



Overview of Research and Scientific Principles

Brain Optimization and Synchronization System™

Overview of Research and Scientific Principles

HOW BOSS™ WORKS

Background

The US National Aviation and Space Administration (NASA) and the US Navy have undertaken many experiments and explorations involving the effects of motion on the human body. The primary goal of the majority of experiments was to expose astronauts to increased gravitational forces while their bodies were rotated in a vertical position. These procedures were designed to prepare fighter pilots and astronauts for the increased forces during flights, as well as to condition their bodies and brains for increased, optimized functioning, and improved adaptation to physical and mental stress.

During an interview with Mike Siegel on the radio-program “Coast to Coast” on July 19, 2000, astronaut Gordon Cooper, one of the original seven Mercury mission astronauts, revealed the existence of an advanced mind control program administered by NASA in the 1950s and 1960s. According to Cooper, the program was conducted for “children with exceptional mental abilities”, focused on cultivation of the children’s psychic abilities, and involved telepathy, remote viewing and induced out-of-body experiences (OBEs). The training included speed-reading lessons, high-tech learning devices to rapidly teach great quantities of information, and preparation for Remote Viewing (RV) intelligence missions.

Based upon this disclosure, it is clear that the primary purpose of the program was enhancement, maximization and optimization of human capabilities for top performance during national security missions. A key method of the program was the practice of physically spinning the subjects on horizontally rotating table-like devices. The rotating table sessions were used to establish the necessary induced meditative states, activating critical, rarely used parts of the human brain.

The experiments in this NASA program established the benefits of horizontal rotation as opposed to the more widely used vertical spinning, but the program lacked the scientific knowledge of the mechanics and physics involved in altered states of consciousness, and the mechanisms of mental energy-information exchange. As a result, the program served only to demonstrate the high potential of horizontal rotation methods in maximizing human capabilities, but did not result in any developed procedures or methodologies to achieve reliable and effective results.

Brain Optimization and Synchronization System™

Overview of Research and Scientific Principles

Since the early NASA experiments, there have been some studies conducted on the effects of motion therapy on the human brain. Michael Hutchison describes the effects in his best-selling book, Mega Brain Power:

“Another technique for supercharging the brain is physical movement, particularly spinning. Research with laboratory animals kept motionless and humans who have been immobilized has provided dramatic evidence of the crucial importance of movement to human development and mental-physical well-being. From the time of our conception, movement is an essential nutrient: without it, the brain does not develop fully. As babies we are rocked; as kids we roll down hills and spin until we are dizzy; as adults we scuba dive, skydive, drive fast around turns, dance, and, when tired, sit in rocking chairs. This movement is not only pleasurable, but it stimulates our body and nervous system. Like light and sound, motion is a nutrient for the brain and body, and if we consistently fall short of meeting our minimum daily requirement, we become susceptible to chronic health problems.”

“Unfortunately, today many people are suffering from motion deprivation. They spend most of the day with heads held upright and become couch potatoes in the evenings. Compared to healthy children and our ancestors, who were free-roaming hunters and gatherers, spending much of their time in vigorous motion, today’s sedentary workers are virtually motionless, and rarely move enough to satisfy even the minimum daily requirement of motion. One major effect of movement is that it stimulates the fluids of the inner ear, known as the vestibular system. This stimulation sends a flood of electrical impulses into our cerebellum and from there into the rest of the brain, including the pleasure and learning centers of the limbic system. This may explain the beneficial effects of motion has on learning and intelligence: motion directly stimulates learning.”

"EEG and other evidence has shown that the use of spinning has a profound optimizing effect on the neuro-efficiency quotient (NEQ), a measure of how rapidly electrical signals are transmitted by the brain's neurons and pass from one part of the brain to another – a characteristic that has been shown to correlate very closely with IQ. Recent research at the University of California at Los Angeles (UCLA), in fact, suggests that the NEQ is directly related to IQ. Some users of motion systems have shown increases in NEQ that are statistically equivalent to increases in IQ of an astonishing thirty points or more."

"This kind of evidence suggests that the next time you have a test or material that requires peak mental performance, you might want to take a study break and spin around and around in your desk chair for a

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

few minutes every half hour or so. Or get up and dance. Or, most effective of all, keep your brain in peak condition by providing enough motion to far surpass your minimum daily requirement."

"Motion also affects the fluids that compose some 90 percent of our body, including cerebrospinal fluid, blood, and lymph. In other words, what vigorous or repetitive motion is doing is "massaging" the body from the inside as the fluids move about and providing an efficient form of neurological "exercise" for the nervous system."

"I have described several motion systems experiences such as the depressed young woman who had a life-transforming experience with her [deceased] mother while on one of the systems. Others include the woman in one of my workshops who had suffered chronic back pain for twenty years and had it disappear after a session on a motion system. There is evidence that these motion systems alter brain-wave activity (greatly increasing the relaxing alpha and theta waves, and enhancing hemispheric synchronization). They are being used clinically for such purposes as treatment of brain damage, learning disabilities, and drug addiction..."

ITEM has applied over 10 years of scientific research and empirical experimentation with the mechanics and physics of consciousness, brain functions, and bioenergy interactions to the concept of the BOSS™ horizontal rotation table. As a result, ITEM succeeded in developing effective procedures and methodology for achieving specific results for optimization and synchronization of the human brain using its own custom-manufactured rotation table. A person simply lies on his or her back or side on the table, and is spun clockwise or counterclockwise at speeds of between 1 and 5 rotations per minute (RPM). This gentle motion produces a subtle, rhythmic pulsing of bodily fluids, beneficially affecting the entire person.



Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

Components of BOSS™

Every BOSS™ table is manufactured using the highest quality manufactured procedures, exceeding international manufacturing standards. This highly customized, rotating massage table is manufactured in the US exclusively for ITEM, based upon its proprietary **BOSS™** methodology, by a **US FDA-approved manufacturer** of Class 1 medical devices. The rotational table and its parts are covered by a one-year warranty directly from the manufacturer. The **BOSS™** table, with its polished, high-tech, world-class hospital quality appearance, is equipped with the following features:

- **Horizontal Rotation** is driven by a heavy-duty, quiet rotation motor, with precision variable rotation speed controlled by a motor drive.
- **Emergency Shutoff Switch**, provided as a safety precaution, which will turn off the motor and stop rotation if the user must end the session before the programmed cycle is finished.
- **Hand-Held Digital Control Panel**, when selected, allows users to control and monitor the direction and precise speed of rotation. Up to three cycles with variable time (up to 99 minutes), speed (0 to 5 rotations per minute) and direction (clockwise or counterclockwise) can be programmed for maximum flexibility. A one-minute time delay is provided at startup so that a user can program and operate the table alone. The standard table comes with a manual control system that requires the user to enter the time, speed and direction before each cycle.
- **Electromagnetic Shielding** is provided to enhance the beneficial effects of the physics which operate during the motion therapy sessions. All working mechanisms are safely enclosed within an acrylic, thermoplastic base, which insulates and shields from magnetic interference from the rotation motors. This material is also highly durable, and easy to clean.
- **Ultra-Durable and Comfortable Surface**, consisting of **2.5"** (6.5 cm) Memory Foam™ padding, for optimal comfort and spinal support, and exceptionally durable, low-maintenance Herculite™



Brain Optimization and Synchronization System™

Overview of Research and Scientific Principles

vinyl upholstery. The materials of both the foam padding and vinyl covering also serve as insulators and shields against possible unwanted magnetic interference from the mechanisms. The mattress base material is 0.75-inch plywood and is 101 cm wide and 191 cm long.

- **Head Cutout** for chiropractic and massage applications.
- **Custom Electricity Supply.** A **BOSS™** table to operate from either 110 V / 60 Hz (American) power supply, or 220 V / 50 Hz (European) power supply.



In addition, a removable desktop is provided upon request for the purpose of using electroencephalogram (EEG) equipment and laptop computers to monitor brain wave activity of the person during rotation.

Biophysical Basis of BOSS™ Therapy

According to Dr. Larry Shultz of Integrative Motion Systems, “Numerous studies have demonstrated the importance of movement to many aspects of human development and behavior. From the time of conception, the developmental process takes place in a fluid medium where movement occurs in a gentle flowing manner. During this process, special receptors are developed that are specifically designed to sense changes in motion. These receptors are located throughout the body and they continuously send [and receive] signals to the brain that provide necessary information that enables us to function properly. The gentle wave-like motion of motion therapy systems provides natural stimulation to these receptors and consequently provides an efficient form of neurological ‘exercise’ for the nervous system.”

