

# The Mind's Eye: Meditation for Everything?

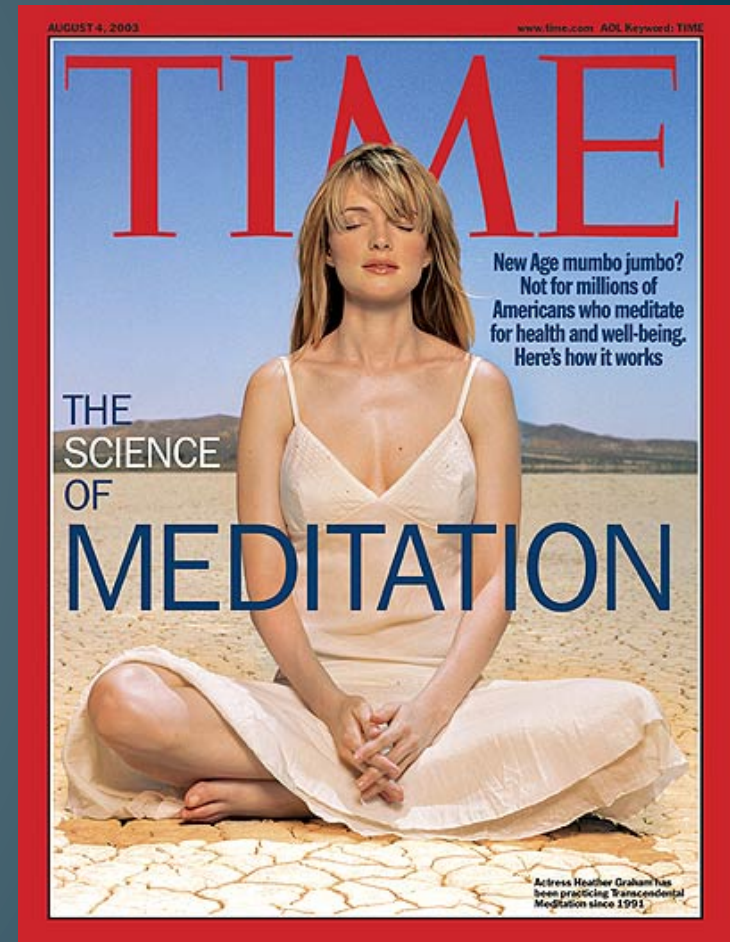
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# Meditation in America

- A 2007 national Government survey that asked about CAM use in a sample of 23,393 U.S. adults found that 9.4 percent of respondents had used meditation in the past 12 months
- Represents more than 20 million people
- Compared with 7.6 percent of respondents (representing more than 15 million people) in a similar survey conducted in 2002.

<http://nccam.nih.gov/health/meditation/overview.htm>

Time Magazine August 2003



# Yoga in America

- 20.4 million Americans (2012)
- 15.8 million in 2008
- Increase in 29 percent
- 10.3 billion dollar industry
- 5.7 billion 2008



Yoga Journal 2012

# Yoga in America

- **Gender:** 82.2 percent are women; 17.8 percent are men.
- **Age:** The majority of today's yoga practitioners (62.8 percent) fall within the age range of 18-44.
- **Motivation for practice:** The top five reasons for starting yoga were: flexibility (78.3 percent), general conditioning (62.2 percent), stress relief (59.6 percent), improve overall health (58.5 percent) and physical fitness (55.1 percent).





# Does it pay off?

Improvement seen in:

