

# 1. THE NEUROPHONE

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See [www.neurophone.com/home.htm](http://www.neurophone.com/home.htm)



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The Neurophone is an electronic device which literally enables one to 'hear' through the skin.

*In the early 1960's, while only teenager, Life magazine listed Patrick Flanagan as one of the top scientists in the world. Among his many inventions was a device he called the Neurophone -- an electronic instrument that can successfully programme suggestions directly through contact with the skin. When he attempted to patent the device, the government demanded that he prove it worked. When he did, the NSA (National Security Agency) confiscated the Neurophone. It took Pat years of legal battle to get his invention back.*

## 1.1. HISTORY OF THE NEUROPHONE

The first Neurophone was made when I was 14 years old, in 1958. A description was published in our first book, Pyramid Power. The first Neurophone device was constructed by attaching two Brillo pads to insulated copper wires. Brillo pads are copper wire scouring pads used to clean pots and pans. They are about two inches in diameter. The Brillo pads were inserted into plastic bags that acted as insulators to prevent electric shock when applied to the head.

The wires from the Brillo pads were connected to a reversed audio output transformer that was attached to a hi-fi amplifier. The output voltage of the audio transformer was about 1,500 volts peak-to-peak. When the insulated pads were placed on the temples next to the eyes and the amplifier was driven by speech or music, you could 'hear' the resulting sound inside your head. The perceived sound quality was very poor, highly distorted and very weak.

I observed that during certain sound peaks in the audio driving signal, the sound perceived in the head was very clear and very loud. When the signal was observed on an oscilloscope while listening to the sound, the signal was perceived as being loudest and clearest when the amplifier was over-

driven and square waves were generated. At the same time, the transformer would ring or oscillate with a dampened wave form at frequencies of 40-50 kHz.

The next Neurophone consisted of a variable frequency vacuum tube oscillator that was amplitude-modulated. This output signal was then fed into a high frequency transformer that was flat in frequency response in the 20-100 kHz range. The electrodes were placed on the head and the oscillator was tuned so that maximum resonance was obtained using the human body as part of the tank circuit. Later models had a feedback mechanism that automatically adjusted the frequency for resonance. We found that the dielectric constant of human skin is highly variable. In order to achieve maximum transfer of energy, the unit had to be retuned to resonance in order to match the 'dynamic dielectric response' of the body of the listener.

The 2,000 volt peak-to-peak amplitude-modulated carrier wave was then connected to the body by means of two-inch diameter electrode discs that were insulated by means of mylar films of different thicknesses. The Neurophone is really a scalar wave device since the out-of-phase signals from the electrodes mix in the non-linear complexities of the skin dielectric. The signals from each capacitor electrode are 180 degrees out of phase. Each signal is transmitted into the complex dielectric of the body where phase cancellation takes place. The net result is a scalar vector. Of course I did not know this when I first developed the Neurophone. This knowledge came much later when we learned that the human nervous system is especially sensitive to scalar signals.

The high frequency amplitude-modulated Neurophone had excellent sound clarity. The perceived signal was very clearly perceived as if it were coming from within the head. We established quite early that some totally nerve-deaf people could hear with the device. For some reason, however, not all nerve-deaf people hear with it the first time.

We were able to stimulate visual phenomena when the electrodes were placed over the occipital region of the brain. The possibilities of Neurophonic visual stimulation suggest that we may someday be able to use the human brain as a VGA monitor!

I wrote my own patent application with the help of a friend and patent attorney from Shell Oil Company and submitted the application to the patent office.

When I was 15 years old, I gave a lecture at the Houston Amateur Radio Club, during which we demonstrated the Neurophone to the audience. The next day we were contacted by a reporter from the Houston Post newspaper. He said that he had a relative who was nerve-deaf from spinal meningitis and asked if we might try the Neurophone on his relative. The test was a success. The day after that, an article on the Neurophone as a potential hearing aid for the deaf appeared and went out on the international wire services.

The publicity grew over the next two years. In 1961, Life magazine came to our house and lived with us for over a week. They took thousands of photographs and followed me around from dawn to dusk. The article appeared in the 14 September 1962 issue. After that, I was invited to appear on the *I've Got a Secret* show hosted by Gary Moore. The show was telecast from the NBC studios in New York. During the show, I placed electrodes from the Neurophone on the lower back of Bess Meyerson while the panel tried to guess what I was doing to her. She was able to 'hear' a poem that was being played through the Neurophone electrodes. The poem was recorded by Andy Griffith,

another guest on the show. Since the signal from the Neurophone was only perceived by Bess Meyerson, the panel could not guess what I was doing to her.

As a result of the Life magazine article and the exposure on the Gary Moore Show, we received over a million letters about the Neurophone.

The patent office started giving us problems. The examiner said that the device could not possibly work, and refused to issue the patent for over twelve years. The patent was finally issued after my patent lawyer and I took a working model of the Neurophone to the patent office. This was an unusual move since inventors rarely bring their inventions to the patent examiner. The examiner said that he would allow the patent to issue if we could make a deaf employee of the patent office hear with the device. To our relief, the employee was able to hear with it and, for the first time in the history of the patent office, the Neurophone file was reopened and the patent was allowed to issue.

After the Gary Moore Show, a research company known as Huyck Corporation became interested in the Neurophone. I believed in their sincerity and allowed Huyck to research my invention. They hired me as a consultant in the summer months. Huyck was owned by a very large and powerful Dutch paper company with offices all over the world.

At Huyck I met two friends who were close to me for many years, Dr. Henri Marie Coanda, the father of fluid dynamics, and G. Harry Stine, scientist and author. Harry Stine wrote the book, The Silicon Gods (published by Bantam), which is about the potential of the Neurophone as a brain/computer interface.

Huyck Corporation was able to confirm the efficacy of the Neurophone but eventually dropped the project because of our problems with the patent office.

The next stage of Neurophone research began when I went to work for Tufts University as a research scientist. In conjunction with a Boston-based corporation, we were involved in a project to develop a language between man and dolphin. Our contracts were from the US Naval Ordnance Test Station out of China Lake, California. The senior scientist on the project was my close friend and business partner Dr. Dwight Wayne Batteau, Professor of Physics and Mechanical Engineering at Harvard and Tufts.

In the Dolphin Project we developed the basis for many potential new technologies. We were able to ascertain the encoding mechanism used by the human brain to decode speech intelligence patterns, and were also able to decode the mechanism used by the brain to locate sound sources in 3-D space. The brain acts like a Whitehouse correlator. These discoveries led to the development of a 3-D holographic sound system that could place sounds in any location in space as perceived by the listener.

We also developed a Man-Dolphin language translator. The Man-Dolphin translator was able to decode human speech so that complex dolphin whistles were generated. When dolphins whistled, the loudspeaker on the translator would output human speech sounds. We developed a joint language between ourselves and our two dolphins. The dolphins were located in the lagoon of a

small island off of Oahu, Hawaii. We had offices at Sea Life Park and Boston. We commuted from Boston to Hawaii to test out our various electronic gadgets.

We recorded dolphins and whales in the open sea and were able to accurately identify the locations of various marine mammals by 3-D sound-localisation algorithms similar to those used by the brain to localise sound in space.

The brain is able to detect phase differences of 2 microseconds. We were able to confirm this at Tufts University. the pinnae or outer ear is a 'phase -encoding' array that generates a time-ratio code that is used by the brain to localise the source of sounds in 3-D space. The localisation time ratios are run from two microseconds to several milliseconds. A person with one ear can localise sound sources (non-linear) to a 5 degree angle of accuracy anywhere in space. You can test this by closing your eyes while having a friend jingle keys in space around your head. With you eyes closed you can follow the keys and point to them very accurately. Try to visualise where the keys are in relation to your head. With a little practice, you can accurately point directly at the keys with your eyes closed. If you try to localise a sine wave, the experiment will not work. The signal must be non-linear in character. You can localise the sine wave if the speaker has a nonlinearity or distortion in the output wave form. A sine wave cannot be localised because phase differences in a sine wave are very hard to detect. The brain will focus on the distortion and use it to measure time ratios. Clicks or pulses are very easy to localise.

If you distort your pinnae by bending the outer ears out of shape, your ability to localise the sound source is destroyed. The so-called cocktail party effect is the ability to localise voices in a noisy party. This is due to the brain's ability to detect phase differences and then pay attention to localised areas in 3-D space. A favourite 'intelligence' trick is to have sensitive conversations in 'hard rooms' with wooden walls and floors. A microphone 'bug' will pick up all the echoes and this will scramble the voice. Almost all embassies contain 'hard rooms' for sensitive conversations. If you put a microphone in the room with a duplicate of the human pinnae on top of it, you will be able to localise the speakers and tune out the echoes -- just like you were at a party.

In order to localise whales and dolphins under water, we used metal ears 18" in diameter that were attached to hydrophones. When these ears were placed under water, we were able to accurately localise underwater sounds in 3-D space by listening to the sounds by earphones. We used this system to localise whales and dolphins. Sound travels five times faster under water, so we made the 'pinnae' larger to give the same time-ratio encoding as we find in the air. We also made large plastic ears that were tested in Vietnam. These ears were of the same proportions as real ears but were much larger. They enabled us to hear distant sounds with a high degree of localisation accuracy in the jungle. It seems that we can adapt to ears of almost any size. The reason we can do this is because sound recognition is based on a time-ratio code.

We were able to reverse the process and could take any sound recording and encode it so that sounds were perceived as coming from specific points in space. Using this technique, we could spread out a recording of an orchestra. The effect added reality as if you were actually listening to a live concert. This information has never been used commercially except in one instance when I allowed The Beach Boys to record one of their albums with my special 'laser' microphones.

We developed a special Neurophone that enabled us to 'hear' dolphin sounds up to 250,000 Hertz. By using the Neurophone as part of the Man-Dolphin communicator, we were able to perceive more of the intricacies of the dolphin language. The human ear is limited to a 16 kHz range, while dolphins generate and hear sounds out to 250 kHz. Our special Neurophone enabled us to hear the full range of dolphin sounds.

As a result of the discovery of the encoding system used by the brain to localise sound in space and also to recognise speech intelligence, we were able to create a digital Neurophone.

When our digital Neurophone patent application was sent to the patent office, the Defense Intelligence Agency slapped it under a secrecy order. I was unable to work on the device or talk about it to anyone for another five years.

This was terribly discouraging. The first patent took 12 years to get, and the second patent application was put under secrecy for five years.

The digital Neurophone converts sound waves into a digital signal that matches the time encoding that is used by the brain. These time signals are used not only in speech recognition but also in spatial recognition for the 3-D sound localisation.

The digital Neurophone is the version that we eventually produced and sold as the *Mark IX* and the *Thinkman Model 50* versions. These Neurophones were especially useful as subliminal learning machines. If we play educational tapes through the Neurophone, the data is very rapidly incorporated into the long-term memory banks of the brain.

## 1.2. HOW DOES IT WORK?

The skin is our largest and most complex organ. In addition to being the first line of defence against infection, the skin is a gigantic liquid crystal brain.

The skin is piezoelectric. When it is vibrated or rubbed, it generates electric signals and scalar waves. Every organ of perception evolved from the skin. When we are embryos, our sensory organs evolved from folds in the skin. Many primitive organisms and animals can see and hear with their skin.

