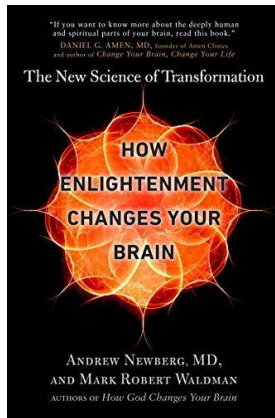


## Illuminating Enlightenment



### *How Enlightenment Changes Your Brain: The New Science of Transformation*

By: Andrew Newberg and Mark Robert Waldman

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Review by Leland R. Beaumont

Throughout history many individuals have reported having a profound transformative experience. While the specifics of each experience vary widely, they all share certain characteristics: oneness, clarity, intensity, surrender, and permanent change in some core aspect of their lives. What is going on here? Are these God's chosen people, stoners, lunatics, mystics, senile people, flower children, geniuses, or ordinary people? The authors describe the phenomenon of enlightenment in a wide variety of forms, endeavor to examine the science of enlightenment, and then describe how you can attain enlightenment.

To inform their research, the authors used an on-line survey to collect personal descriptions of more than two thousand spiritual experiences. These experiences span a range from the big "E" Enlightenment experiences where a person's entire worldview permanently changes and suffering is replaced by peace and happiness to the more common little "e" enlightenment experiences—that "aha!" moment—that provides new insight, clarity, and perspective about our world.

"The ability to experience enlightenment, big or small, appears to be 'wired' into our brain and consciousness." Furthermore, subjects typically report, "a new sense of meaning and purpose in his life, feels differently about his job and relationships, and no longer fears failure or even death." Can the existence of such transformations be scientifically verified?

Author Andrew Newburg is a medical doctor and neuroscientist. He uses fMRI and single proton emission computed tomography (SPECT) to generate brain-scans of subjects before and after various enlightenment experiences. I am not qualified to personally read, interpret, or validate the various brain-scans appearing in the book. I did, however, sample several of the cited references and verify they are peer-reviewed, published scientific reports describing well designed experiments.

Brain scans taken during or immediately after an enlightenment experience show a decrease in activity in the parietal lobe. This section of the brain is associated with a loss of the sense of self and a blurring

of lines between the self and the rest of the world. This may explain why people who describe their enlightenment experience using statements such as “the sense of unity was awesome” claim a deep connection to the world or universe. At the same time, scans also show a decrease in frontal lobe activity. This may affect feelings of intensity, calm, surrender, and joy.

The unique signature of enlightenment seems to be elevated activity in both the frontal and parietal lobes of the brain, followed by a sudden and dramatic decrease in activities in these areas. This transformation is accomplished by shifting among various states of human awareness in particular ways. To introduce language useful in describing these various mental states, chapter 5 describes the six-level “spectrum of human awareness”. Each of the six levels, ranging from “instinctual awareness” through “transformational awareness” is associated with activity in different regions of the brain. I would have liked to see this model reconciled with the well accepted “System 1” and “System 2” models of Daniel Kahneman’s book *Thinking Fast and Slow*.

I particularly appreciate the pan-spiritual approach of the book. The authors are respectful, open-minded, and conscientious as they investigate and connect a variety of disciplines that are traditionally considered to be disparate and even irreconcilable. They study a wide variety of religious practices, mystical traditions, drug effects, and secular activities to determine the broad extent and the common elements of enlightenment. This broad evidence-driven approach leads to scientifically relevant hypothesis, analysis, and conclusions that reveal a unifying model of enlightenment. None-the-less, this is a thinly researched field of study, and their pioneering work has to be considered as tentative.

The authors project their enthusiasm by stating: “When you get right down to it, Enlightenment is the implicit goal of every mystical tradition in the world: to fully surrender oneself to the unity of God, consciousness, truth, or whatever principle is core to the religious or spiritual philosophy.” They go on to state: “This is the ultimate message of the book—Enlightenment is for anyone.” This brings us to part 3 of the book, entitled “Moving Toward Enlightenment,” where they present a variety of specific techniques that anyone can follow to prepare for, and perhaps attain an enlightenment experience. The most powerful technique they have studied is the Sufi ritual of Dhikr. They present several variations of this ritual, modified to accommodate a variety of religious or secular preferences.

Unfortunately, they do not discuss the efficacy of these techniques. We do not learn how often the conscientious practice of these techniques results in an enlightenment experience. My perfunctory attempts to follow the techniques have not yet brought me to the “aha!” moment of new insights.

This is a well-written, well-researched, and well-presented book on an unusual topic. They survey a wide variety of experiences and work to identify common characteristics of enlightenment. They apply a rigorous scientific approach to study some of the most elusive, subjective, and ephemeral human experiences. Bravo to their efforts to bridge the chasm that so often keeps apart our spiritual and scientific realms.