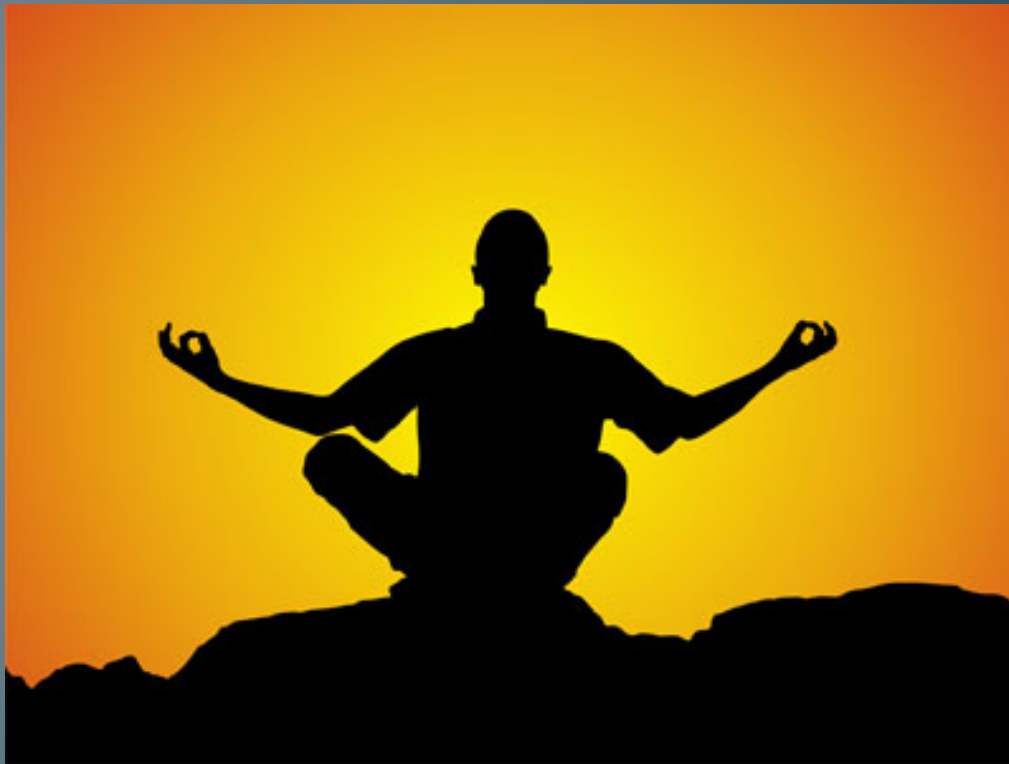
- Tension headaches
- Psoriasis
- Blood pressure
- Serum cholesterol
- Carotid atherosclerosis
- Coronary artery disease
- Cognitive function
- Longevity
- Use of medical care
- Chronic pain
- Fibromyalgia
- Cancer
- Obesity
- Immune function