When the Neurophone was originally developed, neurophysiologists considered that the brain was hard-wired and that the various cranial nerves were hard-wired to every sensory system. The eighth cranial nerve is the nerve bundle that runs from the inner ear to the brain. Theoretically, we should only be able to hear with our ears if our sensor organs are hard-wired. Now the concept of a holographic brain has come into being. The holographic brain theory states that the brain uses a holographic encoding system so that the entire brain may be able to function as a multiple faceted sensory encoding computer. This means that sensory impressions may be encoded so that any part of the brain can recognise input signals according to a special encoding. Theoretically, we should be able to see and hear through multiple channels.

The key to the Neurophone is the stimulation of the nerves of the skin with a digitally encoded signal that carries the same time ratio encoding that is recognised as sound by any nerve in the body.

All commercial digital speech recognition circuitry is based on so-called dominant frequency power analysis. While speech can be recognised by such a circuit, the truth is that speech encoding is based on time ratios. If the frequency power analysis circuits are not phased properly, they will not work. The intelligence is carried by phase information. The frequency content of the voice gives our voice a certain quality, but frequency does not contain information. All attempts at computer voice recognition and voice generation are only partially successful. Until digital time-ratio encoding is used, our computers will never be able to really talk to us.

The computer that we developed to recognise speech for the Man-Dolphin communicator used time-ratio analysis only. By recognising and using time-ratio encoding, we could transmit clear voice data through extremely narrow bandwidths. In one device, we developed a radio transmitter that had a bandwidth of only 300 Hz while maintaining crystal clear transmission. Since signal-to-noise ratio is based on bandwidth considerations, we were able to transmit clear voice over thousands of miles while using milliwatt power.

Improved signal-processing algorithms are the basis of a new series of Neurophones that are currently under development. These new Neurophones use state-of-the-art digital processing to render sound information much more accurately.

### **1.3. ELECTRONIC TELEPATHY?**

The Neurophone is really an electronic telepathy machine. Several tests prove that it bypasses the 8th cranial nerve or hearing nerve and transmits sound directly to the brain. This means that the Neurophone stimulates perception through a 7th or alternate sense.

All hearing aids stimulate tiny bones in the middle ear. Sometimes when the eardrum is damaged, the bones of the inner ear are stimulated by a vibrator that is placed behind the ear on the base of the skull. Bone conduction will even work through the teeth. In order for bone conduction to work, the cochlea or inner ear that connects to the 8th cranial nerve must function. People who are nerve-deaf cannot hear through bone conduction because the nerves in the inner ear are not functional.

A number of nerve-deaf people and people who have had the entire inner ear removed by surgery have been able to hear with the Neurophone.

If the Neurophone electrodes are placed on the closed eyes or on the face, the sound can be clearly 'heard' as if it were coming from inside the brain. When the electrodes are placed on the face, the sound is perceived through the trigeminal nerve.

We therefore know that the Neurophone can work through the trigeminal or facial nerve. When the facial nerve is deadened by means of anesthetic injections, we can no longer hear through the face.

In these cases, there is a fine line where the skin on the face is numb. If the electrodes are placed on the numb skin, we cannot hear it but when the electrodes are moved a fraction of an inch over to skin that still has feeling, sound perception is restored.

This proves that the means of sound perception via the Neurophone is by means of skin and not by means of bone conduction.

There was an earlier test performed at Tufts University that was designed by Dr. Dwight Wayne Batteau, one of my partners in the US Navy Dolphin Communications Project. This test was known as the "Beat Frequency Test." It is well known that sound waves of two slightly different frequencies create a 'beat' note as the waves interfere with each other. For example, if a sound of 300 Hz and one of 330 Hz are played into one ear at the same time, a beat note of 30 Hz will be perceived. This is a mechanical summation of sound in the bone structure of the inner ear. There is another beat phenomenon known as the binaural beat. In the binaural beat, sounds beat together in the corpus callosum in the centre of the brain. This binaural beat is used by Robert Monroe of the Monroe Institute to stimulate altered states. That is, to entrain the brain into high alpha or theta states.

The Neurophone is a powerful brain-entrainment device. If we play alpha or theta signals directly through the Neurophone, we can entrain any brain state we like. In a future article we will tell how the Neurophone has been used as a subliminal learning device and also as a behaviour modification system.

Batteau's theory was that if we could place the Neurophone electrodes so that the sound was perceived as coming from one side of the head only, and if we played a 300 Hz signal through the Neurophone, if we also played a 330 Hz signal through an ordinary headphone we would get a beat note if the signals were summing in the inner ear bones.

When the test was conducted, we were able to perceive two distinct tones without a beat. This test again proved that Neurophonic hearing was not through the means of bone conduction.

When we used a stereo Neurophone, we were able to get a beat note that is similar to the binaural beat, but the beat is occurring inside the nervous system and is not a result of bone conduction.

The Neurophone is a 'gateway' into altered brain states. Its most powerful use may be in direct communications with the brain centres, thereby bypassing the 'filters' or inner mechanisms that may limit our ability to communicate to the brain.

If we can unlock the secret of direct audio communications to the brain, we can unlock the secret of visual communications. The skin has receptors that can detect vibration, light, temperature, pressure and friction. All we have to do is stimulate the skin with the right signals.

We are continuing Neurophonic research. We have recently developed other modes of Neurophonic transmission. We have also reversed the Neurophone and found that we can detect scalar waves that are generated by the living system. The detection technique is actually very similar to the process used by Dr. Hiroshi Motoyama in Japan. Dr. Motoyama used capacitor electrodes very much like those we use with the Neurophone to detect energies from the various chakras.

## 2. A MEDICAL DISCOVERY REVEALS THE BIOLOGICAL MECHANISM THAT ALLOWS US TO HEAR WITH THE NEUROPHONE™!

Neurophone™ News, from [www.earthpulse.com/flanagan/news.html](http://www.earthpulse.com/flanagan/news.html)

1996 Dr. Patrick Flanagan and Dr. Gael Crystal Flanagan. see [www.neurophone.com/home.htm](http://www.neurophone.com/home.htm)

The Neurophone™ is a device which extends the range of normal hearing. It has applications in speed learning and for enhancing hearing for people. The device will also prove useful in the development of computer speech recognition systems as well as perhaps other systems of benefit to people. This article explains how the device actually works.

A team of scientists at the University of Virginia has shown that all people are able to "hear" ultrasonic sound waves when these sounds are transmitted to the body by direct contact vibration. The upper frequency hearing limit for air conducted sound has been established at approximately 24,000 cycles per second. As we age, the upper frequency limit of hearing perception is reduced as a result of aging factors in the auditory system.

Dr. Martin Lenhardt and his colleagues have shown that normal hearing people and profoundly deaf people can perceive frequencies in the range of 28,000 to 100,000 cycles per second when these sounds are transmitted to the body by a direct contact vibrator.

This experiment establishes that there are two separate hearing channels into the brain. One channel is for ordinary audio frequencies in the range of 20 Hz to 20,000 Hz. This channel conducts sound into the cochlea or inner ear through the air or through bone conduction. Bone conduction works by transmitting sound vibrations into the hammer and stirrup bones that are attached to the ear drum. Ordinary bone conduction and air borne hearing work by the same mechanism: the cochlea.

The second hearing channel (which was discovered by Dr. Flanagan in 1958) was rediscovered by Dr. Lenhardt and his colleagues. The second channel conducts ultrasonic sound waves through the bones, body fluids or through the skin to a newly discovered alternate hearing organ.

The article by Dr. Lenhardt and colleagues entitled: "Human Ultrasonic Speech Perception", in the July 5, 1991 issue of Science sheds light on the physical mechanism by which the Neurophone™ works. Dr. Lenhardt says: "The upper range of human air conduction hearing is believed to be no higher than 24,000 Hz; nevertheless, there have been reports of humans hearing well into the ultrasonic range but only when the ultrasonic stimuli are delivered by bone conduction. (Note: Later tests showed that the sound is also conducted by skin and bodily fluids.) Furthermore, ultrasonic bone conduction hearing in humans has been readily demonstrated in various conditions of auditory pathology, including sensorineural hearing loss and middle ear disorders."

Dr. Lenhardt further states that audio perceptual threshold tests run on young, elderly and profoundly deaf people show that bone conduction ultrasonic perception thresholds are essentially the same in all three groups. This leads researchers to conclude that there is an alternate hearing mechanism for receiving direct contact ultrasonic signals. This study shows that profoundly deaf people can apparently hear sounds in the ultrasonic frequency range when the sound is conducted



directly into the body by vibratory means. Up until this discovery, only dolphins, bats and some other animals were known to be capable of hearing in the ultrasonic frequency band.

The authors of this report constructed an amplitude modulated ultrasonic transmitter that operated at frequencies ranging from 28 kHz to 90 kHz (28,000 to 90,000 cycles per second) in frequency. The output signal from their device was coupled to the heads of human subjects by means of a piezoelectric ceramic vibrator. All subjects tested heard the modulated signal with clarity. This research is essentially a duplication of Dr. Flanagan's original Neurophone™ device which he constructed at the age of 13 in the early months of 1958.

Lenhardt et al postulate that ultrasonic vibrations are sensed by a tiny gland in the inner ear known as the saccule. This gland is approximately the size of a snow pea. The saccule is used by living organisms to sense gravity. It is filled with a fluid and has tiny hairs that extend into its interior. When the position of the head is moved, the fluid movement stimulates the tiny hair cells telling us whether we are tilted or standing upright.

Another article titled "Projections from the Sacculus to the Cochlear Nuclei in the Mongolian Gerbil" (from the Brain Behavior Evolution, 1989; 34; 193-200) postulates that the cochlea (hearing organ) originally evolved from the saccule and that the saccule may be used as a primitive hearing organ in lower animals. In fishes, for example, the organ responsible for sound perception appears to be the saccule. The authors go on to state that the saccule may have dual auditory and gravity detection functions in the auditory systems of amphibians, reptiles, birds and mammals (and, based on this article, now in humans).

Dr. Flanagan's original Neurophone™ patent number 3,393,279 issued on 1968 July 16 consisted of a 30 - 50 kHz amplitude modulated ultrasonic oscillator that generated approximately 3,000 volts peak to peak across two mylar plastic insulated electrodes that were placed in contact with the skin. When an audio signal such as music was fed into the device, the music could be heard by a person wearing the electrodes on their skin. The Neurophone™ hearing sensation feels like the sound is at the center of the head. Tests at Tufts University showed that the skin under the electrodes was caused to vibrate by the energy field. When a stethoscope was placed on the skin next to the electrodes, the audio vibration could easily be heard.

Tests with profoundly deaf human subjects showed that these subjects could "hear" the audio modulation of the Neurophone™ even though they could not hear the same sound by means of ordinary bone conduction hearing aids.

## **2.1 The Neurophone™ Headset Crystals Make Audible Sound**

In order to more efficiently vibrate the skin, Dr. Flanagan developed special piezoelectric ceramic crystal vibrators in 1974. A piezoelectric crystal expands and contracts when electrical currents are connected across its surface. The vibration from the crystal mechanically vibrates the skin at the 40 kHz carrier frequency of the Neurophone™. When the Neurophone™ headset crystals are placed on the skin or when they are touched together, they vibrate in two distinct modes: one is audible to the ear, the other ultrasonic mode can only be heard by skin or bone vibration. When the headset crystals are placed in contact with the skin, the ultrasonic voice or music signal is detected by the saccule instead of the cochlea.

