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Integral Energy Psychology

Phillip W. Warren, B.A., Ph.C., Professor Emeritis, A.P.O.E.C., Cert.Edu-K.,CC-EFT

4459 52A St., Delta, B.C., V4K 2Y3 Canada

Phone and voice mail: (604) 946-4963. Toll free North America: 1-866-946-4963

EEmail: phillip_warren@telus.net

Website: www.rebprotocol.net

U.S. mailing address: P.O. Box 1595, Point Roberts, WA 98281-1595

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THE INFLUENCE OF RHYTHM, SOUND AND MUSIC: SOCIAL, CULTURAL AND PSYCHOPHYSICAL PERSPECTIVES©

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A. INTRODUCTION

"There are human societies so simple and unadorned as to possess no clothing other than the loincloth, no tool other than the stick or stone, no permanent dwelling place, no carving or other plastic art. But nowhere on this planet can you find a people without music and dance... A humanity without music is not just inconceivable; it is impossible." (Leonard, 1978, pp. 1-2) But when there comes the budget crunch in education guess what gets targeted as frills so that "we can concentrate on the basics"?

One of the paradoxes of modern life is the lack of awareness among ordinary people about the influence of music and sound on their lives. This may sound strange when you look at the money spent in this field. However, there is great need for much more "Sound Awareness and Sound Health" (Halpern & Savary, 1985). While many today unquestioningly consume whatever noise, sound and music is being fed to them by the sound generators, others are beginning to ask questions. I hope you become one of them. People in the influencing business (creators of advertising, background music for films and TV, the "Muzak" bunch) as well as promoters of popular music (mainly rock and kindred types) are quite aware of the importance of music and sound to create various effects. (Halpern and Savary, pp. 93-96) To discover the impact of music on your emotions and perceptions, turn off the sound on one of the popular horror/suspense films and see what effect vision only has on you. You will no doubt discover that without sound/music the suspense parts are dull.

When comparing being blind to being deaf, many feel that blindness is more traumatic. However, Helen Keller once said that blindness cuts you off from the world of things while deafness cuts you off from the world of people. There is a much stronger feeling of isolation with deafness.

There are healthy and unhealthy sounds and vibrations and you need to know what they are and take responsibility for your "Sound Environment". This is even more important than other senses since you can easily close your eyes or refuse to ingest some substance with your mouth. However, you have no "ear lids" and so they remain open and working even while you sleep. Unless you deliberately plug or mask your ears, you are ingesting and digesting sound in one form or another all the time. It's as if you were forced to eat (ingest and digest) whatever food (e.g. the leftovers in a restaurant) was in your immediate environment. You would rapidly become ill and grumpy.

To continue with the analogy of food, most of you know there are definitely healthy and unhealthy foods (even if you don't always follow your own good advice!!). Fewer people realize that certain foods serve specific purposes so that, depending on what you want to do, you eat a certain type of food. The same can be said of sound and music. A steady diet of the sound/musical version of "Candy, Pop and Fries" will make you physically and mentally sick and contribute to stress, tension, headaches, nausea, hearing loss, disturbed sleep, poor digestion, irritability, lack of concentration and hyperactivity. Nasty stuff! However, you CAN listen to music and sound that facilitate relaxation, concentration, learning, creativity, meditation, muscle flexibility, mood levitation and self-healing.

1. Vibrations, Resonators and Entrainment

To understand how sound effects you physically, mentally and spiritually, it is necessary to understand the above three concepts. According to both modern physical and ancient mystical theory about the fundamental nature of reality, there is really nothing solid. One could say that all is vibration (or sound when the vibration gets to between 50 and 20,000 cycles per second). Matter is basically structured or patterned vibrations. The apparent solidity of matter is a function of your abilities to relate to it. Your senses limit your experience to certain definite vibrational frequency ranges and you are not aware of vibrations outside of these ranges. At one time it was believed that atoms were the basic "units" of "solid" matter. Even though the distances between atoms were huge (relative to the atom's size) the atoms themselves were thought to be solid. Then sub-atomic physics found the atom to be made of even smaller "units". As physics delved into smaller and smaller "units" they found less and less solidity. "Things" were not acting at all "thing like". Sometimes they behaved as waves and at other times as particles. Thus, everything vibrates or oscillates (i.e., vibrates in a regular periodic manner). "Atoms are harmonic resonators...all subatomic particles can be theoretically considered as being nodes of resonance. *In other words, some scientists are beginning to regard the atom as a kind of tiny musical note.* (Tame, 1984, p.219, italics in original)

Oscillators produce vibrations in a regular periodic manner. If there are 2 or more tuned oscillators in an environment and they communicate their vibrations (energy waves) to each other through some medium, these oscillators will become synchronized (exhibit coherency) through "sympathetic resonance". The energy transfer of two or more tuned oscillators creates a resonant system. It takes much less energy to pulse in cooperation than in opposition. For example, in 1665 the Dutch scientist Christian Huygens noticed that old-fashioned pendulum-type clocks hung on the wall would swing together in precise rhythm, far beyond any attempt to bring this about deliberately. If you start each of their pendulums beating at a different angle out of phase with each other, in time you will find them all beating together. The very small amounts of vibration from each clock is transferred through the wall to all the other clocks and soon, if properly tuned to each other, they will all be ticking and tocking together. This whole process is called "Entrainment" (not entertainment!).

All living things, since they are part of the universe, are oscillators in that they vibrate rhythmically. When we use metaphors of "Getting in tune with something or someone" or "Picking up on someone's vibes" and so on, they are far more literal than most people realize.

2. The Effects of Volume

There is a general awareness that loud sounds are not healthy but even here many underestimate the damage. High volume rock concerts, for instance, are popular, even when people have "temporary" deafness and ringing ears afterwards. Now, with the "wonders of technology" you can have your own personal rock concert blast into your ears with a devastating intensity through the use of a "WalkPerson" (the generic non-sexist version of "Sony Walkman") type setup. There is increasing evidence from all over the world that people who subject themselves to this auditory assault are creating deafness for themselves (one advantage is that you need not bother with reproduction equipment that produces high frequencies since your ears have had the receptors for these sounds stripped and so you can't hear them no matter how much money you spend). In North America, Japan, Sweden, British Isles etc. many young people tested have hearing acuity no better than people between the ages of 60-70! That means that before you start adult life you have "retired

hearing"! (Halpern & Savary, 1985). This also applies to classical orchestra players who can be immersed in loud classical sounds for 40 hours each week. So, anyone who is subjected to high volume sound, whether by choice or accident, has suffered a hearing loss in varying degrees.