# Mental Health Benefits

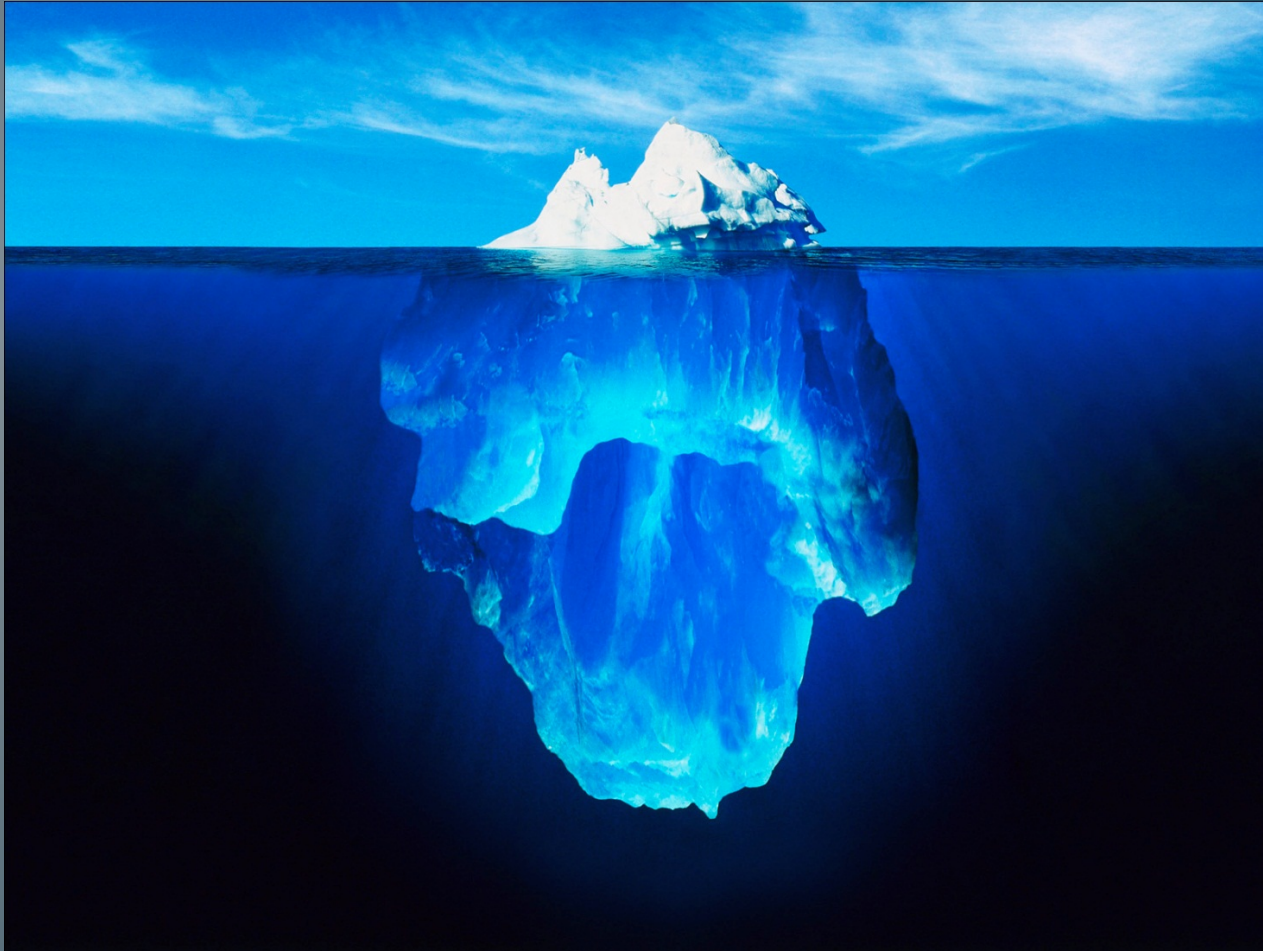
- Increased positive attitude
- Prevents depression recurrence
- Smoking cessation
- Alcohol abuse
- Decreased worry and anxiety
- Eating disorders
- Improved attention



# Meditation for everything?



Or tip of the iceberg?





# A darker side of meditation



More than meets the eye...

# Origins of Meditation

- Transcendental meditation
- Hindu origin
- Originated in ancient India with a view to attain a state of permanent peace of mind in order to experience one's true self
- Pre-philosophical speculations of yoga begin to emerge in the texts of c. 500–200 BCE
- Uses a mantra (a word, sound, or phrase repeated silently) to prevent distracting thoughts from entering the mind

<http://nccam.nih.gov/health/meditation/overview.htm>

<http://en.wikipedia.org/wiki/Yoga#History>

# Origins of Meditation

- Mindfulness Meditation
- Buddhist origin
- “Buddha” probably lived around 4<sup>th</sup> or 5<sup>th</sup> century BC
- Tortured by dualistic state
- Found “enlightenment” or “nirvana” through meditation
- In “mindfulness” the meditator learns to focus attention on what is being experienced, without reacting to or judging it

<http://nccam.nih.gov/health/meditation/overview.htm>

[http://en.wikipedia.org/wiki/Gautama\\_Buddha](http://en.wikipedia.org/wiki/Gautama_Buddha)

# Did Jesus reach enlightenment?

- Some scholars teach that both Jesus and Buddha reached enlightenment through meditation





# Philosophical Differences

## Eastern

- Eternal dualism
- Yin & Yang
- Eternal existence of good and evil

## Christian

- Evil had a beginning
- Evil will have an end
- Teaches an internal dualism



# Consequences

## Eastern

- Fear of death
- Creates internal conflict
- Fight or Flight
- Self-preservation
- Solution:
  - Eternal cycles of rebirth
  - OR
  - Transcend both good & evil (“nondual state”)