According to the renowned physicist Walter Russell, a vortex of centripetal force generates a gravitational thrust. When the centripetal force is applied horizontally, perpendicular to the Earth’s natural gravitational pull, the result is generation of an opposing anti-gravity force. Maintaining this controlled centripetal motion as a sustained gyroscopic force effectively simulates “weightlessness”, facilitating complete muscle relaxation. The horizontal centrifugal motion itself induces a partial,

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

temporary “sensory deprivation”, causing the conscious mind to “tune out” sensations of the physical body, and focus on sub-conscious thoughts and mental or emotional processes.

The benefits of centrifugal motion in synchronizing the brain hemispheres, and optimizing mental alertness and coordination to enhance performance, are recognized as a reality in many martial art forms. Similarly, many advanced law enforcement special forces training programs incorporate various spinning and rolling exercises to accomplish some of these results.

Vertical spin and standing horizontal spin, however, is not as effective as reclining horizontal spin where the base of the spine is the rotational axis. This is because during vertical and standing rotations, the cerebrospinal fluid must overcome the downward force of gravity to reach the brain, and the speed and duration of rotation cannot be as precisely and reliably controlled. BOSS™ allows controlled, measured, reclining horizontal rotation, enabling the cerebrospinal fluid to easily and naturally flow to the brain, providing maximum beneficial results.

Accordingly, BOSS™ is a valuable tool in enhancing overall balance, hand-eye coordination, and body movement coordination. Its brain optimization and synchronization effects enhance mental calmness, emotional stability, intellectual sharpness and alertness, more rapid information processing, and improved reflexes and controlled reactions.

Electromagnetic Basis of BOSS™ Therapy

Water-based liquids function as a carrier of electrical charge. The water-based liquids in biological cells allow them to hold charge, and enable them to exchange charge between cells, as a form of energy-information transfer.

Such water-based liquids also function as a transducer. Fluids in the eustachian canal and vestibular canal convert sound-energy vibrations into neurological signals, inducing the perception of sound in the auditory regions of the brain. Similarly, fluid in the vitreous humor - an amount less than the size of a teaspoon of water - converts light-energy vibrations into neurological signals, inducing the perception of sight in the visual regions of the brain. Fluid in the craniosacral canal - approximately one cup in measure - is the largest body of brain-related fluid, which is capable of carrying other charges and

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

converting other vibrations into neurological signals, having various beneficial effects upon otherwise inaccessible regions of the brain.

Accordingly, these water-based biological fluids serve as Analog to Digital Converters (ADC), converting analog mechanical and electromagnetic vibrations into digital nerve signals that can be used by the nervous system and the brain. By understanding the mechanics and physics applicable to the process of electrification of biological fluids, ITEM was able to engineer specific procedures for using BOSS™ to achieve specific results and benefits for optimizing and synchronizing the brain, and strengthening and balancing the nervous system.

There are 3 separate sets of physics which simultaneously act both independently, and in combination, to achieve optimization, synchronization and overall enhancement of a person's physical and mental capabilities and performance: (1) Magnetic Mechanics, (2) Piezoelectric Mechanics, and (3) Electrofield Mechanics.

Magnetic Mechanics

When the human body is positioned horizontally on a centrifuge table, each time the head and feet pass magnetic north, a magnetic pulse is induced into biological water-based fluids, activating the electrolytes contained within them. This process serves to alternate the north and south polarities, generating a rhythmic electrical charge in the bio-fluids. This results in recharging and rejuvenation of these important fluids, very much the same way that the rotating bipolar alternator in your car recharges and maintains the fluids in your car battery.

The magnetic field of the Earth has an induction strength of generally 50 microTeslas (uT), or 0.5 Gauss. While this is a powerful magnetic field, its potential activating and stimulating effects are generally not experienced, as the majority of human activity and movement is limited to vertical positions, or non-rotating horizontal positions. Controlled, rhythmic horizontal rotation causes natural magnetic induction of a sine wave of (-) 0.5 to (+) 0.5 Gauss.

Sustained, regulated horizontal motion in 360-degree rotation establishes the periodic polarity switching necessary to create opposing magnetic moments which generate electrical charge. This rhythmic magnetic induction process effectively initiates electrical current in biological water-based fluids,

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

thereby charging, recharging, stimulating, and rejuvenating biological cells, neurological synapses, and even associated regions of the brain.

Piezoelectric Mechanics

The modern term “piezoelectric” is derived from the Greek word “*piezein*”, which means “to press”. Mechanical pressure applied to crystal or liquid crystal substances has been proven to increase the electrical charge of such materials, causing them to generate electrical charge which can induce current. This phenomenon is the basis for many modern technologies involving “piezo-crystal elements” which naturally power “piezo-electric microcircuits”.

The electrolyte components of the water-based cerebrospinal fluid are capable of piezoelectric activity. Accordingly, mechanical motion action upon this fluid creates pressure, and therefore generates piezoelectric energy. The result is that mechanically induced centrifugal motion achieves electrical invigoration of the spinal fluid. In addition, laying flat horizontally changes the distribution of gravity, allowing the natural wave action movement of the cerebrospinal fluid to increase, naturally generating piezoelectric charge within this brain-stimulating fluid.

According to retired NASA engineer Alan Pope, “In electricity E represents voltage or electromotive force or pressure. It is a MOTIVE force. . . . Now think about the spine. That would equate with E-spin or the spin of E. It could be that the E-force or E-motion in the spine operates in a spiral, that very fundamental vortex motion found throughout nature.”

According to *Normal Laboratory Values in Massachusetts General Hospital* (See *The Merck Manual, 16th Ed.*), cerebrospinal fluid pressure has the normal pressure value of between 70 - 180 mm of water volume. According to *The Merck Manual Section Neurologic Diagnostic Procedures*, cerebrospinal fluid has the normal pressure value of between 100 - 200 mm of water volume. In cases of encephalopathy (brain activity dysfunction), meningitis and viral infections related to the spine, this pressure increases to above the normal value, apparently as a natural reflex to increase piezoelectric pressure and stimulate healing or protection of the spinal fluid.

These official medical statistics show that the cerebrospinal fluid is designed to naturally expand and contract, and pressure values ranging all the way from 70 to 200 mm are considered normal in a healthy spine. This conventional medical data documents a very wide range of natural pressure

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

fluctuations of the cerebrospinal fluid, with a normal compression factor as low as 35%, and normal expansion factor as high as 286%. This medical data also proves that the principle of piezoelectric stimulation of the cerebrospinal fluid is realistic, effective, safe, and natural.

During controlled, centrifugal rotation, the piezoelectrically charged cerebrospinal fluid carries this increased charge in an energy-information format that is compatible with that of nerve signals, and is naturally propagated upwards through the craniosacral canal. It first comes into contact with the reticular formation of the brain, providing biological nourishment and increased charge to the pineal body region of the brain, facilitating induced deep meditation and enabling the subject to access deeper brain states and otherwise hard-to-achieve advanced brain functions. The cerebrospinal fluid then travels further into the brain, making its beneficial properties available to the 5 senses.

Sustained, regulated horizontal motion in 360-degree rotation establishes the centripetal force necessary to stimulate increased piezoelectric charge in the cerebrospinal fluid within the craniosacral canal. This charged fluid is then naturally pulsed to the “pleasure centers” and critical function integration centers of the mid-brain.

The piezoelectric principle plays a major factor in motion therapy procedures related to the spinal fluid. The human biological organism maintains itself largely on piezoelectric principles. For example, the production and delivery of neurotransmitters in the brain is stimulated and directed by electric signals, the charge for which is primarily supplied by the piezoelectric properties of the cerebrospinal fluid.

It is well known that laughter has a healing effect, which is most likely caused by the subtle compression and release of the inner spine during the subtle muscular movements associated with laughter. When any type of matter - including a biological organism - experiences dramatic reductions in temperature, it loses most of its electrical charges. When the temperature of the human body drops below acceptable levels, the hypothalamus of the brain stimulates “shivering” of the body, causing the subtle contraction and expansion of the spinal fluid necessary to increase its piezoelectric charge, in an attempt to increase the body’s overall electrical resources to maintain and stimulate immune system function, and muscular coordination functions necessary for survival activities and responses.