The measure of sound intensity (experienced loudness) used is the Decibel (dBA). The quietest sound the average person can hear is one dBA. The dBA scale is not like a yardstick. It is logarithmic so that while 90 dBA is equal to the sound of 1 train roaring into a station, 100 dBA equals the sound of 10 trains, and 110 dBA represents 100 trains. The sound that registers 100 dBA is 1 BILLION times more intense than 1 dBA. You can be exposed to a fairly steady diet of about 75 dBA (typical of busy traffic or a 100 guest cocktail party) without risk of hearing loss. When you get to 80 dBA or higher, then you are being damaged. This dBA level includes such things as a window air conditioner, diesel truck, electric shaver, screaming child (children!). The range of 100 dBA include jackhammer, chain saw, inside a subway train, motorcycle, power mower. A typical live rock concert or disco is between 90 and 130 dBA (Halpern & Savary, 1985). There is a reported fad of taking raw eggs to a rock concert and placing them at the foot of the stage. Midway through the concert the eggs could be eaten hard-boiled as a result of the music! If the sound can coagulate the protein in an egg, think what it does to your body! (Tame, 1984, p. 138)

3. Objective Effects of Types and Styles of Music

Thus, there is general agreement that loud music and sound of whatever type is not healthy. There is also objective evidence that the type of music/sound has physical and mental influence. There is practically no body function that is not influenced by musical tones (not just volume). The branches of the auditory nerves are more widely distributed and have more extensive connections to the rest of the body than any other nerves. In the part on "Tomatis Sound Therapy" (Joudry, 1984) I will describe how the ear, when properly "fed", serves to "tone up" your whole body providing greater life and energy as well as regulating the quality of your speech and voice.

The effects of music are manifested directly, as an effect on cells and organs and indirectly, through the emotions which in turn influence many body processes. Music causes a constant change of tension and relaxation in many parts of the body. Isolated tones, scales, melodies and rhythms all influence the energy in the skeletal muscles (Tame, 1984, p. 137). Music can change metabolism, raise or lower blood pressure, influence digestion, change the speed and regularity of the heart beat, release excitatory chemicals into the blood stream and even cause an epileptic seizure in certain individuals (Tame, 1984, pp. 138-140).

There is OBJECTIVE evidence that some types of music are inherently unhealthy and bad. In order to get around acquired preferences (you can learn to like all types of things that are not good for you!), I quote from research using lower animals and plants to test the effects of types of music on their health. Rats were given free run of two separate boxes; in both there was music at the same dBA level. In one there was Bach and the other had rock music. The rats spent their time in the "Bach box". Since I doubt that the rats really understood the esthetics of music, this is evidence that, on a basic biological level, there is a definite preference of one type of music over another. Other experiments have shown that certain types of music cause hens to lay more eggs and cows to give more milk.

In relation to plants, seeds of wheat can be made to grow faster and up to three times larger, made more frost-resistant and yield more grain when treated with specific tones. Bach's Brandenburg Concertos played for geraniums made them grow faster. A matched group of geraniums had the

dominant frequencies of the music played for them without the rhythm, melody and harmony of the original Bach and they did better than the group with no sounds at all but not as well as the ones who "heard" the complete music.

Three hours daily of acid rock was found to stunt and damage squash plants, philodendrons and corn in under four weeks. Petunias "listening" to semi-classical music bloomed well and leaned towards the speaker while those "listening" to rock music didn't bloom at all and leaned away from the speaker. Within a month they were all dead! In another series of studies, beans, squash, corn, morning glory and coleus plants were exposed to various types of music or silence: Lead Zeppelin and Vanilla Fudge (rock), Modern classical-atonal music and placid devotional music. Compared to no music, the rock was the most damaging followed closely by the modern classical-atonal music. The devotional music produced healthier plants than silence. Constant exposure to non-modern classical music (e.g., baroque, classical and early romantic) caused plants to grow at twice their normal speed. This was found to be due to the increased motion in cellular protoplasm (the basic building blocks of life). One surprising discovery of this research was that later generations of seeds of musically stimulated plants carried on the improved characteristics of their parents. The music had apparently changed the plants' genetics!! (Tame, 1984, pp. 141-145).

4. The Effects of Music on Human Mind, Emotion and Society

The above type of research demonstrates that the effects of types of music are objective and not dependent on subjective preferences. This idea is actually very ancient but has been lost with the rise of 19th century materialistic thinking and the machine mentality. In China, India, Egypt and Greece several thousand years B.C. the use of music and sound was very common to influence inanimate, sub-human and human conditions. They claimed that different types of music are *inherently good or bad* and that certain combinations of tones are objectively life-enhancing and others are unhealthy and dangerous. Good music gives life; bad music gives death. *Every moment of music to which you subject yourself may be enhancing or taking away your life-energies and clarity of consciousness, bit by bit.* This is discussed at length in Tame's book The Secret Power of Music: A Study of the Influence of Music on Man and Society, From the Time of the Ancient Civilizations to the Present. He claims that the current world crisis is, at least in part, caused by the types of music that are preferred by the people. *"...a society's very conception of the nature of music is itself conditioned by the entire general philosophical viewpoint upon which that society is based...The modern notion (or lack of notion) of the phenomenon of music is, in short, the inevitable result of the current materialistic-reductionist world-view...Almost every form of twentieth-century music is utterly devoid of genuine regenerative spiritual value...From down the decades there comes a warning to us on the dangers of wrong types of music...it is precisely, absolutely at this point that twentieth-century man departs from the viewpoint held by virtually every thinking person from ancient times right up to the nineteenth century.* Possibly the greatest weakness of the modern materialistic outlook on the world is its inability to perceive the causes behind effects...the philosophers of ancient China, India, Egypt and Greece would have agreed with Thoreau, that music can destroy civilization. They explained in some detail what kind of music should prevail in order to maintain the stability and welfare of the state, as well as the happiness, prosperity and spiritual advancement of each citizen. Further, they warned in similar detail what kind of music should be rigorously avoided because of its destructive, degenerative effects upon man and nation." (Tame, 1984, pp. 28-30, italics in the original). (listen to the audio cassette McClellan, 1985, Music as a Healing Force)