## Christian

- Fear of death
- Creates internal conflict
- Anxiety with realizing our true state
- Realizing our helplessness
- Solution:
  - Surrender to Christ
- LEADS TO
  - Death to self, rebirth & unity

# The Research: EEG Changes

- “The methods used to elicit specific states differ across practices, but the results similarly produce reported trait changes in self-experience: eliciting shift toward expanded experience of self not centered on the individual’s body schema and mental contents.”
- The individual becomes a “witnessing observer”
- “Changes in arousal and attentional state involved in meditation are also related to hypnosis.”
- As a result similar EEG findings in different forms of meditation

Cahn & Polich. Psychol Bull. 2006 Mar;132(2):180-211.

# EEG Findings

- The electric brain- alpha, theta, beta, delta & gamma
- Beta ( $>13$  Hz): concentration, reading, thinking, problem solving, engaged in focused activity
- Alpha (8-13 Hz): passive relaxation, brain resting, REM sleep, drowsiness
- Theta (4-7 Hz): normal in children awake & asleep adults; otherwise often indicative of a pathological process
- Delta ( $<4$  Hz): deep sleep
- Gamma (20-200 Hz): neuroplasticity

Cahn & Polich. Psychol Bull. 2006 Mar;132(2):180-211.



# EEG Findings

- State versus Trait
- Increased alpha and theta both state and trait
- Mind becomes more passive
- Ready to learn
- Theta related to experience

Cahn & Polich. Psychol Bull. 2006 Mar;132(2):180-211.

# EEG Findings

- Alpha effect independent from degree of experience or technique
- The first basic change in “meditative development”
- Theta activity dependent on experience
- The second change
- May reflect a “state of readiness”...ready to learn
- People highly trained in self-hypnosis also show theta activity while awake

# EEG Findings

- Highly advanced meditators also display gamma activity
- Neuroplasticity leads to the ultimate desired change- “The development of new states of consciousness.”
- Beta activity during meditation recently found in experienced Zen meditation practitioners
- Living in a virtual reality

Fell et al. Medical Hypotheses 75 (2010) 218–224.

Huang & Lo. J Med Eng Technol. 2009;33(4):314-21.

# Left & Right Brain

- Have different functions but complement each other
- Left- logic, language, comprehension of truth
- Right- sense of unity, oneness, relational connectedness
- Imbalance creates problems



# A Stroke of Insight

- Jill Bolte Taylor, neuroanatomist & researcher at Harvard
- Stroke in left brain
- During the stroke right brain dominated
  - “Right here, right now, I can step into the consciousness of my right hemisphere, where we are. I am the life-force power of the universe. I am the life-force power of the 50 trillion beautiful molecular geniuses that make up my form, at one with all that is. Or, I can choose to step into the consciousness of my left hemisphere, where I become a single individual, a solid, separate from the flow, separate from you. I am Dr. Jill Bolte Taylor: intellectual neuroanatomist. These are the “we” inside of me. Which would you choose? Which do you choose? And when?”

J. Taylor, online video lecture at [www.ted.com](http://www.ted.com)

# Imaging Studies

- Hypothesized that meditation begins with the left cortex, then activates the right, then overall decrease in cortical activity
- Frontal activity often initially increased due concentration on meditative task
- Studies show increased right to left dominance during meditation (state)
- Mindfulness study showed strong activation of right brain

Int J Neurosci. 1984 Nov;24(3-4):217-31.

Cahn & Polich. Psychol Bull. 2006 Mar;132(2):180-211.

Neuroimage. 2009 Apr 15;45(3):672-8.

# Imaging Studies

- Studies also show increased gray matter in right OFC, thalamus and hippocampus in long-term meditators (trait)
- Long-term studies show increased right cortical thickness
- Another study showed the most experienced meditators have less activation in attentional networks
- At rest, Sahaja Yoga Meditators show reduction of the typical left over right hemispheric asymmetry

# Imaging Studies

- Buddhist monks, expert in both concentrative and mindfulness related practices
- Showed wide deactivation of left hemisphere during meditation
- Both types of meditation decreased dIPFC activity, especially on the left side

Brain Res Bull. 2010 Apr 29;82(1-2):46-56.