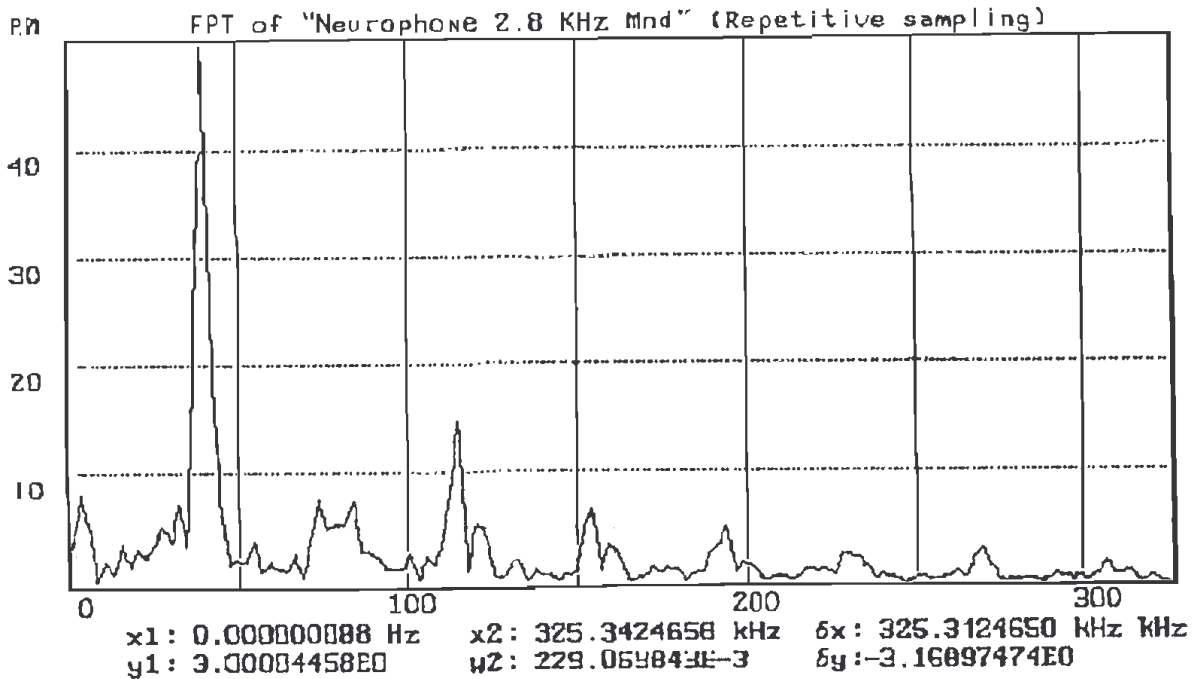
In summary, when we listen to music or human speech through the Neurophone™ we are hearing sounds through two distinct channels. One channel is heard normally by the ears by means of the cochlea and the other channel is sent through the skin and/or bone to the saccule. One can easily tell the difference between the two modes of hearing by plugging up TM the ears while listening to the Neurophone™.

If the Neurophone™ electrodes are connected to an ordinary audio amplifier, some sounds may be heard but not as distinctly as when the crystals are connected to the Neurophone™. This hearing is conducted through bone conduction to the cochlea because the 40 kHz ultrasonic carrier wave needed to activate the saccule is missing. When the Neurophone™ crystals are connected to the Neurophone™, the ultrasonic carrier wave bypasses the cochlea and activates hearing channels in the saccule.

If you go to a Radio Shack store, you can get a stereo headphone splitter adapter that allows you to plug two stereo headphones into one output jack on an audio source such as a CD player or cassette tape player. Using the headphone splitter, you can connect both the Neurophone™ and standard stereo headphones to the audio source at the same time. In order to adjust the volume on the headphones separately from the Neurophone™ volume, you should use a stereo headset that has its own in-line volume control. First adjust the sound on the Neurophone™ using the volume control on the audio source until you can hear the sound through the Neurophone™. Then turn up the volume on the headset until it is at a comfortable level. At this point you are hearing through the headset and the Neurophone™ at the same time.

After a while, unplug the Neurophone™ crystal set and feel the difference. There is a profound difference. The Neurophone™ adds an extended hearing capability to any sound source. This test dramatically demonstrates the perceptual difference between the two hearing channels.

The diagram below is for the benefit of scientists. It is an actual spectrum analysis of the output signal from the Neurophone™. The frequency is shown on the horizontal scale and runs from zero to 325 kHz (325,000 cycles per second). The vertical scale on the left side shows the voltage level of the output signal into the crystal headset. The energy peak is at 40,000 cycles per second. This is the ultrasonic carrier frequency of the Neurophone™. The lower signal peaks are modulation signal and harmonics of the carrier frequency. The Neurophone™ contains a digital speech processor that is an improvement over Dr. Flanagan's second Neurophone™ patent (3,647,970). The Fast Fourier Transform Spectrum analysis of the signal output from the Neurophone™ Thinkman device demonstrates the power peak at 40 kHz which is the carrier frequency of the Neurophone™. The audio modulation signal is reduced to a very low value. The diagram illustrates the power density in the ultrasonic band that can only be "heard" by the saccule.



[I cleaned up this figure as best I could]

Note: The current Neurophone™ Thinkman device is an improvement over previous Neurophone™ designs and is patent pending.

## 2.2 Learning Protocol Flanagan Thinkman Neurophone

1. Connect the brass electrode plates ideally to a point above the shoulders. The sides of the neck or about 1-2 cm out on the face from the center line of the ears are good locations.
2. Adjust the sound input device (stereo tape player or CD player) volume to its lowest setting and then increase the volume until it reaches the maximum volume possible without creating any sensation at the point of electrode contact. You should hear an external sound emanating from the location of the electrodes. This is normal.
3. Using ear plugs, close off the exterior ears during the first week of use. This gives you time to turn your brains attention to the interior sound.
4. For the initial week of use it is advised to use music with a wide band of frequency. Classical string instruments with the full range of orchestral sounds work well. Use the device one or more hours a day.
5. After the first week of use switch to whatever learning tapes you wish to use. It is recommended that you use an auto reversing tape player and use it one or more hours per day.
6. The connector leads are set up on the Neurophone™ for use with a stereo sound generation device. Any other device requires an adapter to be used with the Neurophone™.

## 3. CHAPTER 3 ELECTRONIC TELEPATHY: THE NEUROPHONE® (pp. 19-54)

From Begich, N. (1996) Towards a New Alchemy: The Millennium Science; Earthpulse Press, PO Box Anchorage, AK, 99520, and Flanagan Technologies, 1109 S. Plaza Way. Suite 399, Flagstaff, AZ 86001 See: [www.neurophone.com/home.htm](http://www.neurophone.com/home.htm)



The Neurophone® was invented the year I was born [1958]. It went through numerous advances before I met Patrick and had an opportunity to try the invention. The device changed from a crude sound system to one which delivered clear and consistent sound quality.

A year ago my wife, Shelah and I took a trip to Sedona, Arizona to visit the Flanagans and try the Neurophone® and the Neurophone® Pink Noise Generator.

Patrick had already explained how the invention worked, treating the skin as an eardrum - actually using the nervous system to transfer the sound to the brain. We were eager to try it, and we connected with the Flanagans as soon as we were settled into our hotel.

Soon the Flanagans greeted us in person with a classical music CD and early prototypes of the Neurophone® and the Neurophone® Pink Noise Generator. Once the device was hooked up Patrick handed me the two electrodes and said "place them anywhere on your skin." I placed the electrodes between my thumbs and forefingers and instantly I could hear the music as if it of my head. At the same time, a faint scratchy noise coming from the place the electrodes were located on my body. This was a secondary effect which occurred as the information was being transferred into my skin. At the location of the electrode contact with my fingers the electromagnetic currents had made my skin act like a little speaker directly under the electrode. The sound quality I heard was scratchy but in my head. Flanagan said that as the new pathways are being formed for the transfer of sound information the signal would get clearer. He said that for most people an hour use per day for a week would smooth out the signal and improve the sound quality.

I moved the electrodes around to different parts of my body and the signal was always the same - I could hear the music in the center of my head. It was amazing and defied any sense of what was supposed to happen with sound and hearing. I realized that this invention truly was incredible. I played with the device throughout the evening as we talked about its potential.

### **3.1. The Newtech Tool**

The Neurophone® is an electronic device which transmits sound through the skin to the brain, bypassing the normal hearing channels. The device converts sound waves into digitized electronic signals which have a wave form and timing configuration, which can be deciphered and understood by the human brain. The internal hearing, or mental sound printing, is delivered to the brain intact just as it was transmitted. The electronic signal is fully perceptible as if the sound were heard through the ears. The sound is sound except it is as if it were emanating from inside a person's head. The artificially induced sound is electronically coded and transferred to the brain where the signal is understood and decoded. Simply put, the device can take any sound including speech and music and convert it to a signal which the human body can receive and transfer through the skin.

The human body works in conjunction with the man-made apparatus recreating the original sound whether it was generated from a microphone, tape recorder, CD player, or other sound signaling device. Any sound input device can be used. The Neurophone® alters the sound signal into the equivalent of "brain computer code" which, when sent and reconstructed by the brain, is understood as specific sounds. It is not a series of beeps, clicks or vibrations; it is the actual words and sounds reconstructed in the brain just as if they were heard through the ears.

This was the second most significant invention of Patrick Flanagan's after his missile and atomic blast detector. The story which follows was put together from a number of published reports on the device and from many hours of conversations with Patrick Flanagan.

### **3.2. The Idea Is Born**

The Neurophone® was invented in 1958 when Flanagan was 14 years old and living in Bellaire, a suburb of Houston, Texas. The idea for the invention was stimulated when he read a science fiction book written in 1911 by Hugo Gernsback the founder of Gernsback Publications. In the book, Ralph 124C41+, could program information directly into the brain. The idea of electronic telepathy intrigued Flanagan and his work on the first Neurophone® began.

When working models of the Neurophone® were demonstrated and announced, the news media immediately picked up the story. At the time of its announcement, it created an uproar in the media and reached the pages of over 300 newspapers in one day. Life Magazine did a feature article on Flanagan and his Neurophone® in 1962 when he was 18 years old. [Life Magazine, "Whiz Kid, Hands Down," William Moeser, September 14, 1962, pages 69 & 72] The article described Flanagan and his invention. After the article appeared he was offered eight million dollars for the invention by corporate executives who wanted to develop the idea into applied technologies. Flanagan turned this offer down.

### **3.3. The first Neurophone®.**

The U.S. Patent Office was the first battle for Patrick Flanagan in getting his Neurophone® into production. With the help of a friend who was a patent attorney for Shell Oil Company, Flanagan drew his own diagrams, wrote his own patent application and submitted it. While the patent application was being reviewed the invention was gaining publicity. It was at this point that the patent examiners started giving the young inventor-problems. The examiners claimed that the device could never work and refused to issue the patent. They said that the invention was not really what Flanagan had characterized it to be. They said that the phenomena he was seeing was the

result of old unpatented knowledge of bone resonant transfer. The refusal of the patent led to a battle of paper flying through the mail. In the end it appeared all for naught as the application was denied and the file permanently closed.