There is a counter movement a-foot (or better "a-ear") to use music to increase pro-social behaviour among young children which might inoculate them against the anti-social aspects of the broader culture and the tyrannical teen-culture. Ingrasci (1988) reviews some of these programs (see the list under "Children's Music" in the bibliography). One of the most sophisticated and complete programs is that of Janeen Brady's Bright Music programs. Standin' Tall is a 12 cassette program with accompanying story/activity books. The topics dealt with are: Obedience, Honesty, Forgiveness, Work, Courage, Happiness, Gratitude, Love, Service, Cleanliness, Self-esteem, and Dependability. That pretty well covers the subject!! Other sources are the very popular Canadian folk singer "Raffi", Sally Rogers' Peace Pack series, the Canadian trio Sharon, Lois, and Bram, the Seattle based Tickle Tune Typhoon, Roberta Scotthorne's programs as well as Windham Hill's series called "Storybook Classics" which pairs celebrity narrators with new age musicians. "The results may be captivating enough to woo a child away from the television." (Ingrasci, 1988, p. 63)

To test the effects music has on your mood and emotions, Halpern and Savary (1985) recommend this exercise (p. 93): Using two vowel sounds "O" and "Ah", and going in two pitch directions (up and down) try the following for each vowel sound:

1. Sing a steadily ascending glissando (sliding like a siren up the scale.)
 2. Reverse the process by singing a steadily descending glissando (sliding down the scale.)
 3. Notice any subtle emotional/mood differences in either the direction or the vowel sound.
- Very simple and basic musical elements can produce specific emotional effects.

5. An Exercise in Sound Awareness

One of the problems is that your mind can learn to ignore unwanted sounds but your body can not (Diamond, 1979). Halpern and Savary recommend that you become aware of your "Sound Environment" by sampling some typical situations you find yourself in as follows (p. 5):

Select some important life situations and in each situation just sit quietly for at least 5 minutes and list each different sound that you hear. Next to each sound on your list put a "W" (for a welcome sound) or "U" (for an unwelcome sound). You will probably be surprised. Halpern and Savary describe one person who listed only one "W" sound. All the rest were "U's" (motorcycle, refrigerator hum, buzz of air conditioner, rumble of passing truck, squeaky floorboards in the apartment above, telephone ringing, neighbors talking etc.).

You may be more sound sensitive than the average person and be able to distinguish between very subtle sounds and volumes, or react very strongly to sounds (especially unpleasant ones), or clearly experience sound effects in your body and so on. If so, then "Sound Awareness and Control" is all the more important to you.

The awareness of sound needs to be extended to your entire body and not just focus on your ears. As indicated above, your entire body is influenced by sound and vibrations, both through the hearing system and directly as pressures from sound waves on your organs. Since all aspects of the physical universe are vibrational, your body is also. Oscillating and rhythmic wave forms are the fundamental reality, not "hard solid matter". All the cells in your body have vibratory properties and hence are capable of being a receptor of vibrations and sounds. Since you are typically unaware of these effects they can occur when you are not consciously paying attention to the incoming influences. Your body constantly responds to these vibrations even though you're not aware of them. Certain unnoticed sounds and vibrations can have strong effects on you down to the very

marrow of your bones. Your environment has universally distributed but unnoticed vibrations beyond the threshold of hearing. The most common involve the ordinary 60 cycle alternating current of electrical wiring but there is also the humming of fluorescent lights or the 15,575 cycle per second whine of many TV sets. Your body is actually a living bio-oscillator and you share this planet with all these vibrating electromagnetic currents. This has been referred to as "electromagnetic smog". Since your whole body responds to these vibrations, not just those that are picked up by the ear as ordinary sound, it is important to be aware of these influences. Unfortunately, with the increasing technological sophistication of life, the side effects of "electromagnetic smog" are becoming more common.

Your whole body vibrates at a rate of about 8 cycles per second when you are in a natural relaxed/alert state (the so called alpha state). It is interesting that the planet itself vibrates at this same fundamental frequency. The phrase "Being in harmony with oneself and the world" is more than a poetic image (see Bentov, 1977 and Leonard, 1978). Thus, the more successful you are in creating an environment where the vibrations--whether electromagnetic, mechanical or musical--are in harmony with the vibrational patterns of your body, the greater will be your energy, happiness and health. (Halpern & Savary, 1985, p.38)

To bring some reality to the fact that different parts of your body respond to vibrations at different rates, Halpern & Savary recommend the following "Sound Experience" (p. 41):

Be relaxed and sing the vowel sound "ah" comfortably and loudly at three different pitches--low, medium and high. At each pitch, close your eyes and with your hand feel where in your body you seem to experience this tone. Move your hand around. If you are relaxed, some parts of your body may begin to vibrate. Most people feel the low note resonating in the lower parts of their body, the middle note resonating in the chest cavity and throat and the high note in the sinus cavities and head.

6. Sound Principles

In chapter 12 of Halpern and Savary's book they summarize the general field of "Sound Health" in terms of general principles to use in evaluating the impact of sound on your health.

The Principle of Beneficial Sounds: Your body can tell the difference between helpful and harmful sounds even if your mind/ego can't. Even when you "enjoy" a certain piece of music, it's possible that the piece is harmful (think of the food that you "enjoy" but know is not good for you). There may be times when you feel bored by a piece of music but your body is receiving benefit. "Nourishing" music can be found among a variety of types. The secret is to pay attention to what's happening to you and your body as you listen. This implies a new criterion for judging music and sound. In general, different music produces different results and there is no one type for all purposes. The emphasis here is not "Does it entertain?" but "Is it healthful?"

The Principle of Performance: It is important to pay attention to the particular performance of a selected piece of "health music" for its ability to produce energy, harmony and balance in you. Not all performances are done with love or empathy or energy. This quality is difficult to define but differences in performances of the same piece which are technically equally good but differ in the elusive qualitative factor do produce different body effects. Manfred Clynes (1977, Sentics: The Touch of Emotions) says that performances differ in touching what he calls the "inner pulse" of a piece. Diamond (1981) stresses a similar idea. The idea is that the music itself, as written, has its

own true inner pulse. When the performers are in touch with this inner pulse the resulting music has the qualitative inspirational edge that merely proficient performance does not reach.

The body test that Halpern and Savery (1985, p. 128) recommend is simply to take a relaxed posture and watch your breathing as you listen. If you are breathing more shallowly and randomly, it is likely that the attunement is not happening. If you are breathing more deeply and regularly, the performance is probably in resonance with the pulse of your body. (see also Diamond, 1981, p. 14)

The Principle of Music and Energy: Music and sound can be used as sources of energy and as ways to correct energy imbalances in your body and mind. The evidence suggests that music/sound is able to activate basic life-energy, to stir emotional energy, to balance the activity of the brain hemispheres and can act as both analgesia and an anesthetic. This use of music/sound as healing and energizing forces is available to you without a prescription!!