The piezoelectric principle is also a scientific basis for the ancient practice of “acupressure”, strategically placing manual pressure on one or more of approximately 365 “pressure points” which are associated with various parts, organs and systems of the human body. By placing manual pressure on

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

strategic points, the practitioner is taking advantage of the piezoelectric effect, stimulating related fluids in cells, lymphatic structures or other biological systems connected to each point, thereby increasing electrical charge at that point for therapeutic effect. According to Michael Reed Gach, Ph.D., author of Acupressure's Potent Points, these methods piezoelectrically “trigger the release of endorphins, which are the neurochemicals that relieve pain. As a result, pain is blocked and the flow of blood and oxygen to the affected area is increased.”

Centrifugal motion, and the accompanying centrifuge pressure, mechanically generates an even level of pressure on all fluid-based points throughout the human body. As a result, use of the centrifuge table, according to the procedures developed for the BOSS™ system, additionally serves as a natural form of acupressure, automatically stimulating many pressure points while the subject is in an induced deeply relaxed state.

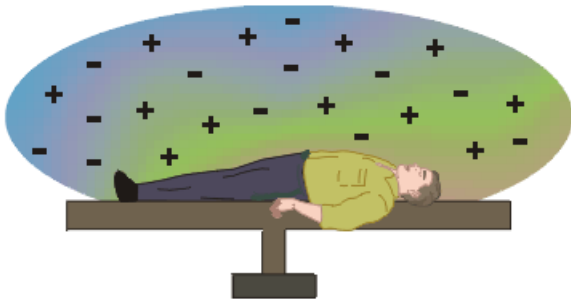
Because of the encompassing nature of centrifugal force, the BOSS™ system not only acts upon acupressure points, but the sustained compression and periodic release (which switching directions of rotation) increase the piezoelectric charge of each cell in the body, effectively rejuvenating cells. The overall effect is a comprehensive, multi-faceted, natural therapy for general improvement of physical and mental health.

Electrofield Mechanics

During the process of controlled 360-degree rotation, the movement through ambient ions (present in any room) establishes charged electromagnetic fields of opposing polarity, generating an additional electromagnetic charge that is applied during horizontal rotation. Also during this process, the centripetal force generated by a properly engineered centrifuge table causes ions within a person's biomagnetic electrofield to become aligned above the base of the spine.

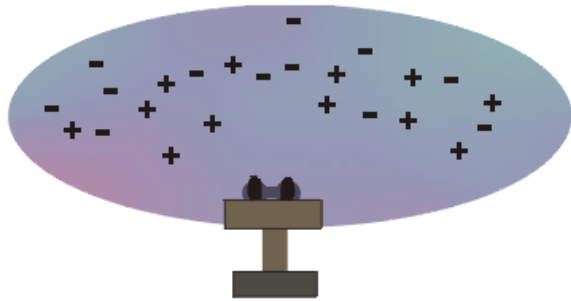
When a person is moving counterclockwise (CCW) (in the same direction as the spin of the Earth), negative charges align at the top of the electromagnetic field (north pole), and positive charges align at the bottom of the field (south pole) near the base of the spine. Once the electromagnetic polarities reach a certain threshold, an electrical current is generated along the vertical axis (along the spinal column). Through magnetic induction, this current is drawn into the body at the base of the spine, additionally increasing the electrolytic charge and motion of the cerebrospinal fluid. This fluid is then naturally pulsed to the brain, causing the highly desirable effects.

Brain Optimization and Synchronization System™
Overview of Research and Scientific Principles



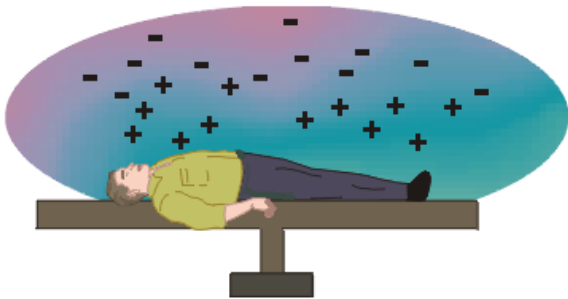
Head Facing: **North**

Counterclockwise Motion



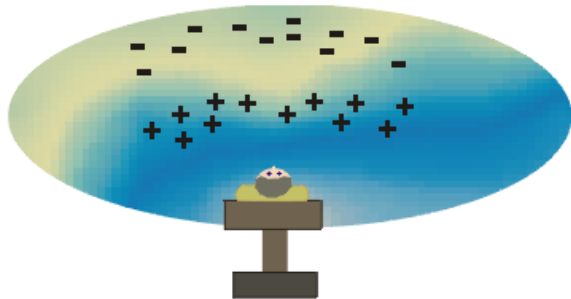
Head Facing: **West**

Counterclockwise Motion



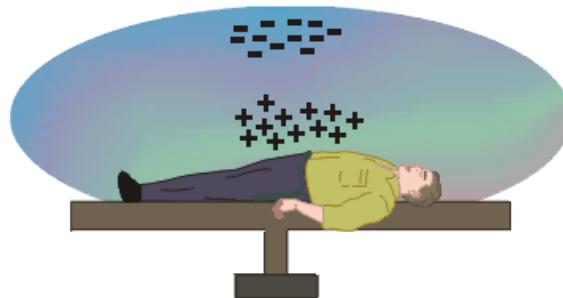
Head Facing: **South**

Counterclockwise Motion



Head Facing: **East**

Counterclockwise Motion



Head Facing: **North**

Counterclockwise Motion

When a person is rotating clockwise (CW) (against the spin of the Earth), the opposite electromagnetic charges are arranged - a “south pole” is created at the top of the field, and a “north pole” at the bottom near the base of the spine. This causes a “de-gaussing” effect, removing excess charges related to

Brain Optimization and Synchronization System™

Overview of Research and Scientific Principles

over-stimulation in parts of the brain, and transferring those charges to the other side of the brain to activate under-stimulated brain regions in the other hemisphere.

Through an established method of strategic alternation of CW and CCW rotations, BOSS™ reliably and effectively achieves synchronization of the left and right hemispheres of the brain, as well as enhanced integration of hemispheres, and improved functioning of mental processes.

The electromagnetic field and induction physics which operate during the rotation process cause balancing changes in the frontal lobe and pineal body regions of the brain. This causes deep relaxation, or induced meditation, which can adjust the person's brain state to the levels desired for therapeutic purposes. By controlling the speed, direction and duration of rotation, you can guide the person from Beta state, to the desired brain state, including Alpha, Delta, and even the extremely hard-to-achieve, deep-level Theta state. This makes BOSS™ a powerful system for induced, deep meditation using high-technology methods.

Brain Hemispheres and Synchronization

The key to mental and physical health and well being of human beings is the most central and complex organ of the human body - the brain. The human brain is a biologically based “super-computer”, sensing, responding and reacting based upon nerve-based electrical charges and impulses, and sometimes electromagnetic fields. Its dual function as a central organ controlling the body (both sensations and motor movement) as well as an electroneurological center of thought (both mental perception and processing), makes the brain the vital connection and channel between mental consciousness and physical being.