In anger and out of desperation Flanagan and his lawyer flew to Washington D.C. with a working model of the device. Although the file had been closed the examiner agreed to listen to the duo and consider what they had to present. The examiner also had a surprise in store for Flanagan to test his invention. The examiner had arranged for a deaf employee to be available for the meeting. The gentleman was totally nerve deaf in one ear and almost totally deaf in the other. Flanagan hooked the fellow up to the Neurophone® and played the voice of Maria Callas singing an opera. As the invention was activated, and the music started playing, the man sat quietly at first and then tears began streaming down his face. The joy broke through as if he had been reborn, he could hear the clear precision of the operatic voice. The man loved opera but had not had the pleasure of the sound except in the fading memories of his mind. Then here, in a dingy government office, the crisp clear penetrating voice again played vividly in his mind in the new vibration of neurophonic sound. As a result of this experience and in a most unusual series of events, the file was reopened and the patent granted. Up until this time the Patent Office had never reopened a file after it had been officially closed. The patent application was promptly processed and the patent issued for the first Neurophone®. [1968]

### 3.4. The Amazing Patent

The following paragraphs are Flanagan's description of the Neurophone®. These descriptions were taken from the text of the patents and serve to illustrate the claims which the United States Patent Office accepted, in the end, as valid for the technology he discovered: [United States Patent Number 3,393,279 issued to Gillis Patrick Flanagan July 16, 1968.]

*"This invention relates to electromagnetic excitation of the nervous system of a mammal and pertains more particularly to a method and apparatus for exciting the nervous system of a person with electromagnetic waves that are capable of causing that person to become conscious of information conveyed by the electromagnetic waves."*

*"It is an object of the present invention to provide a means of initiating controllable responses of the neuro senses without applying pressure waves or stress waves to the ears or bones. Another object of this invention is to provide a means of causing a person to receive an aural perception of the sound corresponding to the audio modulation of radio frequency electromagnetic waves that are coupled with the nervous system of the person. "*

*"In the method of the present invention, a response is initiated in the nervous system of a mammal by disposing at least a portion of that nervous system within a field of electromagnetic waves of a radio frequency above the aural range. In a preferred embodiment of this invention, the field to which the nervous system is exposed is a field containing modulated electromagnetic waves of a particular radio frequency to which the individual nervous system is selectively responsive, In a particularly preferred embodiment of this invention, at least a portion of the nervous system of a person is exposed to audio modulated electromagnetic waves having a radio frequency such that the person experiences the sensation of hearing, substantially free of distortion, the information which is conveyed by the audio modulation. "*

*"The present invention may be used as a hearing aid, as an aid to teaching speech to a person who is born deaf, as a means of communicating with persons in locations in which the noise level is high, as a device by which a person can listen to an audio signal that cannot be heard by others, etc. "*

*The apparatus "has been used to communicate speech and music to numerous persons including registered physicians. In these uses the electrodes, in the form of circular discs covered by plastic insulation, were placed against the sides of the heads of the persons. When electromagnetic waves were adjusted to a frequency to which persons having normal hearing were selectively responsive, none of these persons perceived any sensations of hearing or experienced any discomfort when no audio modulation was applied to the waves. When the waves were audio modulated with speech or music signal, none of these persons experienced any discomfort, but they each had the sensation of listening to the transmitted information and 'hearing' it at least as clearly as they would hear such information from an audible transmitter. When the same apparatus was similarly employed on a person whose hearing had been damaged to an extent requiring a hearing aid to hear normal conversation, that person 'heard' the audio signal (with hearing aid disconnected) and 'heard' music with a better fidelity than that obtainable with his hearing aid. "*

*"I claim: 1. A method of transmitting audio information to the brain of a subject through the nervous system of the subject which method comprises, in combination, the steps of generating a radio frequency signal having a frequency in excess of the highest frequency of the audio information to be transmitted, and applying said modulated radio frequency signal to a pair of insulated electrodes and placing both of said insulated electrodes in physical contact with the skin of said subject, the strength of said radio frequency electromagnetic field being high enough at the skin surface to cause the sensation of hearing the audio information modulated thereon in the brain of said subject and low enough so that said subject experiences no physical discomfort.*

*"2. The method of claim 1 wherein said modulated electromagnetic field is coupled with a portion of the nervous system contained in the person's spinal column.*

*"3. Apparatus for transmitting audio information to the brain of a subject through the nervous system of the subject comprising, in combination, means for generating a radio frequency signal having a frequency greater than the maximum frequency for said audio information, means for modulating said radio frequency signal with the audio information to be transmitted, electrode means adapted to generate a localized radio frequency electromagnetic field thereabout when excited by a radio frequency signal, and means coupling said modulated radio frequency signal to said electrode means, said electrode means having a surface adapted to be capacitively coupled to a localized area at the surface of the skin of said subject when placed in physical contact therewith whereby said electrode means may generate a localized radio frequency electromagnetic field modulated by said audio information at the surface of the skin of said subject, and means on said surface of said electrode means for insulating said electrode means from the skin of said subject. "*

The second patent went further in explaining the invention, how it worked, and what might be possible with the technology. In the patent Flanagan said [United States Patent Number 3,647,970 issued to Gillis Patrick Flanagan.]:

*"This invention relates generally to electronic processing of speech, and more particularly relates to a method and system for simplifying the speech waveform to facilitate transmission of the speech through various media without materially degrading intelligibility."*

The average person does not consider speech as a "waveform." In fact we really don't think much about speech at all in terms of what it is specifically. In the case of this invention it simplified the waveform in such a way as to allow for clear transmission over significant distance through air, water or land. The value of this transmission technology was significant not only for communications systems that we all are aware of such as public address systems, radio or other sound transmitting systems; this new system of transmitting or coding the sound had a significant impact on the possibilities presented by the Neurophone®. This second patent was the key to effective Neurophonic technology. [United States Patent Number 3,647,970 issued to Gillis Patrick Flanagan.]

*"In the process of producing human speech, the voice box creates a series of sound pulses which reverberate within and are shaped by the upper throat and mouth cavity. The frequency of the pulses produced by the voice box primarily determine the frequency or pitch of the sound, while the shape of the mouth cavity reverberates and shapes the sound to produce speech information. The resulting speech waveform is very complex and highly redundant. If such a waveform is passed through a band-pass filter having a bandwidth significantly less than 3,000 cycles per second, the speech becomes unintelligible. Thus even the simplest voice communication channels require substantial bandwidth. Heretofore it has been commonly believed that the speech information was contained in the amplitude as well as the frequency modulation of the speech waveform. When voice sounds are induced in a body of water or the earth, the many reverberations caused by the various velocity discontinuities make speech unintelligible over relatively short transmission lengths. Also, the complete speech waveform has made encoding or scrambling for secure transmissions, either by electromagnetic, electrical, or pressure waves, so impractical as to be very seldom used. "*

The patent, in simple terms, was for a system which would change speech into a waveform which could more completely and readily be transmitted over long or short distances and then be received and reconfigured into the original sound.

In a confidential disclosure of the invention which accompanied the patent application the invention was described as a "square wave speech digitizer" which was described as follows:

*"This invention is a digitizing technique which, while retaining full speech intelligibility, removes from the spoken message all amplitude variations, resulting in an on/off code."*

*"This code is so remarkable, that although when viewed on an oscilloscope, it appears to be a series of square waves, it remains fully intelligible without further processing ... i.e., it may be transmitted to any number of mechanical transducing systems normally used for speech, and retains its full intelligibility."*

*"This system then simplifies speech itself, the simplified speech can perform very simply many many tasks normally requiring very complex equipment ... a few examples are: 95% efficient amplifiers,*



*radio transmitter modulators, underwater communication systems, 100% efficient laser modulators, very narrow band radio systems, and speech controlled machinery.*

One of the other and primary capabilities of this invention included the ability to devise highly specialized secured communications systems which would be easy to use and almost impossible to decode. This was, perhaps, one of the primary reasons that the United States military would place the invention under a National Secrecy Order.

### **3.5. Confiscation of Intellectual Property: The National Security Order**

On August 29, 1968 - a month after the first patent had been issued - Patrick Flanagan applied for the second Neurophone® patent. He had made some new changes, dramatically improving the consistency of the Neurophone®. This new patent was the link which would create the most incredible combination: A digital, self-adjusting, real time feedback device. This device was designed to deliver sound, coded for the brain, to a person in a way which was fully discernible to the individual. This new invention provided a necessary ingredient needed to bring the Neurophone® into production.

Patrick expected the new patent to move through the process easily; instead, he faced his greatest obstacle to date: The Defense Intelligence Agency seized the patent information. The official word that the patent application was sealed with a secrecy order was sent to Flanagan on April 25, 1969. This effectively kept the patent from being approved until March 7, 1972. It seemed that after the first patent had been issued that the Defense Intelligence Agency had also become convinced of the effectiveness of the Neurophone® and that they saw secret applications for this new technology. The secrecy order number was 756,124 (in 1968) which indicated that by that time there had already been over three quarter million intellectual confiscations by the federal government.

The national security order forbade Patrick from talking about the technology, promoting the idea, or working further on the invention. These restrictions are enforced by the United States Justice Department.

The application that the government was seeking was related to controlling human behavior. At the time the government, through the Central Intelligence Agency (CIA), was engaging in illegal activities testing these technologies on Americans and others. [Report to the President by the Commission on CIA Activities Within The United States, U.S. Government Printing Office Stock Number 041-015-00074-8, Issued June 1975.] They were developing methods of mind control using LSD, hypnosis and other means. It was likely that this was the use they sought through this new electronic technology. During this same period there was substantial work being done by United States intelligence agencies on these kinds of technologies.

After the famous Watergate break-in was engineered with the help of the CIA, a special investigation was launched into the activities of the agency. The commission on CIA Activities Within the United States was formed and chaired by Nelson A. Rockefeller. Two of the other committee members were Ronald Reagan and Lane Kirkland, who would later reach prominence as President of the United States and President of the AFL-CIO, the most powerful labor confederation in the world. The CIA was concerned about the techniques which were used by the Soviets and Koreans in "brainwashing" prisoners of war and others. In the text of the Commission's

report it was disclosed that besides the use of LSD on unsuspecting Americans they also engaged in other activities. "The drug program was a part of a much larger program to study possible means for controlling human behavior. Other studies explored the effects of radiation, electric-shock, psychology, psychiatry, sociology and harassment substances." [Report to the President by the Commission on CIA Activities Within The United States, U.S. Government Printing Office Stock Number 041-015-00074-8, Issued June 1975.] The US government had captured a brain manipulating electronic device called a Lida machine during the Vietnam War. This Soviet made device would electronically put prisoners in a trance state during interrogations. The idea of electronic interrogation was of great interest to the US intelligence community and the Neurophone<sup>®</sup> was thought to be a major part of this new wave of technology.

In the United States, the government can confiscate intellectual property without fair compensation. This is in conflict with the Constitution in terms of its private property right provisions. The United States Constitution established provisions for fair and just compensation for the confiscation of private property. However, these kinds of confiscations were only able to be executed by the federal government under very limited circumstances. These Constitutional provisions were established as a result of pre-Revolutionary War abuses, by British troops who seized the property of farmers for military purposes without compensating them. Seizures would also occur when troops would require temporary lodging while passing through an area and would fail to compensate property owners for food, housing or other resources they consumed. The owners were treated as servants of the crown in these kind of property abuses and this kind of action by the British government was one of the contributing factors to the Revolutionary War.

In a technological age the problem isn't the property of farms only; it now includes the intellectual property of people who represent the new minds for change. Knowledge is change. The freedom of speech, press and beliefs is foundational and yet, in America, under a National Security Order, property can be taken without fair recourse for the inventor. While it is true that the property of the mind has changed in two hundred years, its right of ownership has not. Where does the federal government draw the line? Why should people be denied the right to pursue their inventiveness without undue restraint by the government?

