

## Chapter Five

### STATES OF CONSCIOUSNESS

*The meditative intonation technique, its ability to induce altered (higher and positive) states of consciousness and to nurture spiritual and self-actualizing tendencies.*

## SUMMARY OF KEY POINTS

- How certain experiences, eg. emotional or acute stress, change the structure of our brain at the cellular level.
- How this meditative emotional intonation technique causes us to attain higher states of consciousness.
- The brain's limbic (emotional) system and (theta) brain waves production.
- A model for the origin of consciousness within the brain. (Section B.)
- A model of how the three levels and states of consciousness (objective, subjective and subconscious) originate and interact with the universal consciousness, the unified field or what some call "God." (Section B.)
- The social hologram and a holographic theory of mind and consciousness. (Section B.)
- Meditative intonations and hypnotic induction.

In the previous chapters, only the purely medical and scientific importance of mantra intonations, pineal, and melatonin relationships have been considered. However, there are additional processes that occur during meditative intonations which can further explain their therapeutic power and their ability to elicit higher positive states of consciousness.

### **Increased theta brain wave activity, limbic kindling, and altered states of consciousness**

The brain's limbic (emotional) system is comprised of three highly interconnected major centres: (A) the hippocampus, which is involved in kindling mechanisms, memory, and altered states of consciousness; (B) the amygdala, which is responsible for emotions, mood, and motivation, and (C) the Median forebrain bundle (MFB) which is the pleasure and reward centre. *Kindling refers to the continued exposure of certain cells to various stimuli*, exposure which then alters the subsequent activity and sensitivity of those cell groups or neural networks to those stimuli. In the hippocampus certain cells called CA<sub>3</sub> may play a pivotal role in *transcendental (spiritual) experiences*.<sup>220</sup> It is thought that *practices such as meditation or other transcendental experiences influence these cells and cause permanent physical changes*. It is possible, then, that emotional intonations can stimulate these cells, and generate more theta brain wave patterning. Over time, when the median forebrain bundle is slowly and correctly stimulated, we experience "pleasure" or "oceanic oneness," cosmic love, altruism, and, in rare instances, Cosmic Consciousness (see figure 42 - section B).

Emotional vocalizations and certain harmonically repeated sounds such as the Gregorian chants and *any perceived-to-be sacred music, events or settings* can also induce *controlled* limbic stimulation, higher states of consciousness, and a peaceful, blissful noetic feeling of "oneness." The hippocampus is also involved in PSI (Extra Sensory-Perception) phenomena, while emotional imagery is also conducive to PSI phenomena. Thus meditative intonations can increase PSI phenomena during the altered states of consciousness so produced. The emotional intonations of mantras now can be postulated to be

a powerful limbic kindling stimulant, which acts by eliciting increased (theta) wave activity, PSI phenomena and higher states of consciousness. This triggers a cascade of neuropeptide activity within the entire nervous, hormonal and immune systems, which causes healing effects at all levels of being. (see fig. 9, and figures 37, 38, 39, 40, 41, 42 in Section B).

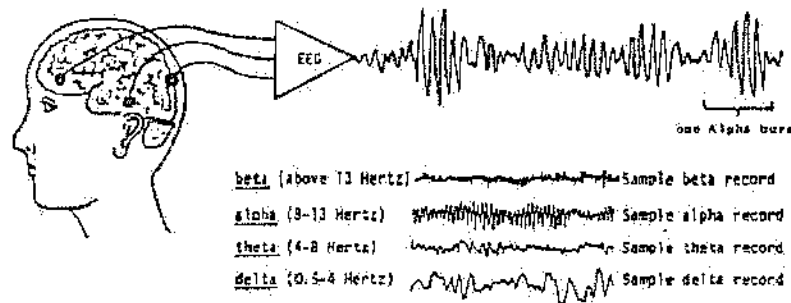


Figure 9.

*Diagram of different kinds of brain wave patterns and their meanings. Deep absorption can be conceptualized as a shift from objective (Beta and Alpha states) to a subconscious (Theta and Delta) one where the ANS and the limbic system are highly activated.*

**BETA (Above 13 Hertz)** - Focused attention, active concentration, orienting, anxiety, processing of visual information, attention to visual and auditory stimuli, and problem solving. Metabolically speaking, beta activity is associated with a high arousal level. Anthropologically speaking, beta activity is associated with orienting and response mechanisms requiring a high level of vigilance, such as "fight and flee" mechanisms.

**ALPHA (8-13 Hertz)** - Relief from attention and concentration; a poised, non-drowsy state which sometimes facilitates recall processes and a pleasant inner awareness. Metabolically speaking, alpha activity is associated with a lower arousal level than beta activity. Anthropologically speaking, alpha would represent states of rest and the absence of vigilance.