The concept that explains the functioning of the human brain in fulfilling its many diverse roles is traditionally called “**right-left brain theory**”. The popularized description of this theory is that the right side of the brain concentrates on creative and artistic functions, while the left side of the brain concentrates on logical and linear analytical functions. This explanation, however, is more of a convenient generalization than a technically accurate reality. The modern term for this concept in

Brain Optimization and Synchronization System™
Overview of Research and Scientific Principles

neurobiology is “**selective lateralization of hemispheres**”, and the current state of brain science offers much more **detailed information about the distribution (or “lateralization”)** of functions to the left and right hemispheres of the brain. (See: Henry Gleitman et.al., *Psychology*, 3rd Ed., University of Pennsylvania, pp.49-55 (1991).) Laying out the precise functions of each hemisphere, as determined from surgical and patient testing experiments, gives us a deeper understanding of which abilities are in fact primarily “right brained” or “left brained”, as well as a more clear and accurate conception of the resulting generalized specialties of each hemisphere:



Hemisphere Functions and Resulting Abilities

<p style="text-align: center;"><u>Left Hemisphere Functions:</u></p> <ul style="list-style-type: none"> • Auditory & Listening Skills • Concentration on Details • Formulating Spoken Responses • Formulating Written Words • Language Knowledge & Understanding • Reading Comprehension • Recognition of Voices & Music • Sense of Timing or Rhythm • Sequential Organization • Temporal Organization (Perception of Time) 	<p style="text-align: center;"><u>Right Hemisphere Functions:</u></p> <ul style="list-style-type: none"> • Comprehension of Space & Form • Hierarchical Organization • Perception of Complex Shapes & Forms (Maps, Puzzles & Mechanics) • Perception of Overall Pattern or System (Objects, Facts, Circumstances or Events) • Recognition of Faces & Locations • Sense of Direction • Spatial Processes (Hand-Eye Coordination) • Visualization Capabilities
<p style="text-align: center;"><u>Resulting Left Hemisphere Abilities:</u></p> <ul style="list-style-type: none"> • Logical and Sequential Operations • Communication Skills • Comprehension & Learning Skills • Processing of Experiences 	<p style="text-align: center;"><u>Resulting Right Hemisphere Abilities:</u></p> <ul style="list-style-type: none"> • Analytical and Conceptual Operations • Orientation and Awareness Skills • Performing Complex Physical Tasks • Technical Skill for Precise Physical Actions

This technical description of the specific hemisphere functions, as determined through medical experiments, breaks many of the common misconceptions about right and left-brain specialization. As a result, we begin to see the **critical and essential need for coordination and integration of the**

Brain Optimization and Synchronization System™

Overview of Research and Scientific Principles

functions of both hemispheres of the brain, in order for a person to effectively perform tasks in the real world, regardless of whether those tasks are commonly considered primarily “logical” or “creative”.

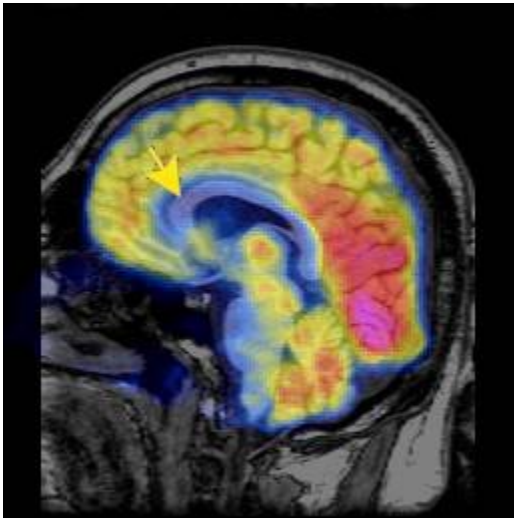
For example, performing creative tasks such as musical composition, traditionally considered “right brain only”, actually require many left brain functions, such as sequential organization, perception of timing, attention to detail, and formulation of expressions in the form of ordered musical notes. In this example, the right brain contributes mostly perception of the overall pattern of the developing composition, and a sense of direction about what the hierarchy of the parts of the musical composition should be. Also, while the right brain is working on the overall concept of the composition, and envisioning the desired outcome as it should be played on the piano, the left brain spatial organization skills are needed to enable the musician to have a spatial “feel” for the layout of the keyboard and to form the right finger position shapes on the piano keys to make chords.

Similarly, performing expressive tasks such as writing poetry, also typically considered purely a “right brain” activity, require many left brain functions such as formulating written words, temporal organization for rhythm of phrases, and auditory or language skills to generate rhymes. In this case, the right brain contributes mostly visualization capabilities to make the poetry more expressive, so that the reader or listener experiences a certain image or perception from the poetry.

As another example, logical analysis of a complex set of facts (such as a detective investigating a crime), traditionally considered “left brain only”, actually requires many right brain functions, such as hierarchical organization and perception of an overall pattern or scheme of facts or events. In this example of the detective, the left brain mostly helps him to sequentially organize a time-line of facts, and put his analysis into words, while the right brain actually does much of the “logical / analytical” work.

The two hemispheres of the brain are interconnected by the “corpus callosum” - a thick group of nerve fibers that serve as a neurological “bridge” for electrical impulses of information (see arrow on brain image to left). **This allows the left and right hemispheres to function together in cooperation, integrating the information and functions from each into an effective and fully operational whole.** Whenever performing a task requires functions from both hemispheres, the hemisphere lacking a certain function sends an electrical signal to the other hemisphere which can perform that function, stimulating a coordinated supporting reaction, such that both hemispheres are

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles



being used, and the full range of functions and abilities are available and can be applied to the task at hand.

For example, a person performs the apparently left-brained task of reading directions to his friend's house, consisting of written instructions such as "go five miles to the gas station, turn left, and turn right at the large oak tree, and you will see my friend standing there waiting for you." For the person to memorize the directions or avoid the necessity to look at the written instructions several times while driving, some right-brain functions are also needed. In this case, while the left brain is applying its reading comprehension skills to the task at hand, the left brain sends signals to the right brain through the corpus callosum, and then the right brain contributes its additional functions of spatial comprehension (how long is 5 miles?), recognition of appearances (what does a gas station and the friend's face look like?), and overall sense of direction (getting the "feel" for how to get there). In technical terms, in this case it can be said that a left-brain reading comprehension task requires right-brain visualization and spatial-directional comprehension functions, all of which must be applied in coordination, simultaneously, to accomplish the task at hand.

Whenever the brain is required to refer all or part of a task to a hemisphere that is currently less active, or not currently the primary hemisphere processing the overall task, this requires an **extra step of forwarding electrical impulses through the corpus callosum to the other hemisphere**, to be received as a message and stimulus to generate a response. Experiments have proven that this "forwarding" process causes an **additional time delay, resulting in a slowed or delayed thinking process** of the person while performing the mental or physical task. (*Geffen, Bradshaw & Wallace, "Inter-hemispheric Effects on Reaction Time to Verbal and Nonverbal Visual Stimuli", Journal of Experimental Psychology, Vol. 87, pp.415-22 (1971).*) The length of this time delay, and how frequently the "forwarding" process must be performed for the hemispheres to work together, has a great impact upon many general skills and abilities of the person, including learning ability, overall mental concentration and memory, physical reaction time, and the general amount of effort ("hard thinking") required to perform a given task.

As established by EEG technology, **activity in the hemispheres of the brain is caused by, and accompanied by, electrical activity**. As shown by regional Cerebral Blood Flow (CBF) technologies,

Brain Optimization and Synchronization System™

Overview of Research and Scientific Principles

this neuroelectrical activity in turn **stimulates increased blood circulation in the sections of the brain where electrical activity is present**, thus activating the blood-based biological functions of that region of the brain in addition to its electrical functions. Accordingly, whenever integrated left-right brain functions are required to accomplish a task, every time a signal is sent to activate an additional region of the brain in the other hemisphere, the time delay resulting from the “forwarding process” is more than the 1 or 2 seconds during which the electrical impulses travel through the nerve synapses of the corpus callosum. An **additional several seconds of delay can result** as the corresponding blood flow is concentrated in the desired brain region, and then some electrical signals must be sent back to the first hemisphere for coordinated or integrated joint activity.

As a result, even in a brain of normal condition, reaction time for each multi-hemisphere step in a complex brain process can be approximately 8-10 seconds for each step. If a person is significantly “right-brain dominant” or “left-brain dominant”, such that one hemisphere is more active and ready while the other one is mostly dormant, the reaction time for each step can be slowed down to as much as approximately 30 seconds for each step. The overall reaction time of the person for multi-step complex tasks can therefore be delayed by as much as approximately 1 or even 2 minutes.

When the person is, for example, a law enforcement professional, the necessary reaction sometimes consists of the motor response of drawing his service weapon, simultaneously accurately taking aim in three dimensional space (right brain), concentrating on details of objects and persons in view (left brain), recognizing faces to distinguish “good guys” from “bad guys” (right brain), accurately assessing the timing of when is best to pull the trigger (left brain), perceiving from memory the surrounding walls, buildings, windows or street layouts which could help or hinder him (right brain), and yelling an intelligible command or warning to his partner (left brain). If one hemisphere of the officer’s brain is too dominant, or the other too dormant, performing this complex task in full could possibly take as long as 3 minutes, while FBI statistics indicate that the average gun fight is finished within only 5 seconds. Law enforcement training and practice will certainly reduce the response time of even an unbalanced brain to no more than 1 minute, and the officer himself can further reduce the time to only 30 seconds - but only if he does not pay attention to many of the critical factors or does not correctly take aim. An officer with a normally functioning and reasonably conditioned brain could fully react in about 15-20 seconds, but this is not an “optimized” condition, and does not meet the criteria of less than 5 seconds. For effective performance in such a situation, the necessity and great benefits of “tuning” and “balancing” the brain hemispheres is abundantly clear. Only with the help of a brain integration technology and

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

methodology can that person's brain be ready and prepared to react and respond within only 1 second, while fully performing all steps of a simultaneous complex task.