The Principle of Consciousness and Change: Under proper conditions listening to music/sound becomes a versatile tool for exploring different states of consciousness. The idea is that growth, change and improvement happen because you become aware of the possibility and take action to bring it about. One of the nice things about using music/sound for this is that they make this process much easier and more pleasant; almost effortless. Also, it is important to realize that different types or states of consciousness serve different purposes. Taking the same approach to every life situation is like only having a hammer to build a house. As the saying goes "If the only tool you have is a hammer, you treat everything like a nail." Music/sound helps you enter into metaphoric and intuitive states of experience and facilitates imagination, creativity and memory. Helen Bonny's "Guided Imagery and Music: GIM" emphasizes this capability in a therapeutic setting.

The Principle of Individuality: In making your "sound diet", your needs and tastes must be taken into consideration. I refer mainly to body needs and not ego/mind. The bottom line in listening to music for health is your own "response-ability." It is your responsibility to tune into your own tastes, moods and biology. Find out what music/sound works best for you. For instance, in some situations, I personally find any music distracting and prefer the sounds of ocean waves. At any rate, music/sound that works well for someone else may not work for you and music/sound that works for one purpose may not work for another purpose.

7. Harvey's Music & the Brain Series

An excellent overview of the current field of psycho-physical responses to music and sound is the seven tape series by Arthur W. Harvey of Eastern Kentucky University. The series is available in both video and audio formats for a minimal cost of dubbing and tapes. Harvey, in conjunction with his own organization (Music for Health Services Foundation) and the university have sponsored "Music and Health" conferences (the first was in 1986 and the second in 1988); more of them in the section on music and healing.

The descriptions of the seven tapes, taken from their brochure, are as follows:

Tape 1: Human Responses to Music (28 mins) is an introduction to the relationship between music and the brain. Demonstrations and explanations of the elements of music (Rhythm, Melody, Harmony, and Form) show how musicians affect individuals psychologically and physiologically. Dr. Arthur Harvey presents his original "Response to Music Inventory" which provides a description of 4 types of responses human beings exhibit.

Tape 2: Therapeutic Applications of Music (28 mins) gives an overview of the therapeutic applications of music by examining how music evokes emotional responses. A basic introduction to hemispheric brain functions is presented with discussions of both rehabilitative and preventive uses of music as therapy. Attention is given to symbolic uses of three elements of music that strongly affect mood changes--volume, tempo and dissonance.

Tape 3: Uses of Music (30 mins) presents an overview of the differences among the three general uses of music: FUNCTIONAL--when music is used for non-musical purposes. THERAPEUTIC--when music is used to provide a means for expression or release of feelings. AESTHETIC--where the primary purpose for experiencing music is to respond to the intrinsic elements. Demonstrations illustrate how variations in musical elements produce changes in effects of music upon individuals in many situations.

Tape 4: Music: Conscious and Unconscious Effects (28 mins) is an exploration of how music is perceived consciously and subliminally. Positive and negative implications of the subliminal applications of music are included. How music evokes imagery is explored and illustrated with musical examples.

Tape 5: Left/Right Brain Concepts & Music Perception (29 mins) presents an overview of new scientific research that has provided the basis for understanding hemispheric specialization of the brain. A description and illustrations of musical elements and how the brain perceives them, serves as a foundation to further understand the 4 different kinds of responses to music that are affected by different divisions of the brain and how they control the music response.

Tape 6: Powerful Potentials for Music and the Mind (29 mins) explores the biophysical aspects of music processing as they relate to neurological and endocrinal influences of music and the resultant immunal responses. Resources and possible future directions for positive applications of music are discussed.

Tape 7: Prelude to the Future (31 mins) presents applications of music for healing by relating the criterion for selection to various hospital settings. The potential for using music and other creative arts in personal healing outside institutional settings is examined.

8. High Life Energy Performance and the "Inner Game of Music"

The Life Energy in Music

It is generally recognized that there are subtle differences in the level of performance; for instance those that are technically excellent but lack "soul" or "inspiration". Diamond, in his work with the relationship of music to life energy, talks of "high energy" performances which, paradoxically, may be lacking in technical sophistication. "The basic purpose of music is to be therapeutic, to raise the life energy of the listener. This simple yet profound truth seems to have been forgotten in this era which acclaims technical virtuosity and sophisticated musicology." (Diamond, 1981, p. 7)

His "New System of Aesthetics" is "...a system of musical judgment and appreciation which concerns itself with the basics of music, not the superficialities. A system which asks and answers the questions, 'Does this music raise our life energy?'...[at his organization, the Institutes for the Enhancement of Life Energy and Creativity-IELEC- they have tested the life energy impact of

many types of music.] Using specific testing on listeners, we have been able to delineate the degree of life energy enhancing qualities of most composers, and even the changes of energy as their musical lives progress. We can also delineate the precise degree of life energy enhancing qualities of the performers on all instruments as well as singers and conductors." (p. 11)

One of the tests is the "Respiratory Energy Spontaneous Pulsation" (RESP) test; that is, the audience's breathing together in unison. When the performer is in "synch" with the inner-pulse of the composer (see Clynes' research on the pulse of various composers), the performance will be of high energy and the audience will be breathing in unison. With a low energy performance, the artist is not in tune with the composer's "pulse". Because the performer's stress and ego prevents this identification, the result is a low life energy, non-therapeutic, performance which is reflected in the lack of unity of the RESP. (see also Halpern and Savary, 1985, p. 128) "By today's standards we may say that any of the major concert artists have good technique. But there is something more which is irrespective of the technique [within limits]. They must be unstressed by their performance, for only then can they give of their hearts. When this occurs, we will receive with the heart. The communication will be...from heart to heart...if the heart is there, the music can live on inside us and we can grow." (p. 14)

When professional musicians are asked what they think about when they are performing, many "fear that dreaded curse, the wrong note. [see "Rong Noats" in Diamond, 1983, p. 147]...Many of them are thinking narcissistic thoughts...Some think personally about certain members of the audience...At times, many of them think thoughts which have nothing whatsoever to do with the music...Their playing is purely mechanical. I find that very few of them are actually totally immersed and at one with the music...It is rare to find a total surrender to the glory of the music." (Diamond, 1981, pp. 55-56)

This criterion of music as therapy for performers is of course common in music therapy. One ironic result of the usual approach to performance instruction (the proverbial "music lesson") is that the act of instruction makes the performer non-therapeutic and stressed. The performer and the listeners suffer from this. The unique remedy proposed by Diamond is to use a VERY simple wind instrument: the Didjeridu. "Wind instruments have proven to be the most therapeutically valuable because the breath is personal, immediate and an integral part of the sound itself. This enables the patient to become very personally involved with the actual sound, which is my goal for him. But as soon as he decides to play an instrument, the left brain takes over, defeating part of the purpose. If he goes to a teacher he is given rote instruction...He learns dexterity exercises which have no pulse or life in them. He is told that a note is 'wrong' and that he must try harder. The instrument ceases to be therapeutic for him. Instead it becomes, as it is for the teacher, another piece of work, another left-brain task in our left-brain world. So I always suggest that, at least initially, the student get acquainted with the instrument on his own, guided by a simple instruction book. But people are so conditioned that music must be 'right' that they become frightened at the thought of doing it on their own...They are captives of their left brains...