The founding fathers of the United States determined that even in war situations property should not be taken without fair payment. Since World War II, intellectual property has increasingly fallen into the government confiscation void creating significant hardship on the part of inventors while depriving the world of access to the fruits of their human creativity. The ever increasing and indiscriminate use of "national security" seizures of knowledge goes beyond what was ever envisioned as possible two hundred years ago. The idea that thought itself would be confiscated by our federal government was never anticipated or contemplated, as a possibility in the consciousness of those who established our form of government. In fact, the freedom to say, to believe, to express and to amplify ideas was the most foundational aspect of our system of human interaction as exemplified in American republican democracy. Nonetheless, in 1996 we face ever increasing intrusions on individual inventors by a government with a million lawyers on the payroll, funded with hundreds of billions of dollars and able to tie up individuals in a web of regulation and control, strangling freedom of thought. These same intrusions also accrue to the government tremendous power which is often used to the detriment of humankind rather than its improvement.

Knowledge should not be restricted when it can be applied to the general good of people. National security interests must be balanced. The question which must be asked is: who's interests are served by withholding this kind of knowledge? And who are these non-elected, unappointed, thought-police who are standing guard over the intellects of creative Americans? Intellectual knowledge restriction is a modern outcome of cold war paranoia. The question which is currently crystallizing in the minds of many individuals is; where does the government interference end and the pursuit of life, liberty and happiness begin?

There are too many times when we draw artificial barriers between human interactive events like science and politics, as if they were just "islands of action" unto themselves, when, in reality, all things are interconnected. Restrictions of inventor property rights only affect a handful of people directly because it does not happen often. It is relatively easy for the government to trample on a few disenfranchised inventors who can either work for the government or go through a seemingly unending barrage of hogwash dished out by overly aggressive bureaucrats. The government can perpetuate these injustices because the mass of the American population does not see it as "their" issue. So what if a few independent scientists get tied up and can't get their ideas into production and available to people? What is missed, in these withdrawals into apathy, is the fact that these suppressed ideas may offer all people, or significant numbers of people, other more positive possibilities. Withholding learning technologies, healing systems and other knowledge which can improve human conditions is an act of betrayal against the human spirit and a democratic way of life.

Knowledge is freedom and freedom to create are foundations of democracy. Moreover, the confiscation of property for application in military purposes may run counter to an inventor's religious or philosophical beliefs in terms of warfare and human interaction. Does the government have the right to take property from an inventor and use it for military applications when the inventor's philosophy forbids this kind of use? What right does a government have to take what others have created, and interfere with the inventor's ability to continue to develop his ideas? Apparently, in the United States, national security organizations can achieve this end and this is what happened to the Neurophone® and Patrick Flanagan.

The effect on society is profound. In areas where it is time to advance technologically we are forced, as societies, to wait until the government decides the knowledge is either "suitable" for consumption or has become widespread enough so that the continued denial of the information is no longer worthwhile. In the interim, progress by the originators of the ideas is delayed, lost or put off indefinitely; such was almost the case with the Neurophone@.

### **3.6. Back To the Beginning [1959]**

When Flanagan was 15 years old he gave a lecture and demonstration of the Neurophone® to the Houston Amateur Radio Club. The day after the demonstration, he was contacted by a reporter from the Houston Post. The reporter had a relative who had become nerve deaf from spinal meningitis, and he wanted to try the invention on his relative. The test was arranged. The device worked as expected, causing a cascade of news reports. The story hit the international wire services and the publicity on the device grew substantially over the next two years. At one point, in 1961, staff from Life magazine descended on Flanagan's family home for a week, following him through

his days while compiling a story on the boy-genius. On September 14, 1962 the story appeared in the magazine.

After the Life Magazine story Patrick was invited to appear on the Gary Moore show, "I've Got a Secret." During the October 1, 1962 filming of the show, the Neurophone® was demonstrated with the help of two other guests, Andy Griffith and Bess Meyerson. As a result of this television appearance Flanagan received over one million letters and telegrams on the device.

After the show Patrick met Andrija Puharich. Dr. Puharich took Flanagan and G. Harry Stine, a scientist working for Huyck Corporation, to lunch to discuss the Neurophone®. Puharich was pursuing a similar patent to Flanagan's and he was trying to extract information from the young Flanagan. Later Flanagan would have to fight Puharich in litigation over the rights to the idea. But the record would be clear: Flanagan had filed for the patent first.

After the Gary Moore appearance, Flanagan was also contacted by the Huyck Corporation, the research company Stine worked for. Flanagan hired on as a consultant during the summers and worked with the firm in conducting further research on his invention. The company was able to verify the effectiveness of the Neurophone®, but because of the problems and delays from the patent office the project was dropped.

While working for the Huyck Corporation, Flanagan was able to meet a number of other research scientists who would have a profound impact on his future directions. He met Dr. Henri Marie Coanda, the father of fluid dynamics and got to know Harry Stine better. Harry Stine was to write a book about the potential use of the Neurophone® as a human to computer interface device. The book was called The Silicon Gods (Bantam Books). Dr. Coanda was to stimulate future research directions for Patrick. [1974]

The next stage of research on the Neurophone® began when Flanagan was twenty three and was employed as a research scientist at Tufts University. While working at Tufts, he served as Vice President in charge of research for Listening Incorporated, a Boston based company. Listening Incorporated was set up to develop a number of technologies and was under contract to the United States Naval Ordinance Test Station out of China Lake, California. The Navy had contracted Flanagan's company to develop a number of technologies including systems for man-to-dolphin speech. The senior scientist on the project was his friend and business partner at the time, Dr. Dwight Wayne Batteau, a Professor of Physics and Mechanical Engineering at Harvard and Tufts Universities.

At Tufts, Flanagan continued to develop his ideas. While there he decoded speech intelligence patterns as they are replicated in the brain of humans and dolphins in order to develop the computer programs to analyze and simulate them. During this research Flanagan and the others discovered the way in which the brain locates things in three dimensional space so that even when you couldn't see the location of the sound you could still locate it. Reversing this concept they found a method for projecting sound into locations within three dimensional space. In this way, they could create even the direction of sound so that the voice of an orchestra could be perceived in its full width and depth of sound as if standing in front of live instruments. A totally different rhythm - holographic sound projection was discovered.

This sound technology, and the research comprising it, led to increased understanding of the time ratio relationships of the brain-speech recognition systems. This understanding of the projection of sound into three dimensional space, and the idea surrounding the timing ratios of the brain's speech recognition circuitry allowed for the development of a digitized Neurophone®.

The new digital Neurophone® produced the ultimate sound. A sound inside the head with the precision fidelity of an orchestra. The sound could be both recoded and projected through the energy grid network of the human body. *The device plugs directly into the neuro-network, which forms the human computer, in such a way so as to project information into the total experiential brain..* A machine-to-human download into long-term memory. The shifting of information into long term memory after even just one application was proven to be possible for many users of the device.

This new combination of ideas led to the August 29, 1968 patent application filing for the new and powerful technology which was quickly sealed by the Defense Intelligence Agency for five years. The sealing of this patent was incredibly agonizing. The 24 year old inventor had worked so long to get the first idea patented. He had fought the patent office, patent infringement litigation and now a national security order forbidding him from working on, or even talking about, the invention. The battle for the right to his work went five years until the government reluctantly rescinded the order. By then, a good deal of the enthusiasm for the Neurophone® was lost to the inventor and he had moved on to other projects.

Still, Patrick did manage to produce about 1,500 Neurophones® which sold for \$1,000 each in 1978-79. The device was large and bulky and the price of the device was necessarily high but beyond the capabilities of the average person. Flanagan decided that he would discontinue the manufacture of the device until it could be made more affordable and when he could assure that it would be marketed in the way he had envisioned.

### **3.7. The First Neurophone® is Built**

The first Neurophone® was created using the technojunk that a child had collected around the house. A stop at the cabinet under the kitchen sink and to the kitchen pantry yielded the steel wool electrodes for the device, which were inserted into plastic sandwich bags and connected to insulated copper wires. The wires from the steel wool electrodes were connected to a reversed audio transformer which was in turn connected to a record player. The output voltage of the audio transformer was 1,500 volts peak-to-peak. The signal from the electrical energy wave was viewed on an oscilloscope used for looking at wave forms and electrical outputs. The amplifier was driven by either music or voice inputs from the record player or as they used to be called the Hi-Fi. (Today, any sound recording device could be used including a CD player, cassette recorder, etc.)

The electrodes were placed on the temples, next to the eyes, and when the Neurophone® was clicked on you could "hear" the sounds as if they were originating inside your head. The sound quality with this first generation device was weak, distorted and generally of poor quality. The first generation device produced an interesting effect but was of no practical value because of this poor sound quality, which was related to the encoding of the signal. Using the device, and monitoring the outputs, Flanagan discovered that some sound signals were more clear than others.

While looking at the oscilloscope it was discovered that the clearest and loudest sounds could be generated when the amplifier was over-driven and square waves were being produced. At the same time, the transformer would ring or oscillate with a dampened wave form at frequencies of 40-50 kilohertz (kHz). What Patrick found was that under certain conditions the signal could not be perceived at all and other signals came through very clearly. By isolating the clearer signals and analyzing their modulations Flanagan was able to determine the ideal operating parameters of the device.

Flanagan went to the library to research the effect he had observed and see if there had been any historic mention of the phenomena. What he discovered was that a similar effect was first recognized by a scientist, Volta, as far back as 1800. At the time of its discovery, it was called electrophonic hearing and was thought to be merely a phenomenon which was created by action of the muscles surrounding the bones of the inner ear being stimulated to vibrate by an electric current thereby causing the hearing effect.

Flanagan continued his research and observations in order to try and better define the mechanism by which the phenomenon actually occurred. While observing the signal on the oscilloscope, he found that the sound was transmitted to the brain only when the transformer became overloaded, creating a blast of spiked electrical energy which then resonates through the body to the brain. This resonance effect helped explain why the sound signal only passed through partially and not all sounds would transmit clearly. In order to transmit clearly they had to be resonating in harmony with the skin.

The human body actually was forming part of the electrical circuit for the device. The body was not acting as some kind of empty water pitcher waiting for the next fill up; it was serving as a part of the circuit itself. Flanagan designed a circuit utilizing this knowledge and created a high frequency oscillator for sending the signal through the human neuro-network energy grid. But then he discovered that the particular resonant frequency of an individual person was subject to significant electrical changes and other variables. The electrical properties of the skin were such that general body changes, emotional changes, and virtually any outside stimulant could cause a shift in electrical properties. The shift caused the device to function erratically; it could not be readily controlled to match these shifting energy patterns. The dielectric properties of the skin could change by many magnitudes in a fraction of a second. This became both the challenge and the obstacle for the young scientist in refining his invention.

The device at this point (just as the original patent was being prepared) was essentially a high voltage, low power frequency modulated radio transmitter, with the frequency manually adjusted to match the natural frequencies of the human body. To understand how the device worked, it would be helpful to review what happens when you turn on and "tune" a radio:

- 1) The receiver dial is turned until a resonating match between the broadcast signal resonates with the tuned frequency of the radio, and;
- 2) The signal is decoded and sent through the speaker as sound.

With the Neurophone®, the human body acts as a radio receiver. The electrical impulses are "received" by the nerves through the skin, transferred to the brain, and decoded into sound.

The Neurophone® system works by taking the sound from a CD player, tape recorder or microphone and changing it to a signal that is continually modulated to meet the shifting energy of the human body. The shifting, self-correcting modulations cause the device to stay in tune with the individual so that the converted sound information can be continuously downloaded into the brain where it is received in the same way as a radio broadcast. Flanagan described the effect this way: "The sound from the device was fantastic, like sound from another world." The sound quality and range of "hearing" was extended well beyond the normal hearing parameters of the ear and there was no distortion in the signal being received as there was in the first generation of the device.