A more common situation is that of a high-school, college or graduate student taking a multiple-choice exam, where only 1 minute or less is allotted to answer each question (such as on "bar exams" for lawyers to be licensed to practice law), and the person's brain takes approximately 2-3 minutes to process and answer each question. Clearly, this is another practical situation in which prior balancing and integration of the brain hemispheres gives a major advantage, making the difference between a failing grade and a near 100% score.

These examples and explanations highlight the need for - and benefits of - what is called "brain synchronization". **Synchronization is a process which conditions and enables both hemispheres of the brain to function more equally and simultaneously, in coordination, by making both hemispheres ready to contribute their share of the brain's complete list of functions, with dramatically improved response times.** Since the level of activity, and thus the level of "response readiness" of each hemisphere is determined by its level of electrical activity, **synchronization can be most effectively and reliably accomplished by applying electrical field or neuroelectrical methods to regulate and balance the electrical activity level of each hemisphere.**

The BOSS™ technology is designed to provide a professional and reliable method of effective synchronization of both hemispheres of the brain, to optimize a person's abilities, capabilities and performance of diverse tasks in the real world. The scientific basis for this method, and the procedures for effective brain synchronization, are developed and explained in ITEM's BOSS™ Practitioner's Manual.

PRELIMINARY BOSS™ RESULTS

BOSS™ is the result of a decade worth of research and experimentation at ITEM. The following sections are intended to provide a brief overview of the research results obtained by ITEM in the form of "case studies".

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

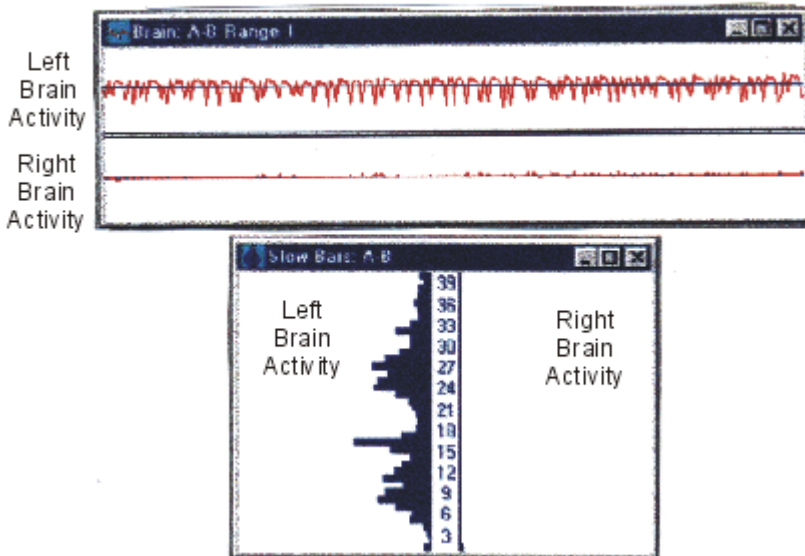
Achieving Hemispheric Synchronization

Case Study No. 1

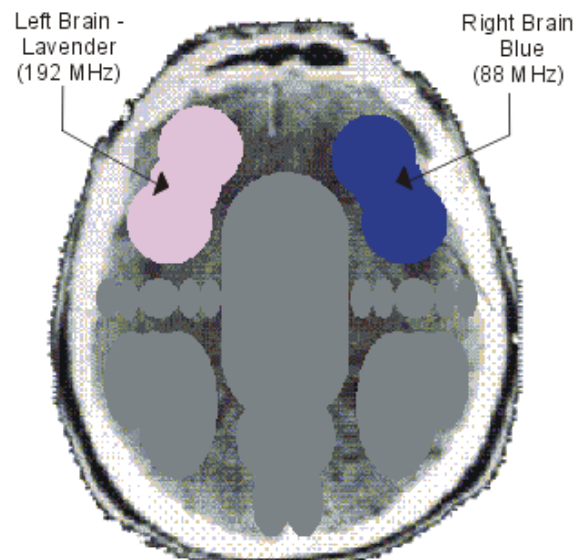
In one case, a subject came to ITEM's researchers complaining of excessively left-brained mental processing, accompanied by severely inhibited right-brain activity. The subject felt that in this condition, his sense of humor and ability to relax and play with family and friends was diminished, and he could not stop his constant mental processes of analyzing and planning for projects from his professional job. In a sense, this caused him to always "take his work home" with him, whether he liked it or not. This also led to chronic insomnia, constant high levels of stress and accompanying high blood pressure. Of greatest concern, to him, was that the under-use of his right brain functions prevented him from finding creative, new and innovative solutions and approaches to the most important challenges of his professional work.

Prior to the BOSS™ session, a telemetry EEG analysis revealed highly active brain waves in the left hemisphere, with a severe deficiency of brain waves in the right hemisphere. ITEM's Resonant Field Imaging™ (RFI™) technology brain chart showed a significantly higher frequency in a key region of the left brain than in the same region of the right brain.

EEG RESULTS



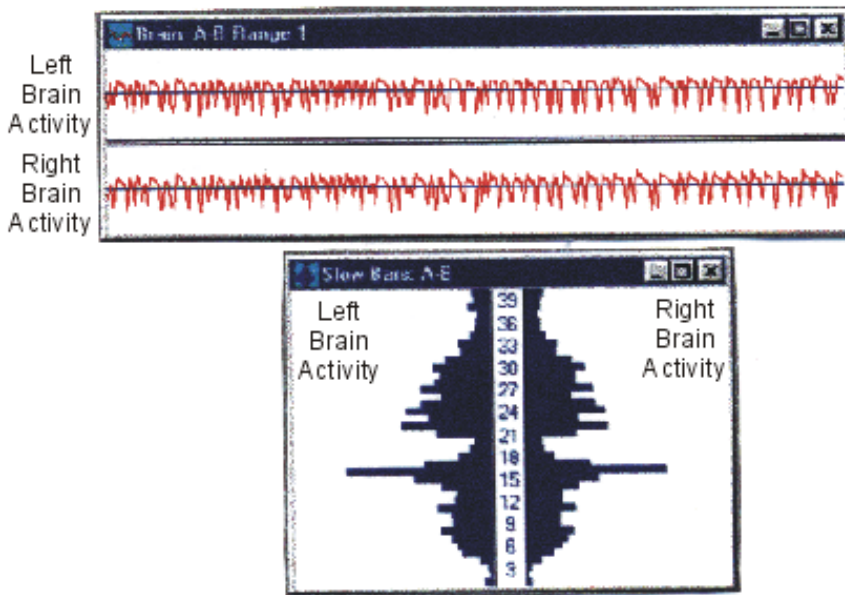
Resonant Field Imaging™ Results



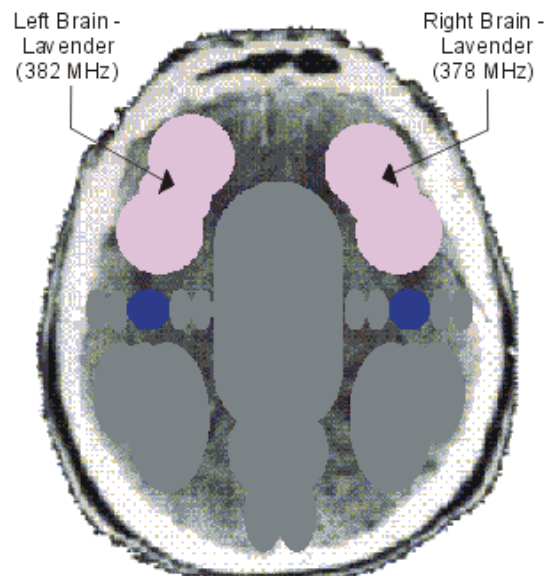
Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

Following these baseline measurements and analyses to determine the most effective use of BOSS™, the subject reclined on the BOSS™ table, and was rotated for 15 minutes in a counterclockwise direction. During the session, predominant brain activity reversed (right brain overactive). However, after the session the hemispheres were perfectly synchronized, and both sides of the brain demonstrated increased and balanced electromagnetic frequencies with RFI™:

EEG Results - After Session



Resonant Field Imaging™ Results After Session



The bar graph on the bottom part of the EEG reading, taken after the session, indicates that the subject was able to enter a mid-range Alpha brain state (of deep meditation), while simultaneously maintaining a light level of Beta range (waking consciousness) brain activity.