"At last I have found the ideal instrument to recommend to them. It is the Didjeridu of the Australian aborigines. This is a hollow, somewhat conically-shaped section of the trunk of a small tree. It is about three to four feet long and about two inches in diameter. It has no keys or finger holes. It produces two long carrying tones, supplemented by the use of vowel sounds and tonguing. A very satisfactory substitute...can be made from plastic tubing...[W]hen one listens to recordings of the Australian aborigines or of Stuart Dempster, the great...trombone virtuoso and Didjeridu

aficionado [listen to The Didjeridu cassette tape by Dempster and Diamond], one realizes the enormous range of expression of which it is capable.

"Why is this instrument so beneficial? Primarily because there is no 'right' and 'wrong' with it... Within a very few minutes anyone can be playing it, but of course not as well as the aborigines or Stuart Dempster. Within a short period of time, anyone can be expressing himself musically with his breath from his soul... There is pure release--and pure enjoyment. It is a whole brain activity." (Diamond, 1981, pp. 105-106)

The Inner Game of Music

The Inner Game approach of Gallwey is an elaborate instructional system to replace, in music, the classic "music lesson" which many remember with mixed feelings, if not intense dislike. It is the attempt to introduce the soul back into music performance at all levels. Barry Green's The Inner Game of Music applies to music performance and instruction, Gallwey's principles of "natural learning" which he has used extensively in sports.

"...[S]ports and music share similarities that are relevant within a learning context. People 'play' sports and 'play' music, yet both involve hard work and discipline. Both are forms of self-expression which require a balance of spontaneity and structure, technique and inspiration. Both demand a degree of mastery over the human body, and yield immediately apparent results which can give timely feedback to the performer. Since both sports and music are commonly performed in front of an audience, they also provide an opportunity for sharing enjoyment of excellence, as well as the experience of pressures, fears, and the excitement of ego involvement.

"The primary discovery of the Inner Game is that, especially in our culture of achievement-oriented activities, human beings significantly get in their own way. The point of the Inner Game...is always the same--to reduce mental interferences that inhibit the full expression of human potential. What this book offers is a way to acknowledge and overcome the obstacles in order to bring a new quality to the experience and learning of music.

"...[M]uch of the self-interference in the practice of sports originated in the way they were taught. The Inner Game...presented ...techniques for heightened performance...without the normal frustrations and self-judgments that tend to take the joy out of learning and playing...

"In The Inner Game of Music Barry Green has translated these methods in a way that promises to bring new life and learning possibilities to [music instruction] ..Barry's commitment to making a difference in the way music is learned takes this book out of the realm of clever theory. It is...a practical guide for improving the quality of music experience...[I]t is an exploration of new possibilities and a guide to be used in your own style of learning. It is an invitation to let go of some old 'rules,' and to trust increasingly in your innate powers of learning...

"Musicians at all levels of experience demonstrated dramatic shifts in the quality of their music performance, even after brief instruction... The same mechanism for heightened performance is a work in both sports and music, where over teaching or over control can lead to fear and self-doubt.

"...[T]he very essence of music is the expression of the self. It needs a milieu that is conducive to reaching into one's source of creativity and that allows for freedom of expression. Just as the end product of the study of music is enjoyment, virtuosity, and inspiration, the actual process of

learning and teaching can yield the same quality of experience." (Gallwey's introduction to Green, pp. vii-x)

The Two Games: Outer and Inner

In all types of performance, there are two games. The outer game is the one that is seen directly by others, with opponents, contexts, external obstacles etc. The goal is to win or excel or be better than the others. However, "...you are also playing a second, or 'inner,' game all the time you are playing the 'outer' game. This second game is subtler, less easily noticed, and more quickly forgotten. It is played out in the arena of your mind. The obstacles are mental obstacles...

"These two games, the inner and the outer, are closely interrelated--and each one has a considerable impact on the other. It simply isn't possible to engage in any human activity without playing both games. The problem arises when we are playing both games but think we are only playing the outer game. These are the times when...'the game ends up playing the person,' rather than the other way around.

"In this book we shall concentrate on playing the Inner Game of Music...We will be asking you to let go of your outer game concerns, and to concentrate on developing your Inner Game...[S]uccess in the Inner Game is very often the deciding factor between success in your outer game and failure...[T]he Inner Game is a fascinating game in its own right--and the only game that can be 'applied' to all other games." (Green, 1986, pp. 10-11)

Inner Game Basics

The Performance Equation: $P = p - i$. 'P' is your performance, the result that you achieve. 'p' is your potential ability. 'i' is your "self-interference" capacity. Most people try to improve 'P' performance by improving 'p' ability through practice and learning new skills. The Inner Game approach focuses on reducing 'i', the self-sabotage or self-interference part of the equation.

Self 1 and Self 2: Self 1 is the interference part of your personality while "Self 2 is the vast reservoir of potential within each one of us...a virtually unlimited resource that we can tap and develop. Left to its own devices, it performs with gracefulness and ease." (Green, 1986, p. 16) In my Unit CSS: Curing Self-Sabotage in Learning and Life, this aspect is dealt with under self-defeating self talk and inner voices.

The P.E.L. Triangle: "The three areas...performance (achievement), experience (including enjoyment), and learning--all compliment and add to each other..When the outer game goal of performance is balanced by the Inner Game goals of experience and learning, we are more likely to succeed in each of these three areas...In order for us to reap the full benefits of anything we are doing, it is important for us to be aware of three things:

- ∞ the quality of our experience while we are doing it
- ∞ what we are learning as we do it
- ∞ how close we are coming to achieving our goals." (Green, 1986, PP. 26-27)

Awareness, Will and Trust: "Playing the Inner Game is a matter of developing three skills: awareness, will, and trust. These skills in turn help us to achieve relaxed concentration, the 'master skill' that allows us to balance and heighten the P.E.L. triangle...Awareness is...in many ways the

most fundamental. When our perceptions are filtered through our ideas of right and wrong, good and bad, we seldom see as clearly as when we are in the non judgmental state of pure awareness...When we are simply aware, without judgment, of the degree to which the outcome of our acts matches our intention, a natural learning takes place...But when our judgments come into play, we usually try to figure out 'what went wrong,' and then overcompensate for our errors...[this is the "error correction error"]

"Will is...both the direction and the intensity of your intention...Will works through trial and error. It uses the feedback that awareness gives to improve its aim.