At this time Flanagan began testing the device on individuals who were totally nerve deaf. These individuals were not able to hear through the normal hearing channel or through bone conduction methods. The results of these trials were incredible. People could hear for the first time!

### **3.8. The Second Generation Neurophone®**

The second generation Neurophone® was constructed out of a variable frequency vacuum tube oscillator that was amplitude-modulated. The output signal was then fed into a high frequency transformer which was flat in frequency response in the 20-100 kHz range. The electrodes were placed on the head and the oscillator was tuned for the maximum resonance (Later models had a feedback circuit built in which automatically adjusted the frequency for resonance.) Flanagan found that the electric constant of human skin was highly variable and in order to achieve a maximum energy transfer from the electrodes the unit required constant retuning in order to match the dynamic electric response of the body of the listener.

With the second generation Neurophone® a 2,000 volt peak-to-peak amplitude-modulated carrier wave was then connected to the body using a two inch diameter electrode disc which was insulated using mylar films of various thicknesses.

The Neurophone® is a scalar wave generator. In operation, the out-of-phase signals from the electrodes mix in the non-linear complexities of the skin dielectric. The signals from each capacitor electrode are 180 degrees out of phase. Each signal is transmitted into the complex dielectric of the human body where it is mixed and phase cancellation takes place. The net result is a scalar vector.

The second generation Neurophone®, with its high frequency amplitude-modulated improvements, was an incredible advancement over the one developed earlier. It had excellent sound clarity. The listener perceived the sound as if it were emanating from inside his head. This device was tested on over 1,000 people, including some who were nerve deaf. The results were startling. In some instances for unknown reasons, the listener could not hear with the device until it was used in a series of short sessions. We are not sure why some people need this "training period," but our best guess is that the nervous system needs to "learn" to hear from the skin to the brain, to build the neuro pathways from the skin to the brain, and to decode the new kind of impulse.

The device also caused some unexpected visual images when it was activated while being placed over the occipital region of the brain. The idea that this device might also be tunable in such a way as to create visual imaging suggests that it may be possible for this purpose in the future. The possibility of finding a mechanism for a visual Neurophone® was not lost on the inventor and is the

subject of further research. Visual imaging may be created using other than the optical imaging created by the eyes.

Recent research has shown that when the blind are using Braille the actual areas of the brain which are stimulated are those associated with sight rather than those associated with touch. In addition, research conducted in the former Soviet Union showed that a system for visual imaging through the skin was possible. The research was with highly sensitive individuals who were able to learn to distinguish objects, letters and even pictures using their hands as optical image scanners. [Psychic Discoveries Behind the Iron Curtain, by Sheila Ostrander and Lynn Schroeder, Prentice-Hall, 1970, pages 170-185.] What is now known is that it may be possible to isolate the mind-brain-code for distinguishing visual images in much the same way as the auditory code is used with the Neurophone®.

The applications of the ideas sounding the continued advancement of Neurophone® technology are incredible. The commercial possibilities are enormous. The applications include sound production and recording equipment and Neurophone® sound dimensionalizers. These are the learning, and listening system, which outpace other devices by a hundred years. The first digitized Neurophone®, used for these purposes, was eventually manufactured and marketed as the Mark XI and the Thinkman Model 50 versions.

### **3.9. How the Neurophone® Works**

The skin is the largest and most complex part of our physical form. Spread out, our skin would cover about forty square feet and weigh nine pounds making it the largest organ in the body. ["Skin, Our Fifth Sense", Explore More Magazine, March/April 1996] It stands between us and the outer world. It is the first barrier between disease and ourselves and acts as a giant liquid crystal brain. Every square inch of the skin contains 1300 pain receptors, nearly 20,000 touch receptors, almost 200 pressure receptors, 75 cold and 13 heat receptors. The skin can also detect even the very slightest vibration. ["Skin, Our Fifth Sense", Explore More Magazine, March/April 1996] It interprets and digitizes our outer world into a series of impulses which our inner selves can understand clearly.

The skin is piezoelectric and when it is vibrated or rubbed it generates electrical signals and scalar waves. Our skin is our primary sensory organ. It discriminates between all kinds of energy inputs from light, to sound, to heat, to electricity, and many other forms of energy. These inputs are then interpreted though both the nervous system and the acupuncture channels and transduced or transformed into signals which are then transferred through these networks and decoded by the brain. The Neurophone® injects its signal utilizing the brain's code. Flanagan described the skin as a receptor in the following way:

*"Our skin is not just a covering; it is an enormously sensitive organ with hundreds of thousands of receptors for temperature and brotactile input. Every organ of perception develops ontologically and phylogenetically out of skin. In the embryo, skin folds and then forms our eyes and ears. Our skin may contain the latent capacity to perceive light and sound. I think by stimulating the skin with energy [in the right way you can depolarize the brain and charge it] with energy."* [Mega Brain Power; Transform Your Life With Mind Machines and Nutrients, by Michael Hutchison, 1994, pg. 111]



When the Neurophone® was first developed, scientists who study nerve physiology believed that the brain was hard-wired to various nerves and nerve bundles. These neurophysiologists believed that the brain was only able- to perform sensory functions through definable linear channels. These scientists believed that the input could only be received, converted and sent through these nerve pathways. In this belief they concluded that sound could only be interpreted by the brain if it was transmitted through eighth cranial nerve which runs from the inner ear to the brain. Today, however, more and more scientists accept the theory of the holographic brain - the brain as a three dimensional computer which can translate data into understandable patterns. What this means is that if the coding were understood and the input signal were properly formed, any effect which could be patterned in the brain could be recreated outside of it and projected inward through alternative channels. If the body is viewed as an antenna, then the skin can be viewed as the receiving energy converter, the transducer, the transformer or the shifter of the energy into a new form which can be moved through the body to the brain. Theoretically, we should be able to hear and see through numerous channels.

The brain has a holographic system which is what gives the human mind the ability to hold such huge amounts of data. We are a huge impulse of modulating, undulating energy through which data is transferred. The discovery of the neuro code and transmitting system is the most profound aspect of this invention.

According to Flanagan, *"The key to the Neurophone® is the stimulation of the nerves of the skin with a digitally encoded signal that carries the same timing ratio encoding that is recognized as sound by any nerve in the body- "* Thus the impulse is converted to understandable sound. He went on to say; *"All commercial digital speech recognition circuitry is based on so-called dominant frequency power analysis. While speech can be recognized by such a circuit, the truth is that speech encoding is based on time ratios. If the frequency power analysis circuits are not phased properly, they will not work. The intelligence is carried by phased information. The frequency content of the voice gives our voice a certain quality, but frequency does not contain information. All attempts at computer voice recognition and generation are only partially successful."* What this means is that Flanagan created a system where a more complete preservation of data was achieved. For sound recording, this system would provide the ultimate sound system. By understanding timing ratios the basic language of humans could be broken down and electronically synthesized.

The spoken words, ideas and definitions of words could be compressed by a computer and transferred to the brain at a very high level without brain filtered distortion. The input is direct and memory effects are long term. The rate at which the brain can take information in is significantly higher than recorded sound or visual inputs. To bypass natural filters for long term memory is an incredible attribute of this invention.

During the dolphin research, a method of converting sound to a wave form which could be transmitted thousands of miles was found. The transmission could be realized using minimal energy inputs or, in Flanagan's words, "we could transmit clear voice data through extremely narrow bandwidths. In one device, we developed a radio transmitter that had a bandwidth of only 300 hertz while maintaining crystal clear transmission. Since signal-to-noise ratio is based on bandwidths considerations, we were able to transmit clear voice over thousands of miles."

The prototype of the newest generation of the Neurophone® has been developed and is being released for sale at the same time as the release of this book [1996]. The Neurophone® is a brain biofeedback device and signal processor for bioenergetic-computing and imaging. The system will deliver information with state-of-the-art digital processing and be capable of formatting any input compressed sound input signals. The sound quality varies from person to person with initial use. The quality in terms of volume and clarity improves over the first weeks use to its individually dependent level of efficiency.

### 3.10. What else does it do?

It was also discovered that the Neurophone® could be used to "entrain the brain". In other words, the device could be made to create a signal which would cause the brain to synchronize itself with the signal being generated by the external driver or signal generator. By creating the right frequency in the brain certain states of consciousness can be manipulated. There are dozens of devices and systems on the market which can create these effects at some level. However, the Neurophone® presents the ultimate in whole brain entrainment possibilities. A complete system for learning can be developed by the listener which is tailored to meet his needs. Tape recorded information can be fed through the Neurophone® for imprinting on the mind. As a memory tool the invention is far superior to anything else available.

It has been reported that the Neurophone® could be useful for initiating behavioral changes in people. Dr. Eldon Taylor worked as a specialist for Salt Lake City law enforcement in forensic hypnosis. He founded Progressive Awareness Research, Inc., and was permitted to run experiments in subliminal behavior modification in the Utah State Prison system. Subliminal behavior modification involves the use of messages which can not be heard consciously. What he discovered about the Neurophone® was that when he turned the sound of the device down below the level of hearing it was extremely effective. Dr. Taylor said, "In every instance in which we employed the Neurophone® at sub-threshold levels, the message was acted upon more consistently than when any type of audible communication, including hypnosis, was employed." [Super-Memory: The Revolution, by Sheila Ostrander and Lynn Schroeder, 1991, pages 62-65]

During the research on dolphins discussed elsewhere in this book, a test was conducted called "The Beat Frequency Test". It was well known that sound waves of two slightly different frequencies create a "beat" note as the waves cancel each other out. For example, if a sound of 17,000 hertz is played into one ear at the same time as a sound of 17,030 hertz is played into the other ear, a beat note of 30 hertz is perceived. This mechanical sound cancellation takes place in the bone structure of the inner ear. There is another beat phenomena which is known as binaural beat. In this phenomena the same principal holds true except the beat frequency appears in the middle of the brain therein "entraining the brain" to pulse in rhythm to the beat. What this means is that the brain is harmonized with the induced frequency. This was first recognized and applied to the reaching of altered states of consciousness by Robert Monroe of the Monroe Institute in Virginia. [The Monroe Institute, Route 1, Box 175, Fabar, Virginia 22938]

The Neurophone® can alter states of consciousness. These states could be programmed in through the Neurophone®. In the dolphin research it was verified that the sound being delivered through the Neurophone® was not the result of bone conduction or the same as binaural beat like Monroe's.

It was something much different. It was a complete nervous system vibration or beat which caused sound information to bypass the normal "filters" of internal mechanisms which otherwise interfere with our ability to communicate with our brains and learn and retrieve information.

The use of the Neurophone® for learning and recall is an important attribute and, perhaps one of the principle uses of the device. It is known that the brain retains all knowledge that it receives, even the obscure kind of knowledge we do not consciously focus on. This has been demonstrated when people are placed under hypnosis and are able to recall the names of all the books on a shelf or the number of telephone poles on the way home from work. The information is all there - the problem centers on the retrieval system of the mind. The Neurophone® allows for the programming and recall of information by bypassing these filters. The Neurophone® it is theorized, might also be establishing new thought pathways that, once opened, remain accessible to people. This would explain how the long term memory effect might actually work.

In the most recent research into the possibilities of this technology, Patrick and his wife, Gael Crystal Flanagan, have developed other modes of Neurophonic transmission. They have also developed a way of reversing the circuit so that they can detect scalar energy waves generated by living systems. Being able to receive the full signal would allow for altering the signal and for producing sequenced sound vibrations which have the greatest positive effects on the scalar energy patterns. A system would allow for the manipulation of growth and control of disease in plants. In humans many disorders are mediated and controlled by the brain. The brain transfers the energy which may take the form of a disease or other physiological disorder. Restoring the flow of energy in many ways can provide relief from pain, increased creativity and learning. What are the possibilities? Can information be compressed through optical or electrical mediums for thought transference? Could a system be developed for whole communications at a distance - electronic telepathy?