**THETA (4-8 Hertz)** - Drowsiness, dreaming, hypnogogic states, subconscious orienting and problem solving (particularly the assimilation of new information), low arousal level.

**DELTA (0.5-4 Hertz)** - Normally found in deep, dreamless state.

## **Meditative intonations and changing brain "maps"**

While limbic stimulation occurs during meditative intonations, the brain's frontal lobes are also being stimulated because of the speech imagery and the cognitive processing (processing for meaning) of mantras. Scientific research<sup>126,127,231</sup> supports the views that during these times there is a *reorganization of brain and limbic systems neural maps*. Neuroscientists<sup>127</sup> have found that these maps, appear to be *dynamic*, (not fixed), functional *anatomical entities of neural networks* which allow for neural information processing. They *move* in the neocortex and their borders move. *They can undergo substantial change (even enlarging a thousand-fold) depending on the stimuli or experiences*. It is now known that **experience** influences and alters the structure and functions of neurons. There is now solid evidence suggesting that the anatomy and physiology of the sensory motor cortex, (the part of the brain responsible for movement), *are indeed re-ordered, quickly and effectively in adult primates by new altered experiences*. Essentially, there is solid evidence that these maps are not "hard wired" from birth as previously thought, but are instead continually changing. ***Certain experiences and biochemical and hormonal factors can significantly cause them to change***. Since meditative intonations can cause vast changes in the brain's frontal lobes, hypothalamus, nervous systems, limbic system and cells by neurophysiological and neuropeptide effects, *such long-term meditative intonations and transcendental practices will alter cortical and limbic system neural maps, cognitive maps, and mood, all of which would lead to a habitualization of mystical states. As your neuroanatomy (brain structure), neurophysiology (nerve function) and neurochemistry (brain chemicals) become altered by using this technique, there will be the accompanying positive changes in your thinking, personality and spirituality*. Since you are more relaxed, healthier and more frequently experiencing the theta  $\Theta$  state, increased PSI activity, and occasional peak experiences, practicing these techniques could encourage self-actualization behavior, increased spirituality, and eventually Cosmic Consciousness.

In section B, you will be introduced to a brain model that

accounts for the reports of sacredness, reverence, heightened creativity and Cosmic revelation that occur during meditative intonations. This model illustrates that the three levels of consciousness: the objective, subjective and subconscious, are simultaneously influenced during such meditative intonations.

### **██████████ Meditative intonations, their influence on the three levels of consciousness and the Cosmic unified field.**

We can say that the sum of the objective, subjective and subconscious levels of consciousness constitute (make up) the "mind" of a person. Furthermore, section B shows how objective consciousness (external awareness) originates and emerges within the brain's *sensory* cortex. Subjective consciousness emerges from within the brain's *association* cortex, and subconscious consciousness emerges from within the brain's *limbic* system. Each of these states is vibrating at a certain frequency. Under certain conditions and using certain techniques (as explained in this book), these wave form frequencies can be made to resonate (work in harmony) with the frequency of the unified field or the Cosmos. In this way the human mind can "tap into" the Cosmic /Universal mind. Each person will have a predominant or preferred mode of consciousness. During the process of meditative intonations, as states of consciousness change, the three levels of consciousness in the brain approximate resonance with the frequency of the Cosmos and for the first time the individual experiences, (non-intellectually) the hardware laws or the pulse of the Cosmos. Our software laws (models, theories, paradigms) come to resemble the Universal hardware laws—Cosmic laws—and we get that "breakthrough" or "aha" experience. We glimpse the grandeur of Cosmic law and understand the totality of the problem and its solutions.

It is important to remember that during periods of solitude, relaxation and meditative intonations, the subconscious level becomes more dominant, there is an increase in theta brain waves and we can much more easily tap into the pulse of the Cosmos for revelation, health, and peace. Continued meditation, deep absorption and intonations can cause us to shift from a *knowledge* of software laws to a *wisdom* of hardware laws.

Fig. 7 in chapter 4 mentions the social hologram. It is believed that each human mind is continually interacting and influencing other minds. The combined energy pattern also interacts with the energy field of the Cosmos. In this way we humans create a "social hologram" which interacts with and is influenced by the Cosmic hologram.

Finally we will consider a model showing how meditative intonations could be a hypnotic induction technique (see figure 46, section B). It is now believed that hypnotic behavior is mediated at least in part by the limbic system. Therefore during such intonations, the increased melatonin triggers its known hypnotic-like effects. Also, due to limbic activation there are simultaneous hormonal and body changes in a health-producing direction.

Overall, it is important to realize that deeply absorbed meditative intonations not only heal us physically, and psychologically but spiritually as well. They cause us to more frequently experience higher more peaceful and spiritual states of awareness.