"It takes trust to allow simple awareness to take place, without immediately bombarding yourself with criticisms and judgments. It takes trust to explore the will's trial-and-error approach. Above all, it takes trust in our inner resources for us to tap into them and so perform our best." (Green, 1986, pp. 28-29)

The remainder of the book involves further explanation of these 4 basics of the Inner Game with many exercises and activities to perfect them.

Chapter 4, The Power of Awareness, deals with recognizing inner and outer distractions, choosing a focus for awareness and being in present time, developing an attitude of non judgmental awareness.

Chapter 5, The Power of Will, emphasizes becoming aware of our reasons and goals for choice of music and examining closely our performance goals and the many possible cues for feedback.

Chapter 6, The Power of Trust, involves the usually subtle barriers to trust, worrying about what the others will think of you (self-consciousness is not self-awareness!), the feeling of being out of control and developing appropriate self-control (not over-control). This skill is addressed in Chapter 7, Letting Go and includes 8 ways of letting go.

Chapter 8, Coping with Obstacles, deals with the general problem of 'i' in the P= p-i formula.

Chapter 9, Improving the Quality of Music Experience, moves back into an aspect of awareness.

Chapter 10, Teaching and Learning, distinguishes the old "Do This" approach from the new Inner Game "Awareness" instructions.

The remaining chapters deal with listener skills, skills for parent and coach to use to reinforce and acknowledge the learner, integration and balance of the left/right mode approaches to music, and the Inner Game approach to ensemble playing. The final chapter deals with Improvisation, Composition and Creativity and gets into the "higher" aspects of music.

9. A Note on Holophonic Sound Reproduction

The continuing attempt to duplicate reality with increasing fidelity has produced the holonomic technologies. The science fiction version is illustrated in the TV series "Star Trek: The next generation" and their "holideck" computer generated interactive holonomic holiday environment. There, they have holographic movies (a primitive version can be seen in Disney Land etc.) with holophonic sound and "feel-a-vision" and "smell-a vision" and who knows what thrown in.

The term *HoloGraph* is derived from two Greek roots: *holo* meaning "whole" and *graph* meaning "to write". With holophonics, the root *phon* means "sound". The broad term reflecting this idea is "HoloNomic" meaning in the wholistic manner.(Leonard, 1978)

Many audio tapes which seek to influence the listener in a more powerful manner are now incorporating the new (introduced in 1983) recording/microphone system involved in holophony. The tapes of Changeworks (especially their "Expanded Intuition Training" program, John-David Learning Institute, and Lowenstein's Conscious Living Foundation, are three organizations now on the holophonic bandwagon.

In 1985, Brain/Mind Bulletin produced and distributed a demonstration tape called Holophonics Live which has in it these sound effects: zipper zipping, match being lit, matchbox rattled and moved side to side, Scotch tape being torn from the roll, receiving a haircut, having you hair blow dried, a horn honking at various places, fizz water bottle opened and poured, a news paper being crumpled around your head, a jet taking off, birds singing, a fireworks display, a thunderstorm and a jet plane. There are also musical offerings: a duo performing with Pre-Columbian instruments of Meso-America and the Chelsea Youth Symphony in rehearsal with the microphone in the middle of the orchestra and then the performance of God Save the Queen and Dvorak's "Carnival Overture" with the mike in the eight row center.

The source for examples of this technique used in "cassette plays and dramas" is ZBS Cassette Adventures, ZBS Foundation, RR #1, Box 1201, Fort Edward, NY 12828

The Holophonic Experience

"Listeners typically describe the effect as 'realer than real.' It has a strange, penetrating intensity. Not only do the sounds seem to move freely around the room, sometimes they seem to be inside the brain or are felt in various body regions. Even the loudest sounds, like the jet taking off, do not cause the normal discomfort associated with volume. Apparently because the holophonic effect depends primarily on its access to the brain than acoustic power, meters on sound equipment do not reflect the apparent increase in volume...The most mysterious effect of holophonic sound is synesthesia--the blending of senses. [see the description of synthesis in the Guided Imagery section] For example, the sound of a match being struck elicits the smell of sulfur for some listeners...The effect is not dependent on two ears. In fact, one London studio, in analyzing a record, reported finding no phase frequency differences. 'Each channel of perception works for itself,' Zuccarelli said. 'We don't need the cooperation of two channels. Each can give the brain the full information of its specialty.'" (Brain/Mind Bulletin, May 30, 1983) [This I question].

The Way the Brain Encodes Sound

Our auditory/brain mechanism recognizes the direction of a sound source by comparing the signals that arrive at the two ears: the ear that hears it first and loudest says that the source is on its side. The stereophonic technique encodes this aspect. However, this encoding does not capture distance and is ambiguous in certain aspects of direction. For instance, it is very difficult to determine if a sound is coming from directly in front, above or behind you since in each case the sound arrives at the ears at the same time with the same loudness. You can not tell the distance of the sound with any precision either, especially in the special sound rooms that eliminate echo.

Our auditory/brain mechanism encodes distance by comparing echo effects of the sound when it bounces off objects in the environment. The sound reproduction equipment manufactured by Sony called "Dolby Surround Sound Processor" (SES-430), attempts to duplicate this effect by delaying the signal from the recorded source and feeding it to the speakers at a given sequence, thus mimicking the echo effect. One of the earlier versions of this equipment (1980) was the Carver C-4000. "Sonic holography creates the illusion of a wall-to-wall arc of music: Suddenly, speakers seem to disappear and you are surrounded by concert-like imaging with front-to-back depth and precise instrument placing...The C-4000 time delay system helps re-create the environment in which the sound was recorded, and creates the feeling of larger acoustic space." (Roberts, 1980) (see Fig. 1 this section)

Holophony

The technique now called "Holophony", discovered/invented by Hugo Zuccarelli, uses a special microphone to encode the echo effects as well as the separation effects of sound to produce a much more realistic overall effect, the "holo" aspect. Thus "Holophonic" = two ear "stereo" + interference pattern echoes. There is some confusion here since there is the prior claim that two ears are not needed to produce the effect.