While these objective scientific measurements confirmed that BOSS™ can be highly effective in balancing and synchronizing the activity of both hemispheres of the brain, they also suggested a new goal for improvement of the procedures for use of the system. In particular, it became evident that it would be more effective to help the subject achieve hemispheric synchronization (“hemi-sync”) towards the beginning of the BOSS™ session. This would optimize the subject’s brain in advance, to derive maximum benefit from all of the physics and mechanics that come into play during the BOSS™

Brain Optimization and Synchronization System™
Overview of Research and Scientific Principles

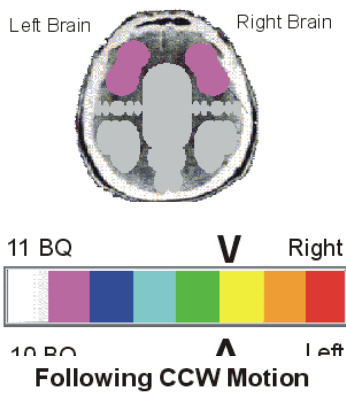
sessions. Another related goal was to enhance the depth of brain states which the subject could achieve during a session, by inducing “hemi-sync” from the outset.

On the basis of this experiment, further investigations were conducted, which demonstrated that left-brain dominant subjects generally best and most rapidly achieve hemi-sync when the initial rotation direction is initially clockwise (CW).

Achieving Brain Optimization

Case Study No. 2

Before Session



Another key experiment involved a subject with both hemispheres already in synchronization prior to the BOSS™ session. The subject’s bioenergy field frequencies are both a reference color of purple (same frequency) as measured by ITEM’s RFI™ system; the Bioenergy Quotient (BQ) readings from the “Egely Wheel” biofield radiation detector are very close to each other; and the computerized Aura in Motion device shows that bioenergies in the right and left hemispheres are also the same color (approximately same frequency).

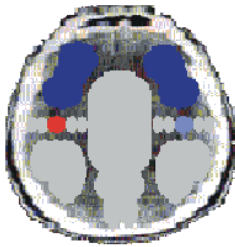
Following a twenty-minute counterclockwise (CCW) session on the BOSS™ table, the hemispheric brain activity begins to become unbalanced. This shows that CCW rotation tends to have the effect of activating, or stimulating, the Left hemisphere of the brain. This result was also confirmed with telemetry EEG readings during similar sessions.



In order to complete the optimization process and maintain hemi-sync, we then immediately rotated the subject clockwise (CW) for an equal 20 minute duration. Following the balancing rotation session, the subject’s frontal lobe frequencies balanced in perfect synchronization, having a lowered frequency compared to before beginning the BOSS™ session. The subject’s external biofield energy radiations, however, had

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

Following CW Motion



increased in frequency and intensity, showing a noticeable strengthening of the person's overall physical health.

This investigation confirmed the desirability of supplementary equipment or analytical procedures to determine the brain hemisphere dominance of the subject prior to using the BOSS™ system. It also established that BOSS™ sessions have enhancement and optimization benefits even for subjects who already have integrated or synchronized brain functions.

This indicates that when used according to the developed procedures, BOSS™ achieves highly beneficial results to improve a person's overall functioning, regardless of their original level of fitness or performance. This also suggests that there is no limit to the improvements and enhancements in the physical and mental performance of the subject, and that it is safe to use BOSS™ in a repeated manner, for continual progressive development and ever-increasing optimization.

This experiment also demonstrated the importance in alternating and balancing the directions of rotation in order to maintain the subject's hemi-sync after initial synchronization and integration, or in cases where the subject is balanced prior to the session.

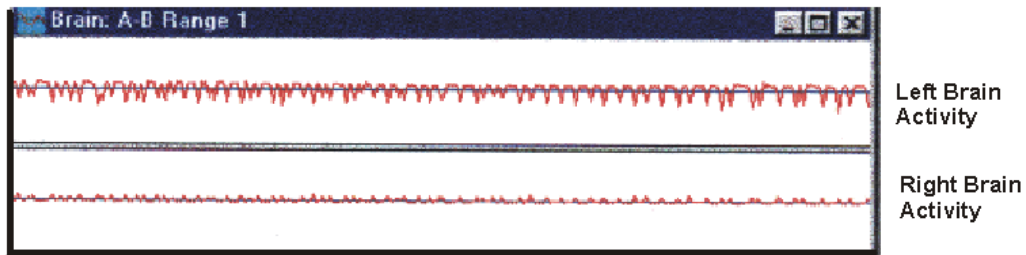
Brain Function Integration

The final key experiments to establish empirical data for designing the most effective methodology for BOSS™ sessions focused on brain function integration, in particular, coordination and resulting optimization of the hemispheres of the brain as they function together. These experiments were straightforward, using telemetry EEG to document the shifting and transfer of electromagnetic brain waves and biomagnetic energies between the left and right hemispheres of the brain.

Brain Optimization and Synchronization System™

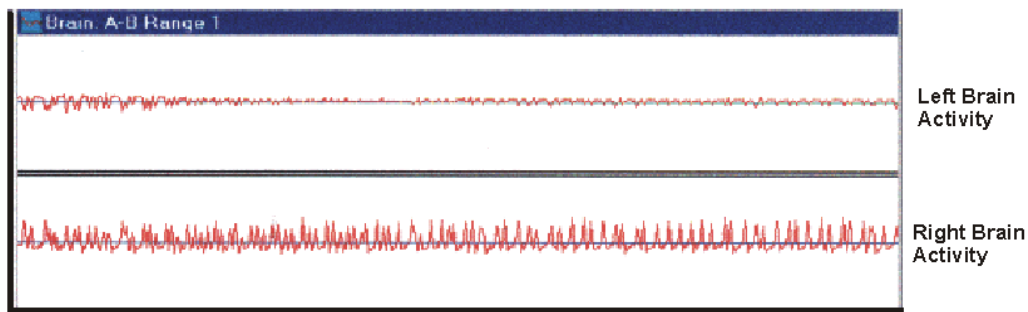
Overview of Research and Scientific Principles

Before Table Session



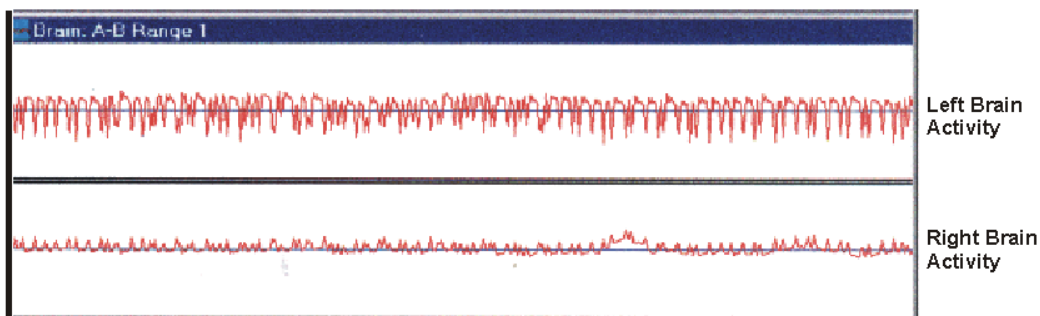
The following EEG image from one session demonstrated the general principle that when rotating clockwise (CW), brainwave bioenergies and electrofield activity in the brain is transferred from the Left hemisphere to the Right.

