Activation and Inhibition of the Brain
–A Study of the Brain Waves of the Spiritual Consultant Craig Junjulas–

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Abstract: It is widely believed that only a small part of the brain is usually used. Therefore, if we could use just a little bit more of it, we would be an extremely brilliant person. But, is this true? The active core cells of information processing in the brain are neurons. However, there are ten times as many supporter cells, such as glia cells, furnishing nutrition for the neurons. In all there are more than ten trillion brain cells, is it right that most of those cells just exist and have no work? In a living body anything that is not needed or does not work is quickly gotten rid of. It should naturally be the same for neurons. Of course, not just the minimum numbers of cells needed are provided biologically; their numbers must be enough to satisfy the margin of safety ratio. It does not mean, however, that most neurons exist with nothing to do. The neurons are always standing by, ready to play their own roles quickly when a stimulation is received. So, an important point is inhibition of the neurons' activities so that they do not work too hard. The essential role of the brain is to control many information signals, to process them smoothly, efficiently in a way to avoid confusion. Such controlled and inhibited conditions of the brain are looked into using the EEGs of one spiritual consultant, Craig Junjulas in this report.

Keywords: EEG, α waves, neuron, activation, inhibition

1. Introduction

The brain is the control center to integrate all activities of life. The control is carried out electrically (action potentials) and chemically (neurotransmitters) by very flexible neural networks. So, what kind of neural circuits are built up and how efficiently they work are important for inhibiting the activation of the neurons which have no relation to the thought at that moment. Basically, it is not always good only to activate so many cells.

The brain waves (EEGs) which appear on the scalp are electrical signals mainly originating in the neo-cortex which is crucial for human thinking activities. EEG α waves appear on the occipital area when the eyes are closed. As the occipital area is a visual field, the α waves appearing with no visual stimulations represent an indicator of inhibition[1]. As the frontal area is the center for decision making and compiling of various thoughts, it is not inhibited when the eyes are closed and the α waves which appear are very small. However, in the deep state of qigong or meditation, the frontal region is also inhibited and α waves appear [2-4].

An experiment recently carried out by the authors is introduced with reference to previous data and the brain function is considered in this report.

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2. Subjects and Experiments

EEG measurements of the American spiritual consultant, Craig Junjulas[5], were carried out twice at the Institute for Living Body Measurements of the International Research Institute (IRI) in September 2008 and in March 2009. Mr. Junjulas has held many seminars related to meditations and aula visions,

EEGs of 12 monopolar signals were measured based on the international 10-20 method, using a portable EEG meter (Polymate; TEAC). Additional measurements made with the same system were respiration, pulse and SpO_2 (oxygen saturation).

At the beginning of the EEG measurement three control tasks were carried out. They were: resting with his eyes closed and then open, listening to classical music, and doing mental calculation, 1000-7-7--, for 2 min each. All were done while sitting on a chair. Then the experimental tasks were done. In September aula vision (sky gazing) was done 4 times. In this a person sat on a chair in front of Mr. Junjulas, about 3 meters away. And Mr. Junjulas gazed at the person while changing his consciousness level step by step. Once in 4 trials he was asked to try gazing with his eyes closed. The tasks in the second experiment in March were: doing Zen meditation (with his eyes half closed) and Mantra meditation (with his eyes closed) for 5 min for each, then doing sky gazing 3 times (eyes open), and lastly, resting again (eyes closed) for 2 min.

For the EEG analysis, the commercial software,

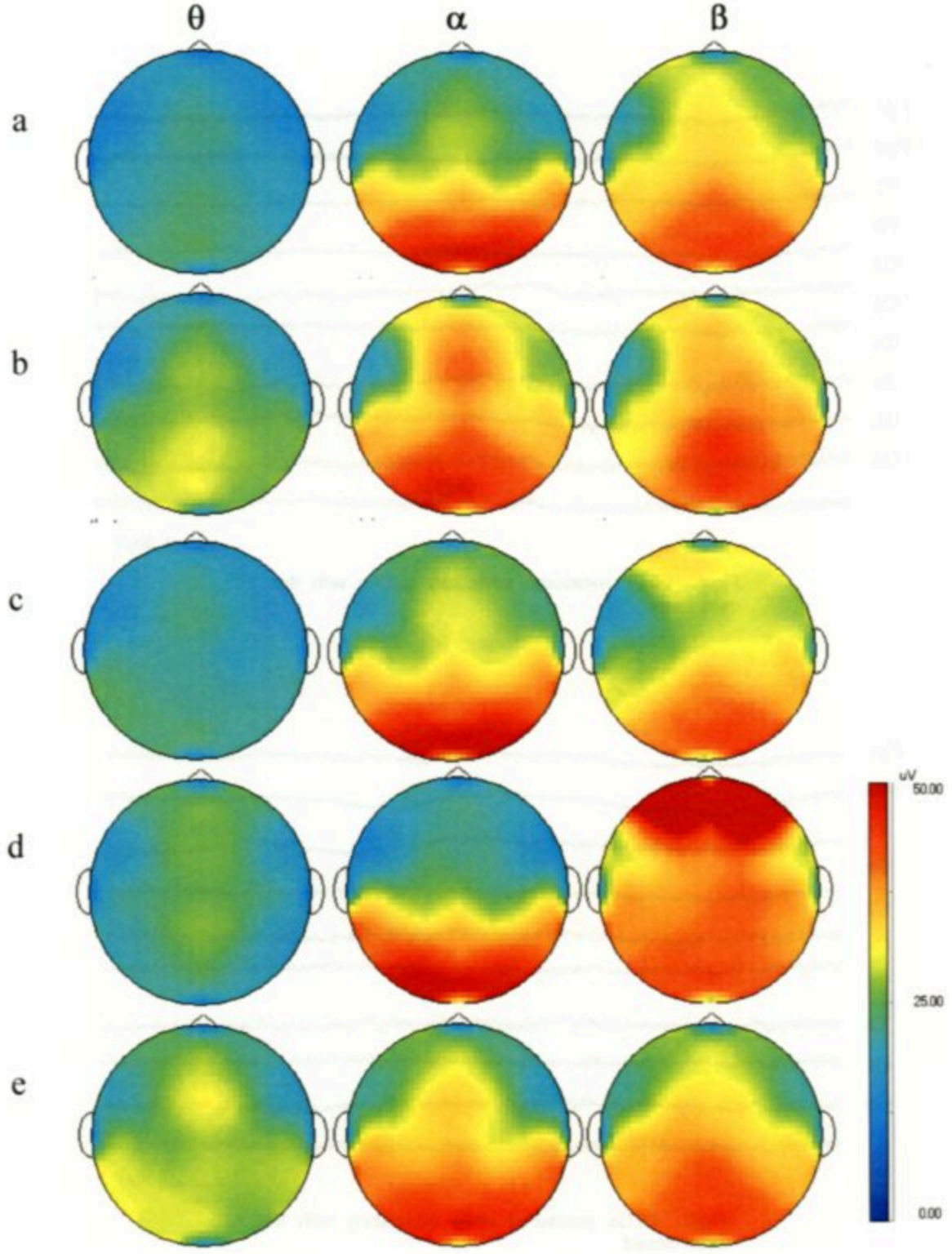

Fig. 3 EEG topographies of θ (4-7.8 Hz), α (8-12.8 Hz) and β (13-29.8 Hz) bands
a. Resting (eyes closed) b. Zen meditation (eyes half closed) c. Mantra meditation (eyes closed) d. Sky gazing (eyes open) e. Sky gazing (eyes closed)