"Early in 1983 a series of small demonstrations were given to various members of the press and others in London, England, followed by a program on a regional T.V. station. The results electrified those present...Most just couldn't believe their ears.

"From ordinary two-channel stereo headphones they heard sounds that could be accurately located in any direction--front, sides or rear. Also their elevation could be identified too...Furthermore, distance or nearness could be determined. One participant drew back at the sound of a match being struck in front of his face and swore he could feel the heat!" (Capel, 1983, p.6)

How holophonics accomplishes its effects is not clearly understood but a plausible explanation is given by Zuccarelli.

"...[S]ound reaches the ear drum along two paths. First there is the direct pressure wave that enters the auditory canal at the orifice and, second sound is reflected into the canal from the auricle or external ear. "The reflected sound is slightly delayed and so gives rise to phase displacements when mixed with the direct sound at the ear drum. Now the auricle is not symmetrical, in fact it is a perfect example of asymmetry both in its outline and convolutions. Therefore the reflections differ according to the angle of incidence. Each direction produces a characteristic pattern and delay, no two being the same.

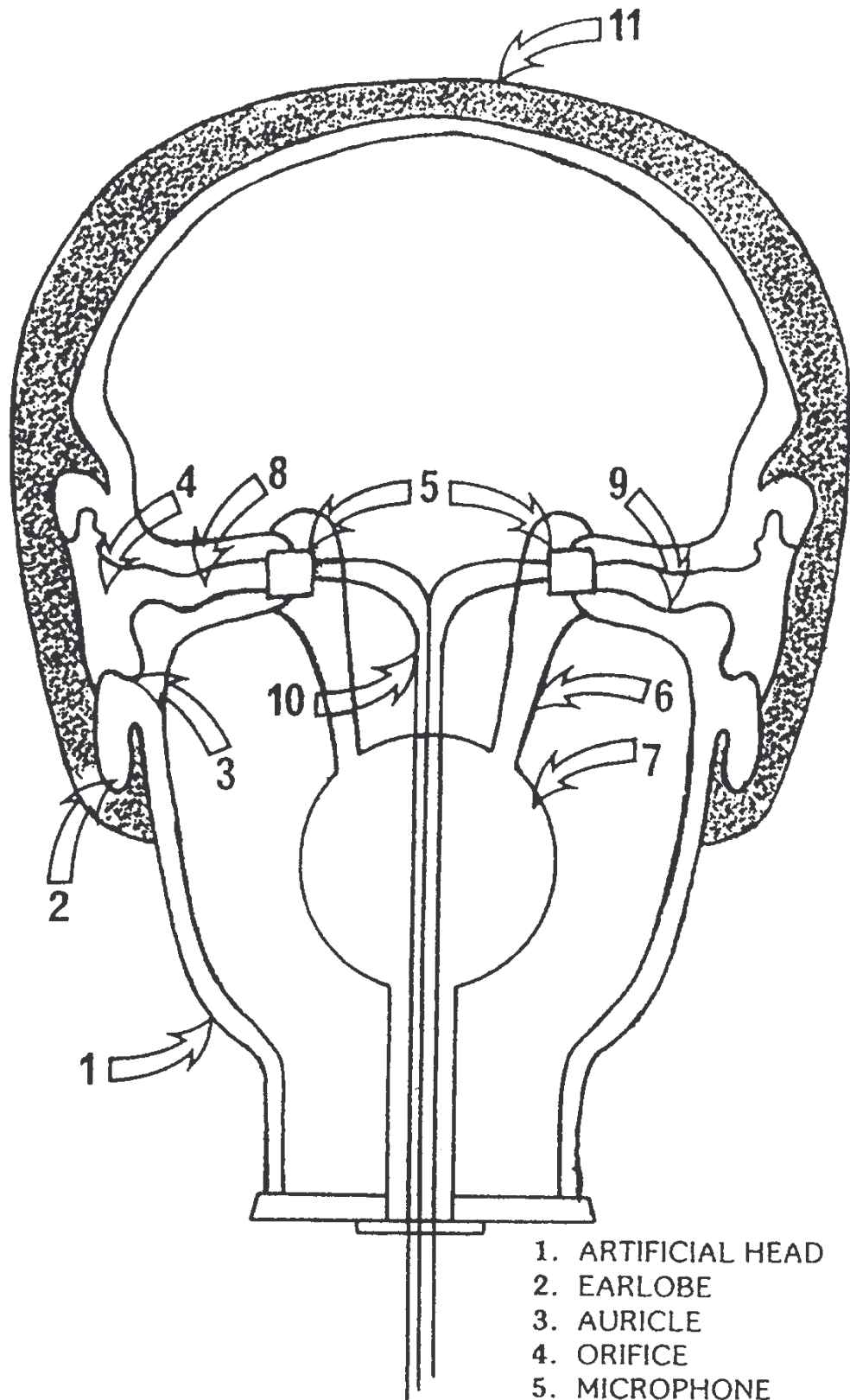
"Thus the sound is spatially coded by the reflections within the auricle and the computer that we call our brain unravels and identifies the code, giving us the perception of sound location.

"...[T]wo ears enable us to distinguish distance. Nearby sounds arrive at each ear at a different angle, the nearer they are the greater the angular difference. Distant sounds are received at virtually the same angle.

"...[H]ow can such information be recorded and reproduced?...use a dummy head ["Kunst Kopf" or artificial head]...The model used for holophonic recording, nick-named Ringo, is [very]...sophisticated. It duplicates the human auditory system up to the middle ear. [The texture, elasticity, density, composition, geometry, shape, spatial location of parts, including hair are duplicated with great precision. See figure 2 in this section for the schematic of the dummy head.]...At the end of each canal is a cardioid microphone with a 7mm diaphragm, oriented in the same plane as the ear drum...Thus, all the factors likely to influence the sound reaching the ear drums have been faithfully reproduced, including the vital spatial encoding." (Capel, 1983, pp. 9-10)

In holography and holophony, the process of encoding a visual or auditory stimulus is done in such a way that every part of the stimulus is represented in every aspect of the visual or auditory plate or recording.

