

| | | | | | | |
|----------------------------|-------------------------|--------------------------------|----------------------------|-----------------------------|---------------------------|------------------------------|
| CNR | Faculty | Biotuning | Articles | Sound Store | Workshops | Consultation |
| Experience | CIHS | Online Courses | References | Links | Contact | Java Version |

Center for Neuroacoustic Research

Articles

METHODS FOR STIMULATION OF BRAIN-WAVE FUNCTION USING SOUND

From previous evidence of effective human biological response using various sounds and sonic vibration frequencies, certain sounds have been found to have a direct effect upon physiological systems (i.e.: pulse rate, respiration, GSR, EMG pupillary dilation, EEG, EKG, body temperature, and others). Recent advances in technology and research have yielded a wealth of information concerning sonic waveforms and their effect on the body and the brain. A new science of psychoacoustics has arisen, parallel to the already established discipline of music therapy. Front-runners in the field of sonic vibration, sound and music for stimulating physical and subconscious response have shown positive results.

More recent evidence has shown physical and psychological responses using electronically disguised nature sounds. This includes ocean, wave, water, wind, animal human, organic, dolphin, etc. sounds processed electronically in different octaves, speeded up and slowed down, processed through different filters and embedded with specific frequencies for resonating brain waves into target states for opening the subconscious mind. Studies carried out in a variety of centers across the United States have seen positive physiologic responses to the application of sound frequencies and music.

One aspect of the current experimental projects with which we have seen powerful response is in the realm of "Primordial Sounds". These sounds consist of deeply recognizable sounds to the subconscious mind, i.e. nature sounds and physical organism sounds. It has been further found that these sounds have profound impact when they are disguised in such a way that the conscious mind does not recognize them. This then activates a mechanism similar to the subconscious programming response in which spoken phrases are speeded up or slowed down to unrecognizable values, yet the subconscious mind seems to easily hear the message and produce significant results in altered behavior. By exposing test subjects to sound environments of disguised "Primordial Sounds", a state of subconscious "openness" seems to occur in which a heightened suggestibility of the mind occurs. In some cases it appears that even neuro-hormone and autonomic body processes respond to specific sound frequency patterns. The possibilities for this level of communication with higher brain function and the implications for the fields of psychology, learning, and healing are too great to ignore.

Many of the sounds, which have been used thus far, have a striking similarity to a number of the space sound recordings from NASA. Indeed, one of the interesting peculiarities of disguising the primordial, nature, and organic sounds is that they tend to sound like one another at different octave levels. Dolphin/ocean sounds, slowed down 64 times, sound very similar to human voice sounds and some of the Voyager I and II space recordings. Normal dolphin sounds speeded up two octaves sound like birds. Seagull sounds slowed down two octaves, sound like dolphins. Human voice sounds speeded up, sound first like birds and then like dolphins, etc. - all with a powerful effect on the subconscious mind. More extensive research is needed to refine the existing, observed responses of the brain and central nervous system to external methods for opening more specific levels of higher brain function.

Since ancient times, human beings have been using sound to enhance altered states of consciousness. Methods for delving deeper into the mysteries of the power of human consciousness to change our lives and control inner and outer forces of nature have been employed for thousands of years. China used meditation gongs; in Tibet, metal "singing" bowls, bells, cymbals, and chanting; in India, tamboura drums and a whole wealth of musical traditions based on the "tonic" note and these and others were used in numerous other cultures across the planet.

The ancients imparted a sophisticated, intuitive knowledge of how the tuning of the bowls, bells, chanting etc. could create sonic vibration interference patterns whose pulse rates could influence brain function and states of consciousness. They were using the "low-tech" approach of; what is today, a rapidly expanding science of high-tech applications of sound to expand consciousness.

Previous research by numerous university and government research centers around the world has shown conclusive evidence that specific states of consciousness are associated with specific brainwave frequency patterns. Other research dating back as far as the 1940's has indicated the ability to influence these brainwave patterns, and be highly specific, using pulsed/modulated sound frequencies through speakers and/or headphones. This is the "high-tech" solution for what the ancients had already achieved with "low-tech" tools thousands of years before. With far more sophisticated tools for measuring what happens in the brain during expanded states of consciousness, combined with more sophisticated tools for influencing the brain to travel to these states, we now have the ability to use our technological know-how to accelerate our own biological abilities and perhaps, our own evolution.

