" 1955
- Demonstrated effects in 30-40% of participants in clinical studies who receive placebo
- Universal observation
- Nocebo effect
- MRI studies regarding pain perception
- Hypnosis research
- Creating the perception of better things to come.



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## Managing Stress: The Power of Mindfulness



- Mindfulness practices powerfully proven to reduce disease risk
- Epigenetic effects shown to reduce inflammation, improve insulin sensitivity
- Improved mood, resilience, reduced anxiety
- QiGong, Tai chi and yoga are superb for balance, reducing fall risk, and is a marvelous stress reduction activity
- Improved performance, creativity and problem-solving capacity
- MBSR, meditation, prayer, guided imagery, journaling, etc.

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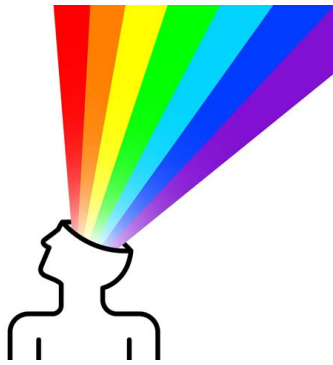
## Motion is the Lotion



- Walk as much as possible; outdoors is great!
- Be efficient with activity e.g. small doses of higher intensity e.g. breathless; functional resistance for muscle strength
- Dance to the music you love!
- Improved mood, resilience, less pain, less inflammation, improved insulin sensitivity, decreased anxiety

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## Consciousness – Our Perceptions Shape Our Reality



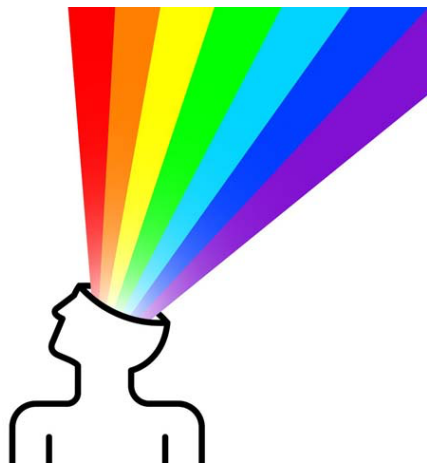
- Much of what impacts our biology and our biography can be traced to our beliefs-perceptions.
- Beliefs-perceptions that are not serving you well will lead to emotions and thoughts that will tip the balance of your sympathetic fight-flight response vs your parasympathetic connection to the “whole”.
- Changing one’s health and quality of life requires changing one’s beliefs-perceptions in a way that aligns with one’s passion.



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## The Quantum Roadmap



- Follow that which ignites your passion, that which creates meaning in your life
- Take it as far as you possibly can to the best of your ability
- Attach no expectations or insistence on the outcome
- The more positive one’s interpretation and response to whatever outcome emerges, the greater the likelihood of your experiences “providing you” with what you need to learn and to evolve physically, mentally, emotionally and spiritually.
- Go with the flow of synchronicity.....ride the wave



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“Everything can be taken from a man but one thing: the last of the human freedoms—to choose one’s attitude in any given set of circumstances, to choose one’s own way.”

Viktor Frankl



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Peace



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