Introduction. Recent advances in brain research using brain imaging techniques such as SPECT, fMRI and EEG have indicated that the human brain is already hard wired for enlightenment. It seems that the brain, over millions of years of evolution, has been prepared for the experience of unity with Cosmos or oneness with God.

Andrew Newberg, professor of nuclear medicine at the University of Pennsylvania, is author of the acclaimed book 'Why God Won't Go Away'. In an attempt to bridge science and spirit Newberg studied eight Tibetan Buddhist practitioners during meditation using SPECT scan. The images he captured showed that the brain’s prefrontal cortex during deep meditation lit up in a red color indicating an increase in blood flow and neural activity in that area. At the same time, surprisingly, the upper rear part of the brain called the parietal area turned a dark blue shade indicating a sudden drop of brain activity in that area which Newberg calls the Orientation Association Area (OAA).

Newberg theorizes that when the meditator withdraws from the outside world, sensory input to the OAA is blocked and the neural activity in that area is shut down. At the same time due to the intense concentration (on a mantra, on God or guru) the prefrontal cortex or the Attention Association Area (AAA) is strongly activated and will now assume the role as the brain’s new experiential center.

The OAA is the area which gives us the ability to orient ourselves in space and time and which gives our bodies a sense of physical limits and the self a sense of separateness from the rest of the universe. When the OAA is deactivated the physical limits of the body and the sense of separateness disappears. The brain can no longer create a boundary between self and the outside world, or locate itself in physical reality. As a result, Newberg says, the brain has no choice but to perceive that self as endless, interwoven with everyone and everything. This is the state Newberg calls Absolute Unitary Being. We prefer to call it the Oneness State.

Newberg’s research suggests that the process of awakening is not only due to psychological change or a change in philosophy and values. No, it is primarily due to a...
fundamental change in brain function with a shift in brain dominance from the parietal (OAA) to the prefrontal (AAA) area. When the over-activity in the OAA is decreased and the under-activity in the AAA is increased, there is a shift of the brain’s command center and the individual wakes up to a higher level of consciousness and to a new reality which seems to be even more real than the old one.

**Richard Davidson.** Some of Newberg’s findings have been corroborated by neuroscientist Richard Davidson, University of Wisconsin. Davidson collaborated with Tibet’s Dalai Lama who sent eight of his most accomplished meditators to Davidson’s laboratory for a scientific study.

Using both EEG and fMRI scans, Davidson studied the monks during deep meditation and found very high activity in the prefrontal cortex - especially on the left side which has to do with feelings of joy, happiness and compassion. The EEG recordings during deep meditation showed extremely powerful Gamma waves in that same area of the brain.

Since there were no detailed descriptions of the monks’ levels of spiritual development in the above studies we have no idea whether any of them were in a permanent awakened state.

**Oneness State and the Brain**

**Awakening depends on a Shift in Brain Function.** Professor Andrew Newberg, author of the acclaimed book ‘Why God Won’t Go Away’ has studied Tibetan Buddhist monks scientifically, using brain scans. He found that the brains of these monks were functioning in a completely different way from the brains of ordinary people. When the monks were in deep meditation he found a shift in brain dominance from the rear to the front part of the brain or - as we say - from the old to the new brain.

When the frontal area of the brain is activated and supplied with large amounts of high grade energy there is an awakening to a higher state of consciousness, also called the Oneness State. This shift in brain dominance, we suggest, is the biological foundation of Enlightenment or Awakening as we prefer to call it.

![Brainwave Frequencies reflect States of Consciousness and Levels of Reality](image)

**Four levels of Reality**

You awaken to a higher level of consciousness every morning when you wake up from sleep. Actually you wake up twice, once when you go from deep sleep to dream sleep
and again when you wake up to your normal daily consciousness. We suggest that it is possible to wake up even from that state to a higher level of reality.

Each of these four levels of reality is associated with a specific brain structure and a specific brain wave frequency. At the lowest level is the Reptilian brain with its survival functions reflected by the slow delta waves. This is a part of the brain which is active during deep sleep at night. When we start dreaming (REM sleep) a higher level in the brain (Limbic System) steps in with all its emotional activity indicated by theta brain waves. Eventually the Neocortex wakes up, the brain now starts producing alpha and beta waves and we wake up to our normal daily consciousness. Now, the point is that we can awaken to an even higher level of reality (the Oneness State) when the frontal area of the brain is activated and starts generating high amplitude synchronous gamma waves.

**Deeksha and the Brain**

We had the opportunity to do some preliminary EEG brainmapping studies on a young spiritually evolved woman from Sweden. She is a disciple of Amma and Bhagavan of the Golden City in Southern India.

We recorded eight channels of EEG while she was resting with closed and open eyes and while she was giving *Deeksha* to a number of persons. We also recorded the EEG and brainmaps of several persons before and after they received Deeksha from our test subject.

These studies were done in the Spring of 2005 at New Brain – New World in Symbion Science Park, Copenhagen. We are aware that none of the hypotheses and speculations put forward here can be verified before more controlled studies have been done.

**The Deeksha Energy seems to be transmitted through the Brain’s left prefrontal Area**

We hypothesize that the Deeksha (energy transfer between two persons) initiates Kundalini Awakening and prepares for a shift in the brain’s command center. On several occasions we had the opportunity to record the EEG of our test subject while she was giving Deeksha to other persons.

Before the Deeksha, the transmitting person connected to her inner Guru (Amma or Bhagavan). After that she looked the receiving person in the eyes for a short period of time and, while closing her eyes, she then put her hands on the recipient’s head while concentrating on transmitting the energy. The below brainmaps show the different phases of the Deeksha process.
While the Deeksha giver was looking the subject in the eyes transmitting energy, there was an increase of fast Beta1 and Beta2 activity in the left prefrontal lobe, indicating an activation of that area. After that she put her hands on the head of the recipient, now concentrating with closed eyes on transmitting energy. A few seconds later the brainmap showed intense, high frequency Beta1/Beta2 activity in the left prefrontal and temporal areas but only for a few seconds. A closer look at the frequency spectrum also showed strongly increased Gamma activity up to 40Hz. One minute later, still with closed eyes, the left frontal area relaxed and the fast brain wave activity was substituted by widespread Theta and Alpha activity in the brain.

![An Awakened Person Giving Deeksha: 20 fold Increase of Beta Wave Amplitudes](image)

The Deeksha activates the Frontal Area in the receiving Person
The below brainmaps are from a person who received Deeksha from our test subject. Immediately after the Deeksha the prefrontal area of the brain was activated in the recipient where Alpha and Theta activity increased by 60%. Since Alpha activity in the baseline condition reflects blood flow in the brain, this is an indication of more blood and energy to the prefrontal area – the brain’s new command center. Such changes (from 20%-100%) were found in several subjects after receiving Deeksha. The below brainmap is an example of how the Alpha spreads toward the frontal areas following Deeksha.

![Frontal Activation in A Person Receiving Deeksha](image)

It is interesting to note that the increase of Alpha/Theta in the left frontal area which many subjects show after Deeksha is probably related to the widespread giggling and laughing in these people during and after the process. The left prefrontal area is, according to Richard Davidson, the center of positive feelings such as joy, happiness and compassion. Thus, the giggling often following Deeksha may be seen as a first symptom of left frontal (’Jolly Lobe’) activation.