# Imaging Studies

- 78 recurrently depressed patients
- Enrolled in Mindfulness-based Cognitive Therapy
- Depressive symptoms and trait rumination decreased
- HOWEVER, alpha asymmetry strengthened shifting toward higher right anterior cortical activity
- Theoretically at higher risk for relapse

# Detachment

- Increase in right hemispheric activity would theoretically lead to increased vulnerability to depression
- This effect has not been observed
- Why?
- Experienced meditators showed reduced subjective ratings of negative emotions elicited by aversive movie clips
- Overall decreased emotional reactivity

# Decoupling

- Zen Meditators studied vs controls
- Meditators had lower baseline pain sensitivity
- Meditators were able to tolerate more pain without awareness of discomfort
- “During pain meditators had stronger activity in regions typically associated with sensory and affective pain processing. Large activity decreases were observed in brain regions implicated in appraisal, memory and emotion where the most advanced meditators had the largest effects and which were accompanied by the lowest pain ratings.
- Meditators had reduced connectivity between DLPFC and the dACC

# Thalamus

- Measurement of cerebral blood flow using SPECT scan
- During meditation increased activity seen in the thalamus, especially on the right side
- Gateway of neural signals to the higher cortex
- Changes our awareness and response to reality

# The End Result

- Meditation creates a cortical “numbing effect”
- Makes us lose touch with reality
- Less sensitivity to emotionally and physically painful stimuli
- Instead of bringing about integration of brain structures causes a disconnect from moral values and reality
- Increase in right-sided activity makes “oneness” and “unity” more important than truth
- Allows the practitioner to tolerate the “dual state”
- Allows a virtual reality to be built and lived in

# Contemplative prayer?

- Also an eastern meditative practice under the guise of religion
- Similar brain activation patterns are observed
- Also allows the Christian to tolerate the “dual state” of their nature
- Leads to apathy and lack of change
- Allows the Christian to “feel the spirit” (right-sided activity) without being changed by the Holy Spirit



# Meditation Debacles

- 17 year-old Samantha
- Dropped on her head during yoga
- Then smoked cannabis
- Then had a psychotic break

# Meditation Debacles

- 25 year-old Bobby
- “I found something that gets you way higher than weed does... yoga!”

# Meditation Debacles

- 23 year-old John
- Started meditating in substance abuse residential treatment center (using Tony Robbins and also a nighttime audio to stimulate delta waves to help him sleep)
- Shortly thereafter developed a manic episode & meditation was making it much worse- “it felt like there were 2 people inside me talking to the other part of me...”
- The numbers 17, 14, 22 kept going through his head for 4 days and he was obsessing on them so he googled them and he found Matthew 17:14-22
- He felt like his brain was trying to “hang on to something” concrete to not go crazy

# Timely Counsel

- “Through spiritualism many of the sick, bereaved, the curious, are communicating with evil spirits. All who venture to do this are on dangerous ground. The word of truth declares how God regards them...Wherever an influence is exerted to cause men to forget God, there Satan is exercising his bewitching power. When men yield to his influence, ere they are aware the mind is bewildered and the soul polluted. The apostle’s admonition to the Ephesian church should be heeded by the people of God today: ‘Have no fellowship with the unfruitful works of darkness, but rather reprove them.’ (Ephesians 5:11)” AA p. 290

# Guarding the Heart

- What does Satan want?
- Control over the minds of God's people
- How does he gain entrance?
- Through our weaknesses/vulnerabilities



# Guarding the Heart

- What weaknesses?
- The curious
  - “I wonder how this might be...”
- The bereaved
  - “I would do anything to escape this emotional pain...”
- The sick
  - “I would do anything to be ‘healed’...”
  - “I would do anything to have my child healed.”