Table in Motion - Clockwise



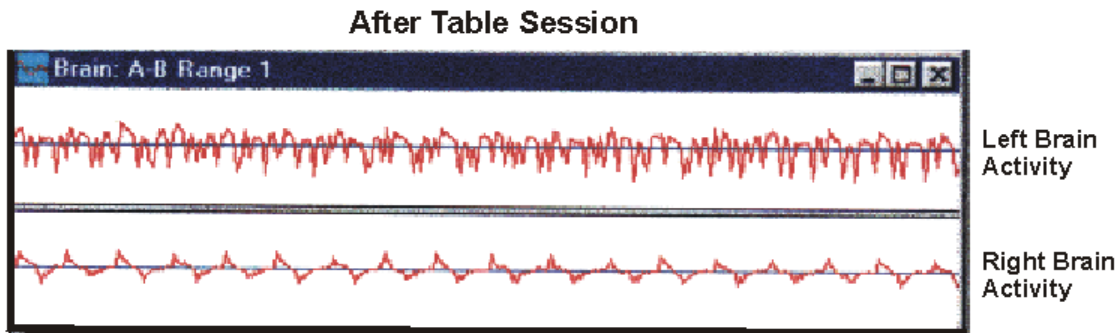
The following EEG image from the same session likewise demonstrated the general principle that, conversely, when rotating counterclockwise (CCW), brainwave bioenergies and electrofield activity is transferred from the Right hemisphere to the Left.

Table in Motion - Counterclockwise



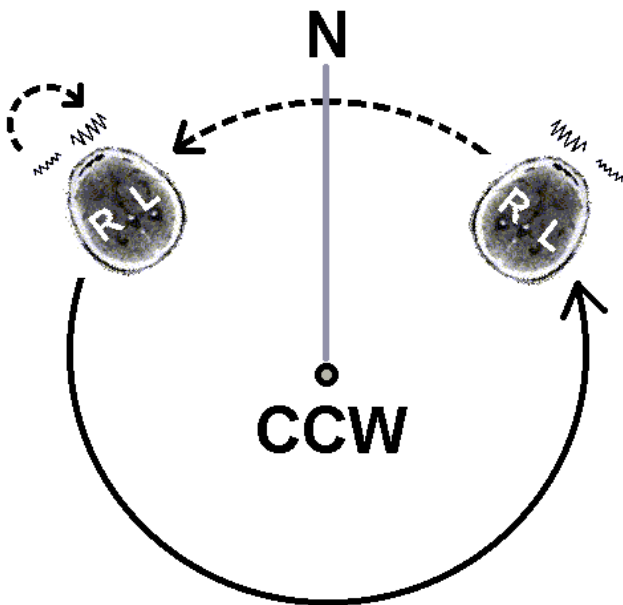
Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

Notwithstanding the prior left-brain dominance of the subject, even after the counter-balancing equal duration of CCW rotation for this session (which was not necessary except for the purposes of the present experiment), the subject achieved a noticeably enhanced synchronization and integration of hemispheric brain waves, as evidenced by the EEG image from after the BOSS™ session.



This final experiment proved a central general rule governing the choice of rotation directions for the table for effective BOSS™ sessions, a rule which is consistent with and supported by the raw data and conclusions from previous experiments. The general rule is as follows:

Hemispheric Induction Transfer Right -> Left



The side of the brain which is leading the movement towards the magnetic north pole is generally partially discharged, and its charge is transferred to the opposing hemisphere which is following behind the movement.

In accordance with the principle behind this general rule: CW rotation, where the Left side of the brain is leading the movement towards magnetic north, results in energy-activity transfer from Left to Right hemispheres. Conversely, CCW rotation, where the Right side of the brain is leading the movement towards north, results in energy-activity transfer from Right to Left hemispheres.

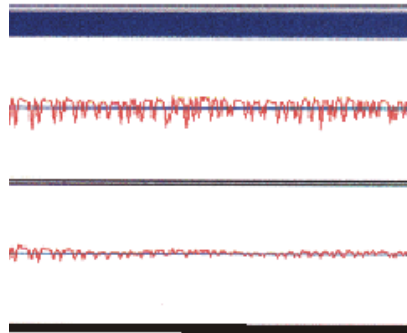
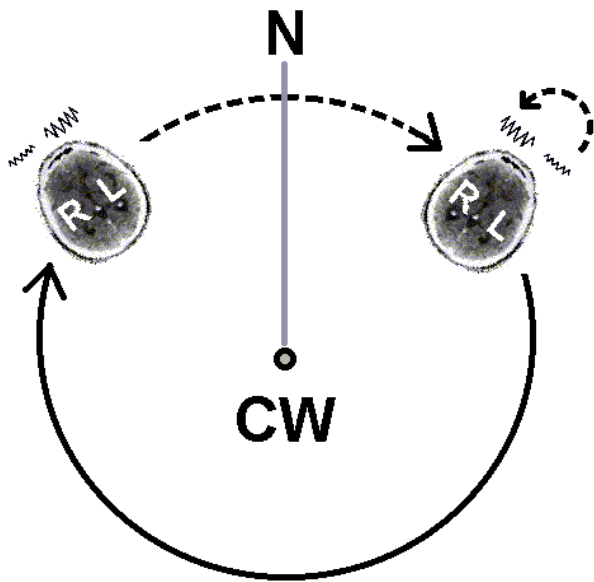
This general rule provides the empirically proven scientific methodology for reliably and accurately controlling the inter-hemispheric transfer of electrical charge, in a controlled process engineered to

Brain Optimization and Synchronization System™
Overview of Research and Scientific Principles

effectively accomplish optimization, synchronization and integration of mental processes and brain

Reversing Counterclockwise to Clockwise in progress
at the beginning of this strip.

Hemispheric Induction Transfer Left -> Right



activities.
s.

Left Brain Activity

This general

Right Brain Activity

rule does have some

exceptions, mostly short-term exceptions related to delayed reaction times in certain subjects, or variations in the unique characteristics of each subject. Nonetheless, this general rule does establish a reliable and scientifically supported approach to

determine the most effective methodology for BOSS™ sessions, to achieve specific desired results.

Most of the exceptions to the general rule of CW induction Left to Right, and CCW induction Right to Left, are caused by various isolated events which can occur during the session, some of which may have the effect of stimulating the subject's conscious mind, partially distracting the subject from the sensory deprivation and induced meditation effects of the process. Such events can temporarily alter the reaction of the subject's brain waves and hemispheric activities, causing delayed reactions, or other unexpected apparent inconsistencies with the basic scientific principles. These events and related exceptions, however, do not undermine the overall effects of the sessions, and do not change the effectiveness and reliability of the general rule of rotational direction.

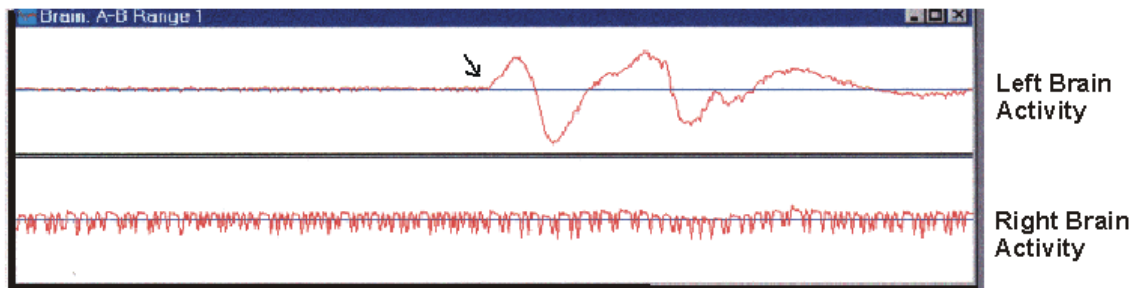
For the purposes of clarification and scientific interest, two examples of such events are illustrated below by the telemetry EEG measurements taken during the corresponding events.

While this situation was not a distracting, or unexpected, event, it is a very clear example of exactly how procedural or environmental distractions - in this case, the practitioner stopping rotation and switching

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

directions - can “wake up” the conscious mind, stimulating logical thinking as the subject’s left brain processes and adapts to its conscious knowledge of the interruption of rotation and switch in direction.

A facilitator walked by a blindfolded client turning counterclockwise.



The EEG chart above better illustrates the same phenomenon. This strip shows the subject’s brain waves during even rotation on the centrifuge table, where the subject’s conscious mind was relaxed and subconscious mind dominant. Beginning at the arrow, the sudden noise and sensory stimulus of the practitioner walking close to the subject had the effect of temporarily stimulating conscious mental activity, as evidenced by the dramatic shifts in left brain activity.