Other anomalous effects created and discovered with the Neurophone® included a form of thought transference between people. The area of mental telepathy between people was highly controversial in the early 1960's and 1970's. Today, there have been sufficient experimental trials to prove that telepathy is real. What has hitherto not been shown is the mechanism by which the actual telepathic effect occurs. By reversing the design of the Neurophone® so that it acts as a signal pickup and broadcast system in conjunction with another unit serving as a receiver, a system for information exchange can take place.

Another observation made by Flanagan was that when the device was in use it stepped up the body's energy fields in such a way as to effect photographic film. The energy field surrounding the body would show up on film. This was discovered on day while Flanagan was in his dark room developing film while listening to the Neurophone®. What he saw was that when the Neurophone® was on and he touched the undeveloped film he caused an exposure of the film. The stepped up energy which was coming from his body could be clearly seen on the developed film. He experimented with this effect at some length and discovered the same kind of energy halos in all living things which were tested.

In these tests he also found that the energy patterns changed with changes in the skin dielectric. What this means is that with changes in diet, mood, emotion or other mental states the energy would change or shift.

Research into this phenomena led Flanagan to the Soviet electrician Semyon Davidovich Kirlian, who had discovered the body energy halo effect in 1939, capturing the energy image on film and naming the new photographic process Kirlian Photography. The Kirlian effect created by a high frequency oscillator has become relatively well known in recent years. What happens when living tissue is stimulated by the high frequency generator is an amplification of vibration which can then be captured on film. The vibrational level of this energy level is otherwise not perceptible to the eyes as they do not resonate at these frequencies and consequently the eyes can not be tuned to see the energy which surrounds living things. These subtle energies are the energies of the future of science. The detection devices were not well understood and still remain somewhat of a mystery for most scientists even though the cause and effect relationships are well documented. Devices to create Kirlian photographs can be obtained for less than \$500.00 and can be constructed for even less. The idea place that this kind of imaging could be enhanced with Neurophonic technology is interesting. Even more interesting is the possibility of using the brain, an electrically mediated organ, to send signals which could be artificially shaped to create specific desired effects in the human body beyond Neurophonic hearing. Increased levels of research into the control and manipulation of human energy could lead to significant breakthroughs in mental and physical health. The idea that individuals could gain significant levels of control over their own mental functions and the effects of those functions is profound. The brain is the reality mediator for each individual and it can be artificially tuned for increased information collection and, perhaps, other effects.

What was found through direct measurement were a number of electrical effects related to diet and external inputs to the body. A correlation was drawn between the acupuncture points and the energy levels present at the surface of the skin. In one test the dielectric skin constant was measured and found to vary over a wide range depending on emotional state. It was also found that it could be altered significantly by ingesting raw amino acids. Flanagan found that consuming one ounce of pure amino acids altered his body's capacitance from 100 picofarads to .01 microfarads in three minutes.

In another measuring test he found that skin resistance varied over the human body and that the point of high energy could be isolated using electrodes and a signal amplifier. The high energy points corresponded to the acupuncture points in the human body. The acupuncture points do not line up exactly with nerve bundles. The acupuncture points do, however, line up with the energy field grid points on the human body, all of which can be correlated with points charted thousands of years ago by the Chinese. In a recent trip to Europe to visit my close friend, research scientist Dr. Reijo Makela, I was introduced to a healing method which utilizes some of these principles.

In the last twelve years Dr. Makela has treated over 12,000 patients through a holistic energy and nutrition system. On my visit, Reijo demonstrated his sensing device which is used for locating the acupuncture points on the human body. He then used a device which caused a high frequency electrical signal, in conjunction with a helium neon laser, to impulse through the acupuncture points in order to balance human energy. Using this method the acupuncture treatment was significantly more effective than the system which employed only needles. The system offered precision location of the points and assured energy delivery and balance. The success Dr. Makela has had with this system has been profound. He has caused reversals in medical conditions which were otherwise

considered untreatable. He has treated a wide variety of illnesses. As a result of his efforts over 600 past patients created two supporting foundations in Europe to promote his work.

Recently I had an opportunity to introduce Dr. Flanagan and Dr. Makela. I believe they have experiences and skills which will eventually lead to significantly improved treatment and diagnostic equipment. When I returned from Europe I brought back a device used in the Makela healing system. This compact signal generator first locates the acupuncture point using the electrode as a probe to measure differences in skin resistance. Once the energy point is located the device beeps or a light flashes indicating correct placement of the electrode. A switch on the electrical box is then thrown and the device converts from a probe to a signal generator. The device then sends a precisely shaped wave form, at just the right frequency, voltage and amperage to cause the acupuncture channel to energize. This device is being re-engineered by Dr. Flanagan in order to make it available to the public as a low cost biofeedback and individual energy balancing system. When this work is completed it will be jointly brought forward by Makela, Flanagan and myself.

### 3.11. The Brain

By the time we reach adulthood the human brain has developed more than 100 billion neurons. These neurons create connections with others, creating over 100 trillion circuits. These connections represent more than the number of galaxies in the known universe. These connections create the potentials of the human brain. The way information flows into the brain in the establishment of these connections is relevant to our understanding of some of the underlying possibilities in the brain.

It was believed that the connections were the outgrowth of genetic patterning. It was believed that the wiring of the brain was set in the genes. There are 50,000 genes involved in the formation of the central nervous system, which is not enough to account for the complex patterns of brain circuits. The complexity requires more input, more sources for creation of these complexities. Some have now suggested that the outer world - the environment, through its innumerable inputs - is what actually form these complex connections. In other words, the interactions we experience outside of ourselves form the basis of who we are. Perceptions on many levels are possible through these networks and no two persons are wired the same. ["Your Child's Brain" by Sharon Begley, Newsweek, February 19, 1996, pages 55-62]

According to developmental neurobiologist Carla Shatz of the University of California, Berkeley, the brain stays malleable where these connections can occur. For instance the research she cites suggests that sensory areas (touch, sight, sound, etc.) develop in early childhood. The emotional limbic system is wired by the time children reach physical maturity and the capacity to build understanding continues to take form until about age sixteen. ["Your Child's Brain" by Sharon Begley, Newsweek, February 19, 1996, pages 55-62]

We also know that sensory development as it relates to touch occur-very early in life; for example, the handling of infants is critical to their development. The sense of touch and the development of connectedness to others is well known. Children are much calmer and more secure when handled often by loving adults. ["The Skin, Our Fifth Sense", Explore More Magazine, March/April 1996]

Incredible educational potentials exist if we load our experience with the kind of situations which build our capacities. If we introduce the right learning possibilities and experiential mixes with the proper brain development, a good deal more would be possible in terms of education. At the same time, we need to recognize that some of the problems which manifest in people, whether sensory, emotional or intellectual are very difficult to cure.

The issue of hard wiring is important to understanding where this is all headed. Hard wiring of brain circuitry is important because if the wiring could not be changed then many of our mental limits would be locked into place. Two approaches are being taken to effect the way the brain processes information. Some are using chemical means to change the way the circuits in the brain handle the data. Other systems are electromechanical and are showing increased potentials.

The Neurophone® technology bypasses wired neurocircuits and gets the information into the brain while stimulating new neuro connections and creating new pathways. These new pathways offer an opportunity to revitalize dormant portions of the brain by stimulating them to activity and by increasing connections. It appears from reports of early users of the Neurophone® that this is exactly what was occurring.

Researcher Patricia Kuhl of the University of Washington, reported that by six months of age infants have already formed auditory maps for sound information to flow through the brain. Through her studies she concluded that the wiring is not only different between children who have been raised hearing different languages but also that they are "functionally deaf" to sounds which are not part of their native tongue. The mind map for auditory input is completed by the child's first year. What this means is that the other neurons available for learning other languages by age ten are no longer forming new connections, making it highly unlikely that a person will acquire another language at the proficiency of natives when learning them later in life. ["Your Child's Brain" by Sharon Begley, Newsweek, February 19, 1996, pages 55-62] The Neurophone® offers a new way to forge these connections and increase potentials far beyond what might otherwise be possible.

Without a way to change the information input pathways - a tool to open new webs of circuitry - new information, valuable for human growth and expansion, is not possible. The Neurophone® capitalizes on ancient genetic matrixes where new information can be fed to the brain. The "window" periods where learning can take place can be reopened for new inflows of data. The observations of users confirms this potential.

The Neurophone® was used by some women while pregnant. The sound information was transferred into both the mother and child's neuron networks with profound effects. These individuals reported children who were well advanced in their intellectual development. These children had opportunities to take in undistorted sound information even before the sensory organs developed. Before they had ears they had neuropathways being created via the Neurophone®

The Neurophone® may offer more than new hearing technologies for those who do not have the ability to hear. It perhaps has greater implications for all of us interested in developing our higher learning potentials.

My family has been active in Alaskan educational issues for over 40 years. Both of my parents were educators and I was past President of the Anchorage Council of Education/AFT and the

Anchorage Council of Education. I also chaired a committee in Alaska which explored the possibilities for greater choice in education here in Alaska. As an educational leader I always found the disconnect between new technologies and education to be huge. These separations are pushing us backward at a time when the need for increasing information capacity and retention is greater than it has ever been. My own migration from politics and education to research, writing and science was a shift needed in order to bring these kinds of technologies forward. The information revolution is the wave we have chosen to ride and the Flanagan Neurophone® the best technology yet brought forward.

### **3.12. Appendix I The Neurophone® How Does it Work? (pp. 134-137) by Dr. Patrick Flanagan**

While investigating man-dolphin communications in the late Sixties, we succeeded in developing a language translator - a device that translated human speech into dolphin language, and visa-versa. A 30 word vocabulary was developed in the project before it ended. This development required a thorough understanding of the nature of speech, and information theory.

First we made many efforts to model the nervous system, and succeeded in demonstrating that the nervous system uses time ratios as major sources of intelligent information. We then began to investigate timing ratios in speech patterns of both humans and dolphins. Through this process, we found that speech intelligibility was contained in time dominant ratios in the speech waveform. We found that speech quality was contained in dominant frequency ratios. So, the nervous system is designed to recognize two distinct parameters: the time domain, and the frequency domain.

As a result of the knowledge gained in this area, I designed a circuit which suppressed the frequency domain, while amplifying the time domain. This device was so radical in approach that I applied for a patent on it as a specialized speech processor. Six months after the patent was applied for, the National Security Agency (NSA) suppressed my invention under a national security order. My patent application was placed under a secrecy order on August 29, 1968 (order #756,124) by the NSA.

Needless to say I was very disappointed in the patent system. It took four years and three law firms to sue for the release of my invention from this secrecy order. We won the battle, and the secrecy order was rescinded. Patent #3,647,970 was issued on the 7th of March, 1972.

In 1974, two years after I wrote Pyramid Power, I spent the night in the King's Chamber of the Great Pyramid of Giza in Egypt. That night I had an experience of enlightenment, including what is described in Yoga books as a full blown Kundalini Release. It was this awakening experience which helped me connect my speech processing patent to the Neurophone®. It occurred to me that it could be the perfect Neurophone®. When I tried this out, it worked.