# The god of Ekron

- Ahaziah, son of Ahab
- Fell through a lattice and seriously injured
- Sent some of his servants to make inquiry of Baalzebub, the god of Ekron, whether he would recover
- This god was to give information, through the medium of its priests, concerning future events
- Elijah sternly rebuked Ahaziah's servants: "Is it because there is no God in Israel, that ye go to inquire of Baal-zebub, the god of Ekron? Now therefore thus saith Jehovah, Thou shalt not come down from the bed whither thou art gone up, but shalt surely die."

# The god of Ekron

“The history of King Ahaziah's sin and its punishment has in it a warning which none can disregard with impunity. Men today may not pay homage to heathen gods, yet thousands are worshiping at Satan's shrine as verily as did the king of Israel. The spirit of idolatry is rife in the world today, although, under the influence of science and education, it has assumed forms more refined and attractive than in the days when Ahaziah sought to the god of Ekron. Every day adds its sorrowful evidence that faith in the sure word of prophecy is decreasing, and that in its stead superstition and satanic witchery are captivating the minds of many.

- Today the mysteries of heathen worship are replaced by the secret association and seances, the obscurities and wonders, of spiritistic mediums. The disclosures of these mediums are eagerly received by thousands who refuse to accept light from God's word or through His Spirit. Believers in spiritism may speak with scorn of the magicians of old, but the great deceiver laughs in triumph as they yield to his arts under a different form.
- There are many who shrink with horror from the thought of consulting spirit mediums, but who are attracted by more pleasing forms of spiritism. Others are led astray by the teachings of Christian Science, and by the mysticism of Theosophy and other Oriental religions.

- The apostles of nearly all forms of spiritism claim to have power to heal. They attribute this power to electricity, magnetism, the so-called "sympathetic remedies," or to latent forces within the mind of man. And there are not a few, even in this Christian age, who go to these healers, instead of trusting in the power of the living God and the skill of well-qualified physicians. The mother, watching by the sickbed of her child, exclaims, "I can do no more. Is there no physician who has power to restore my child?" She is told of the wonderful cures performed by some clairvoyant or magnetic healer, and she trusts her dear one to his charge, placing it as verily in the hand of Satan as if he were standing by her side. In many instances the future life of the child is controlled by a satanic power which it seems impossible to break.



- God had cause for displeasure at Ahaziah's impiety. What had He not done to win the hearts of the people of Israel and to inspire them with confidence in Himself? For ages He had been giving His people manifestations of unexampled kindness and love. From the beginning He had shown that His "delights were with the sons of men." Proverbs 8:31. He had been a very present help to all who sought Him in sincerity. Yet now the king of Israel, turning from God to ask help of the worst enemy of his people, proclaimed to the heathen that he had more confidence in their idols than in the God of heaven. In the same manner do men and women dishonor Him when they turn from the Source of strength and wisdom to ask help or counsel from the powers of darkness. If God's wrath was kindled by Ahaziah's act, how does He regard those who, having still greater light, choose to follow a similar course?

- Those who give themselves up to the sorcery of Satan, may boast of great benefit received; but does this prove their course to be wise or safe? What if life should be prolonged? What if temporal gain should be secured? Will it pay in the end to have disregarded the will of God? All such apparent gain will prove at last an irrecoverable loss. We cannot with impunity break down a single barrier which God has erected to guard His people from Satan's power.”
- PK 210-212

# Biblical Meditation

- Always focuses on some substantive aspect of God and His character of love
  - “But his delight is in the law of the Lord, and on His law he meditates day and night.” Ps 1:2
  - “Within your temple, O God, we meditate on your unfailing love.” Ps 48:9
  - “I meditate on your precepts and consider your ways.” (Ps 119:15)
  - “I lift up my hands to your commands, which I love, and I meditate on your decrees.” (Ps 119:48)

# Christ overcame

- Christ overcame the dual state
- He overcame His powerful fear of death by perfect love for God and humanity
- Biblical conversion is not a process to calm the fear circuitry
- Instead it confronts our own selfishness
- Does not seek to save self but dies to self
- Rests in the assurance that God can be trusted with the outcome
- A people who do “not love their lives so much as to shrink from death” (Rev. 12:11)
- Truly something to meditate upon!