Conclusions of Preliminary Research

The conclusions of the preliminary research on BOSS™ conducted by ITEM over the course of ten years can be summarized as follows:

- Hemispheric synchronization can be achieved easily within fifteen to twenty minutes by rotating the subject either clockwise or counterclockwise at an optimal speed, depending on whether the subject is right or left-brain dominant prior to the session.
- Optimizing performance of the brain is achieved by increasing the bandwidth of brain activity while synchronized; this is achieved by strategically reversing the direction of rotation through a series of cycles.
- The longer the duration and frequency of BOSS™ sessions, the longer the average subject will maintain brain synchronization. A typical subject who did not have brain synchronization prior to

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

BOSS™ sessions will achieve stable, synchronized brain activity within three months of weekly sessions.

- Although the scope of the preliminary BOSS™ research focused on optimizing the BOSS™ methodology and not on specific health effects, testimonials from subjects reveal that BOSS™ produces effects that would be expected with synchronized brain activity, such as improved memory, improved relaxation and sleep, improved hand-eye coordination, decreased blood pressure, increased blood cell production, and other benefits.

BENEFITS POSSIBLE WITH BOSS™

Now that ITEM has designed and implemented the BOSS™ table to achieve brain synchronization and optimization, the next step in the research and development program is to objectively evaluate the benefits that are accomplished through its use. This is the core of the Asian R&D Program for BOSS™, and the reason for this Prospectus. The following sections describe the possible benefits of BOSS™ based on a review of literature on motion therapy, testimonials, and preliminary research at ITEM.

Health Care

As described above, horizontal rotation results in a magnetic “pulse” effect every time the subject’s head passes magnetic north. The pulse appears to stimulate all of the acupuncture/acupressure points on the body, as well as the cerebrospinal fluid (CSF) of the craniosacral canal. This effect increases the piezoelectric charge of bodily fluids, and, like acupuncture, can block the transmission of pain signals to the brain. Horizontal motion (performed at the optimal rotational speed) will furthermore increase the pulsation of cerebrospinal fluid to the limbic system and “pleasure centers” of the brain, releasing increased doses of endorphins. A major prospective benefit of BOSS™ is therefore pain relief. BOSS™ is perfectly safe for use in hospitals and clinics, considering the slow, rhythmic motion of the table (one complete turn every 15 to 30 seconds) and the ability to easily get off the table if necessary.

The field of cranial osteopathy and the practice of craniosacral therapy focus on ensuring the adequate flow of CSF to the brainstem, which controls the autonomic nervous system through the medulla oblongata. Cranial osteopaths massage the back of the skull to innervate CSF, but generally lack any

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

mechanism to induce the pulsing of this fluid to the brain. Use of BOSS™ can replace craniosacral therapies as the rhythmic motion of the table and magnetic moments established through this motion cause natural pulsations of CSF. Many cranial osteopaths believe that the adequate flow of CSF from the spine to the tailbone is the most fundamental health-promoting mechanism that exists, and numerous deleterious health conditions result from inadequate CSF flow; BOSS™ is designed to enhance this flow. One of the objectives of the BOSS™ R&D program is to determine the extent of CSF flow enhancement and how long the flow is maintained depending on the frequency and duration of BOSS™ sessions.

Harvard University Medical School has reportedly undertaken experiments with patients having arteriosclerosis and related conditions; the experiments involved spinning the patient in an attempt to reduce vasoconstriction, and the results have reportedly been favorable. Preliminary research at ITEM has also demonstrated significant reductions in blood pressure with those subjects diagnosed with high blood pressure, and stabilization of blood pressure with those subjects diagnosed with low blood pressure through BOSS™.

BOSS™ also shows promise in the mitigation of brain disorders that have spatial awareness difficulties as symptoms. Many people who suffer from dyslexia and attention deficits have spatial awareness problems. Activities performed on the BOSS™ table stimulate the areas of the brain responsible for projecting visual and auditory space and help to resolve the inability of the brain to construct a meaningful three-dimensional model of the environment.

These and other prospective benefits will be evaluated thoroughly by ITEM and D'Brain in the next few years.

Education

As the BOSS™ table turns, the left and right hemispheres of the brain receive magnetic pulses when the subject's head passes by the north and south magnetic poles, much like the alternator in a car. This stimulates the electrical activity in both hemispheres, and ultimately leads to entrainment between the hemispheres (synchronization). Horizontal rotation on BOSS™ will increase the "Neuro-Efficiency" of the brain, which is the rate of electrical energy transfer between the left and right sides of the brain; the faster the rate of electrical transfer, the faster the acquisition and processing of information.

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

For example, let us consider a child who is trying to learn a new language. The child has an instructional cassette tape for helping her learn the language. Ordinarily, the information on the tape will be projected as sound waves, which will be converted to an electrical signal and be transferred to the auditory lobe of the child. From the auditory lobe it will be transferred to language centers (i.e., Boca's Region) and critical memory centers of the brain. If the final processing and storage centers of the brain are predominantly dormant when the signal is received, then the signal will not generally be retained and utilized in the construction of neuroelectrical patterns necessary for learning.

BOSS™ has shown promise in stimulating all areas of the brain and improving all aspects of its functioning. If the child were to listen to the instructional tape while undergoing horizontal rotation, ITEM estimates that her acquisition of the new language would be 200% faster with BOSS™ than normal. BOSS™ shows promise in integrating the dichotomy of abilities typically attributed to one side of the brain, such as logical and creative problem solving.

Psychology

Those who have participated in preliminary BOSS™ research report the experience as “serene”, “deeply relaxing”, “meditative” and “spiritual”. Those who were significantly stressed or angry prior to a session always reported significantly less stress even after only 15 minutes of rotation, and traditional biofeedback indicators confirmed their reports.

Preliminary research at ITEM indicates that 97% of all subjects qualitatively report lower levels of stress following the BOSS™ session than before it. Many subjects, after having experienced BOSS™ for at least one session per week for one month, indicated that they continued to feel lower stress levels one month after their BOSS™ sessions ceased, and reported that the quality of their sleep had dramatically improved. Stress reduction is, therefore, a critical benefit of BOSS™ that will be examined more objectively in the BOSS™ R&D Program.

Stress is obviously one factor in the psychology of human beings. A person's belief system is perhaps the most critical factor. ITEM has observed a dramatic shift in the belief systems of certain people who have experienced BOSS™. These people claimed to have unanticipated “out of body experiences” during extended BOSS™ sessions. These people in particular became very anxious to experience

Brain Optimization and Synchronization System™ Overview of Research and Scientific Principles

more BOSS™ sessions and indicated to ITEM that the experience had changed their perspective on life. While this was rare, it nonetheless provides an indicator of what is possible when horizontal rotation coupled with deep relaxation induces broad-spectrum and synchronized brain wave activity on various levels.

In general, another observation made by ITEM was that the more frequently a person experienced BOSS™ sessions, the more positive their outlook and perspective on life became. Anxieties that were once prevalent prior to sessions began to subside shortly after sessions began.

Finally, BOSS™ has shown some preliminary success in alleviating addictions and withdrawal symptoms. Addicts generally have hormonal imbalances and sustained, balanced, synchronized brain activity tends to correct these imbalances.

Law Enforcement

Police and security agents are often faced with life-threatening situations in which decisions must be made through instinct or intuition. Instinct and intuition are not as effective if brain processing speed is relatively slow. A synchronized brain can process visual or auditory information and engage motor reflexes an estimated 100% more quickly, in general, than a brain that is not synchronized. BOSS™ therefore has the potential for aiding in the training of law enforcement specialists.

Athletics

Similar to law enforcement specialists, trained athletes frequently must make split-second decisions. The source of athletic talents is primarily the brain, which provides the power and efficiency to allow the physical body to perform rapid, specialized movement. While most athletic trainers focus on improving the condition of the physical body, the most advanced trainers will employ techniques that promote enhanced mental and physical coordination and response. BOSS™ inherently is a tremendous aid for such techniques, as critical bodily fluids necessary for coordination between the brain and peripheral body are charged during BOSS™ sessions, such as the fluid in the inner ear responsible for balance. The effect is that fluid transfer is enhanced, which increases reflexes and hand-eye coordination necessary for maximizing athletic abilities.