The result was the development of the Neurophone® Mk XI which did not require the use of a radio frequency carrier wave. The new Neurophone® worked so well that a voltage of 5 volts generated a signal in the brain that was as loud as the previous device that required a 3,000 volt signal.

The clue as to how the Neurophone® actually works is contained in the skin vibration action which we discovered at Tufts University. The original Neurophone® used a high voltage amplitude modulated carrier wave to create a molecular vibration in the skin itself. The skin became the diaphragm of a biological electrostatic vibrator. The skin is both piezoelectric and opto-electric. That is, when the skin is stimulated by an electric field, or by a photon field, it will contract and vibrate in synchronization with a modulation of the field. If the skin is mechanically stimulated, it will also generate an electric field. In Russia, blind people have been trained to see with their fingertips; and in Czechoslovakia, deaf people have been trained to hear with their fingertips.

The skin is the largest and most complex organ of the living system. As we develop in the womb, all organs of sense perception evolve from the skin. The skin involutes and convolutes to form eyes, ears and other organs of perception. Our research indicates that the skin itself has the latent potential of performing all functions of perception.

The Neurophone® stimulates and makes use of this latent ability. The skin is the organ which receives the signal from the Neurophone®, and converts the incoming signal into a modulated molecular vibration which is then interpreted as sound by the brain. We could theoretically stimulate the sense of sight in a similar way.

We have found that the Neurophone® stimulation also balances the acupuncture meridians, as all acupuncture meridians are present on the surface of the skin,

The Neurophone® converts incoming non-linear acoustic information into a time domain amplified signal. This signal is then transmitted to a pair of high dielectric constant electrodes which are placed in contact with the skin of the head.

The electric field interacts with the skin-electrode combination to create a molecular vibration in the skin which is interpreted by the brain as sound. The result is a new modality for coupling information to the brain, using the skin as the hearing receptor.

Bone conduction vibrators will not work as a Neurophone®, because the mechanical vibratory signal is too gross. The skin must vibrate internally in a synchronous mode in accordance with the time encoded information.

The neural information processing system of the human body is apparently extremely sensitive to time domain information. Doctor Batteau postulated that the nervous system incorporates delay line correlation technology to detect time varied information ratios in a form known as Whitehouse correlation.

The Neurophone® processing circuit processes the incoming complex non-linear audio signal wave-form, and amplifies the non-linearities thus increasing the timing recognition pattern of the signal. In the process, the frequency domain is suppressed. The time-rate-of-change of the incoming signal is thus amplified. This signal is so time dominant, that it can be hard clipped or run through a zero crossing detector without losing any intelligibility.



This time processed signal is then fed to the pair of high dielectric constant electrodes. The signal does not require a radio carrier to work. As stated earlier, the original Neurophone® design had to actually work by brute force, due to the fact that the modulation signal was not processed to increase the time domain signal properties.

As the skin is piezoelectric, and has a dielectric constant in the range of 12,000, the Neurophone® electrodes are made of a ceramic material designed to provide a maximum impedance match to the skin. The entire skin electrode system is a piezoelectric resonator.

### **3.13. Appendix II: Operating Information: The Flanagan Thinkman® (pp. 138-142) by Dr. Patrick Flanagan**

To obtain the best results from your Neurophone® experience, you should spend at least 1/2 hour per day listening to a broad spectrum frequency source in a quiet, relaxing environment. It is best to listen with an increased blood flow to the brain. The preferred position is an inclined plane of 11 degrees with the head down. Testing has shown that most people go into deep alpha within 30 seconds when placed in this position. This state is the most receptive state to listen to the Neurophone®.

The Neurophone® listener can build his own incline plane from a board six feet long, and at least 18 inches wide. The raised end of the board should be supported at a level of 14 inches above the floor.

The electrodes should be placed on the temples, directly behind and slightly above the eyes. Do not place on the hair. Although the electrodes will work perfectly well without electrode jelly, we suggest the use of EEG type electrode jelly, or KY jelly, as this improves impedance matching to the skin.

If you use KY jelly as an electrode cream, smear an even coating over the surface of each electrode, and place the electrodes in contact with the skin.

Later, you may desire to move the electrodes around to experience different sensations. Many Neurophone® listeners prefer to place one electrode in the center of the forehead, on the 3rd eye area, and to place the other one on the back of the neck, or on the hand or wrist.

The sound source for Neurophone® listening can be a cassette player, a radio, or a CD Player. The Neurophone® should be driven from a headphone or a speaker output jack. Your Neurophone® is provided with an audio connector cable with a stereo mini-plug on each end. This will fit most cassette players.

If you want to drive the Neurophone® from another source you may have to obtain a different wire. Your local Radio Shack store will probably have the right one.

In using the Neurophone®, I generally adjust the sound level of the cassette machine to a comfortable listening level as heard through the built in loudspeaker of the machine. I then plug the

mini plug into the earphone jack of the player, and plug the standard phone plug into the input jack on the Neurophone®. Plug the electrode phone plug into the Neurophone® electrode output jack.

Rotate the sound source volume control slowly clockwise. Slowly turn the control up until you begin to hear the tape from your cassette player through the Neurophone® electrodes. Depending on the program material to which you are listening, the sound which you first hear through the Neurophone® will not sound very clear.

This is due to two things:

1. The sound you hear is time domain dominant and,
2. As this is a new listening channel, the brain actually has missing signal processing capability.

If we run a frequency sweep of the Neurophone® while listening, we will find that all of us have certain spectra which are entirely missing from our perceptual ability. That is, in the beginning we may hear a complex sound wave of one millisecond duration (1 kHz), but miss entirely a sound of another domain. As we listen through the Neurophone® to complex sound information, the missing ranges are programmed into the brain-Neurophone® circuit.

After listening for as little as 30 minutes, the sound begins to take on new qualities. The sound appears to move around in the head, and take on new dimension as we program our psychic brain centers to receive the new signal input. The more the Neurophone® is used, the clearer it gets. I recommend electronic music tapes in the beginning, such as the astral sound tape.

The skin vibration of the new Neurophone® is so great that you may also be able to hear the skin vibrating through your ears. If you are using the Neurophone® as a learning tool this extra brain input can be useful since learning is enhanced by multiple channels into the brain.

Other people in your environment may hear the vibration of your skin as you use the Neurophone®. This is perfectly natural.

In the near future, we will begin to produce cassette tapes and CD's designed to be used only with the Neurophone®. The Neurophonic software tapes will cover many different categories from: Psychic Center Stimulation to Subliminal Learning Programs. We will notify Neurophone® owners as these tapes become available for purchase.

In the beginning, it is not necessary to use special tapes, as the object is to develop the latent channel through which the Neurophone® works. This may be done by listening to white noise (waterfalls) or your favorite music tapes.

Neurophone® stimulated perceptual enhancement increases as you use your Neurophone®. This experience is similar to the meditation experience of transcending. These periods of extreme clarity become more and more pronounced as you put hours on your Neurophone®.

Changes in perceptual awareness are not gradual. Progress is in the form of discrete steps. What may appear to be a gradual altering of consciousness is actually a series of stepped graduations. We may plod along thinking we are making no forward progress, and then, at that point in time where we feel we want to give up, we experience a quantum leap in awareness. One of the most common awareness changes with the Neurophone® effect is an increase in telepathic awareness. Although this cannot be turned on at will, instances of its occurrence will increase in frequency as time goes on.

Please keep a diary of Neurophone® of listening, and make note of any change in awareness, dreaming, or unusual perceptual changes. We would like all Neurophone® owners to send us a monthly research report or diary of experiences. This is important data which will enable us to share with you all experiences, and fine tune the Neurophone® experience. Keep note of your actual listening time, and listening material. If you experience any change in consciousness or awareness please write it down. Others would like to share your experience.

It may be possible to make a mind-link between two or more people by using Neurophone® technology. We have experimented with this process and believe that it may be possible to learn directly from the mind of another person by means of a Neurophone® mind-link. We have succeeded in creating mind links on several occasions. This may be a promising area for future Neurophone® research. The technique may be best accomplished by using computerized Neurophones® which are in the process of development.

This linking could be done in a number of ways. The Soviets had established that an EEG machine of only 16 channels could pick up the entire consciousness of an individual. All that is then necessary is to feed the data into the mind of another by means of a multi-channel Neurophone®. The Neurophone® would then become an electronic corpus collosum between the minds of two or more people. The corpus collosum is the brain bridge which links the two sides of the brain. The Neurophone® becomes this bridge between two people, a new medium for communications linkages.

### **3.14. Appendix III: Quick Start: The Flanagan Thinkman® (pp. 143-145) by Dr. Patrick Flanagan**

The Flanagan Neurophone® consists of a signal processing box with an on/off switch, an input jack and an electrode output jack.

The Flanagan Neurophone® does not come with a battery. Before using the device open the Flanagan Neurophone® box by removing the two screws which are in the bottom of the device. Carefully lift off the top of the box and connect a standard 9 volt alkaline battery to the battery clip provided found inside. Close the box and replace the screws. You are now ready to use the Flanagan Neurophone®.

Any audio source can be used with the device. A tape player, CD player or other sound generating device needs to be connected to the Flanagan Neurophone®. There is a 1/8" connection cable provided with the device. Connect the cable to the stereo headphone output jack on the tape or CD player. Connect the other end of the cable to the receptacle marked "In" on the Flanagan

Neurophone®. Make sure the audio volume control on the tape or CD player is turned down when starting up the device. The electrode headset provided with the Flanagan Neurophone® is then connected to the receptacle on the device which is marked "Out".

Wet the electrodes with tap water or KY Jelly and apply the electrodes to the temples of the head right behind the eyes. Make sure the electrodes touch the skin and that hair is not trapped between the skin and the electrodes. In order for the Neurophone® to work properly, the electrodes must touch the skin.

Turn the switch located on the back of the Flanagan Neurophone® to the " on" position. A dull glow from the light emitting diode on the front panel of the Neurophone® will signal that the device is working and that the battery is providing power.

Slowly turn the volume control of the tape or CD player up until the sound is heard comfortably through the Flanagan Neurophone®. Turn the volume up to the point where the sound becomes distorted and then turn it down until it is clear and loud. The signal may not be very loud initially.

Use the device one hour a day for a week. During the week the signal will increase in clarity and volume. At the end of this first period of use the volume will reach a 95% volume efficiency level for the individual user. Keep in mind that the signal although weak initially will strengthen during this period of time. Also, remember that sometimes no signal is heard when the device is activated and it may take up to an hour before the first sound is noticed (this is common when deaf persons and others have first used the Flanagan Neurophone®).

Since the Flanagan Neurophone® works through the skin, it is important not to try and "hear" through the ears. As you relax and pay attention to the Flanagan Neurophone® signal, you will develop the ability to hear through your skin. As the skin pathway is developed, the signal will "fill out" in frequency response and your sensitivity to the device will increase. It is helpful when first using the device to plug your ears so that the focus on the internal hearing can be reinforced.

Note on the Electrodes: Do not try to pry the piezo-elements off of the electrodes. This will damage the unit and void the warranty. Do not touch the metal electrodes together for an extended time. This could also damage the electrodes. When the electrodes are in contact with the skin, an electronic circuit is completed that makes the skin a part of a piezoelectric circuit in which the electrodes and skin vibrate. The Flanagan Neurophone® works by causing a vibration in the skin. People who are next to you will be able to hear your skin vibrate in accordance with the Flanagan Neurophone® signal.

Let us know what you experience. We appreciate the feedback of users as this increases all of our knowledge of the various ways which the Flanagan Neurophone® can be used.

Enjoy the first generation of the Millennium sound.