One of the first experiences we have as a fetus growing in the womb, is the sensation of hearing sound. Before the fetus is large enough to touch the inside of the mother's womb, it is floating free in body temperature amniotic fluid - effectively a sensory deprivation chamber, a float tank, which would mean no sense of touch. Since the mouth and nose is filled with amniotic fluid, there would be no sense of taste or smell.

With multiple layers of tissue of the abdominal wall, placental walls, and closed eyes of the fetus, there would be darkness and no sense of sight. The amniotic fluid would also fill the ear canals and be pressed up against the eardrum. Since sound travels through water five times more efficiently than through air, the sense of hearing would be five times more acute.

Let's imagine what this sound environment might sound like. First there would be the swishing water sound of amniotic fluid, then the pulse sound of the arteries next to the eardrum, then the mother's pulse through the arteries of the placenta, then the large and small intestine sounds (the gurgles and gloops), then the mother's respiration sounds, voice sounds and heartbeat sounds resonating the chest cavity, and finally all the external world

sounds amplified through the mother's stretched abdominal wall - pressurized amniotic fluid - eardrum of the fetus. "In the beginning was the Word": was SOUND. Sound can be used as a powerful tool for accessing deep levels of the subconscious mind.

The profound effect of the use of sounds recorded in space to tap the deepest regions of the subconscious mind, in part, may stem from an idea first put forth by psychologist Carl Jung. His idea of the "collective unconscious" was that, if one travels deep enough into the subconscious mind, one eventually reaches a level of the subconscious common to all people. One level of the collective unconscious is the deep, primordial recognition by the subconscious mind, of energy pattern vibrations, which are deeply familiar, both having arisen from the same primordial roots. It gives one an experience of being in a sound environment that is at once both utterly alien and deeply familiar at the same time, an experience of inner poise and deep relaxation of the mind. It may be in this way, that the similarities of recordings sent back from the planets in our solar system, can sound so hauntingly similar to nature recording electronically disguised so that only the subconscious mind can recognize them. For instance, some parts of the recordings sent back by Voyager from Jupiter sound very similar to dolphins. Sounds from the smallest moon of Uranus (Miranda) sound like choirs of voices singing, and parts of the rings of Uranus sound like giant Tibetan bowls and bells.

Repeated exposure to this type of sound begins to create a "learned response" in the mind - a familiar place to travel deep inside. This repeated experience appears to begin a process of "exercising" a deeper, more essential part of one's consciousness, which, like a muscle, begins to build up its functional ability. It is this response which seems to be the reason for such profound experiences being reported by people who have used the space sound recordings on a regular basis.

The widespread acceptance of a biochemical basis for expanding higher brain function, including memory, has been increasing in scientific circles since the discovery of neuro-chemical transmitters in the 1960's and their effect on mind enhancement. A key factor contributing to this acceptance is the evidence of a link between specific brain states and brain function with specific methods of external stimulation of the brain. Some of the first experiments into affecting brain function through external stimulation were carried out by the U.S. Navy in the 1950's. These experiments gave the first indications that brainwave function could be controlled by strobe light stimulation that caused a "biological following response" in the brainwaves of test subjects. This phenomenon (termed "Sensory Evoked Potentials" indicated that the body's internal rhythm patterns would follow the strongest external, naturally occurring pulse patterns.

The early experiments carried out by Mark Rosenzweig and his colleagues with rats in enriched and impoverished environments clearly demonstrated that there was a correlation between learning and brain chemistry. They also were able to show conclusively that specific stimulation of the brain could lead to increased brain functioning abilities.

Since this time a host of research projects carried out by such teams as the National Institute for Mental Health; the Veteran's Administration Hospital in Palo Alto, California; MIT, Cornell University; Cal Tech (Takiji Kasamatsu); U.C. Irvine (Gary Lynch); Northwestern University (Aryeh Routtenberg); Johns Hopkins (Dr. Solomon Snyder, Professor of Psychiatry & Pharmacology); Dr. Margaret Patterson, MD; and Marie Curie Cancer Memorial foundation, Surrey, England (Dr. Capel); have shown that brain electrical activity and neuro-chemical hormone function are involved in accessing deeper memory response and expanded brain function. From the standpoint of quantum physics, as we examine ever smaller particles of

matter - people made of cells, made of molecules, made of atoms, made of protons/electrons, made of quarks, etc. - we eventually reach a state of reality where the smallest particles of matter, when broken further, do not yield smaller particles which we can put names on, but rather a universal energy matrix of relationships of vibration patterns. In actuality there is nothing solid in the universe at all. Consciousness itself is a vibration pattern.

© 1990 Center for Neuroacoustic Research