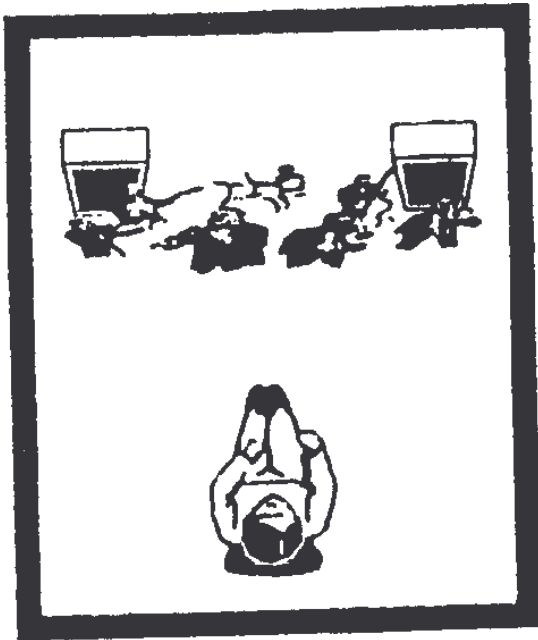
The process for doing this with sound is not well understood but involves using a very exact model of the human head and auditory mechanism ("Kunst Kopf" or artificial head) as the microphone system as described above.



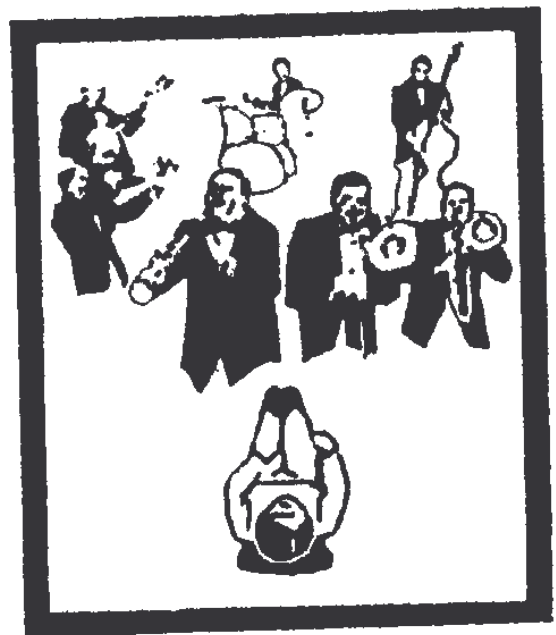
Component parts of the dummy head used for holophonic recording.

"Ringo" Kunst Kopf

1. ARTIFICIAL HEAD
2. EARLOBE
3. AURICLE
4. ORIFICE
5. MICROPHONE
6. EUSTACHIAN TUBES
7. ORAL CAVITY
8. AUDITORY CANAL
9. DILATION IN CANAL
10. MIC CABLES
11. WIG



**Conventional
stereo's
spatial
distortion. . .**



**Live
performance**



**The improvement
offered by sonic
holography.**

Holography

The process of Holography is well understood and is briefly as follows: "Coherent light, or light of approximately the same frequency, is emitted from a laser and strikes a half-silvered mirror. Part of the coherent laser light, a 'reference beam,' passes directly through the partially silvered mirror and falls upon the photographic plate. Another part of the laser light is deflected toward a three-dimensional object to be photographed...After the light is deflected to the [object], it is then reflected off the [object] toward the photographic plate. Light reflected from the [object] creates an interference pattern with the laser light which was projected directly through the partially silvered mirror. This resulting interference pattern is recorded on the photographic plate and ends the first stage of creating a hologram of a three-dimensional object. Up to this point, the procedures are a slight variation upon standard photography. However, the real significance of this interference pattern is evident in stage two when the photographic plate is illuminated with either ordinary or laser light. When light passes through the plate, a wave front is created and, to the observer on the far side of the plate, the resulting image appears to be a full, three-dimensional representation of the object."(Pelletier, 1979, pp. 112-113) Bentov's characteristically clear and entertaining explanation of the basic principles of holography are included to help those not familiar with the concept. (Bentov and Ingrassi, 1977, p. 17)

Thus, in both holography and holophony, the encoding of the interference patterns (echo effects) is the clue to re-producing our experience of the world so it can be said to be "realer than real." This whole approach goes back to the idea that the basic fundamental nature of reality is vibrational and discussed in detail by Berendt (1987).

The holonomic properties of brain functioning will be discussed later.

B. SOUL SOUND: THE USE OF MUSIC AND SOUND TO RAISE YOUR SPIRIT

As I indicated in the beginning of this unit, there is a long history, literally thousands of years, of the use of sound/music to elevate and educate the human spirit. With the rise of 19th century materialism, this theory and technology was lost in the West. It is recently being revived, ironically, primarily outside of "traditional or established" western religions and churches. Berendt (1987) provides an overview of the field and relates it to modern concepts of the physical universe.

1. William Blake's Fourfold Vision and Levels of Music

In the poem "Now I a Fourfold Vision See" (1802), Blake introduced the idea that there are four stages of understanding or levels of meaning. These have been applied to poetry, literature, and biblical texts with analogies to orders of imagination, levels of creativity, states of consciousness and so on. Joel Funk ("Music and Fourfold Vision", *ReVision*, Spring, 1983, pp. 57-65) has applied it to the general characteristics of classical Western music.

Single Vision is the level of physical senses and perception. It reflects the world of consensus opinion about what is real and important. Single vision is very literal. Musical versions will simply repeat existing forms with some minor degree of variation. The music is imbedded in the current cultural system and does not question its authority. Examples of music at this level include most popular, folk, country western, blues, rock, as well as the typical Protestant hymns which have

religious pretensions but are quite literal and time bound. Beethoven's first piano compositions written at age 12 are of this level.

Twofold Vision involves the first manipulation of imagination, a recognition of an allegorical meaning that lies beneath the surface meaning. The imagery is still bound by existing stereotypes since there is no transcending of cultural boundaries. Popular music such as Rose's "The syncopated clock" or Legrand's "What are you doing the rest of your life?" as well as Beethoven's early piano sonatas and string quartets are here.

There is great diversity of content and form of music at these two levels reflecting the various cultures, sub-cultures and time periods. The common denominators of music at these two levels is: (1) it has a time bound, linear quality which emphasizes melody with accompanying harmony, theme, development, climax, resolution and the like. (2) it reflects emotional states and personal characteristics and cultural experiences but does not transcend them, e.g. the typical love song or Strauss waltz.

Threefold Vision goes beyond the given and beyond cultural imagination. For the first time we have a truly conscious creation. Regions outside the conscious ego begin to be tapped with signs of spontaneity and a relaxation of ego control. The music still remains on this side although there are occasional peaks into transcendent states. There is a paradox which enters here. Since the music is beginning to tap universal truths and such, there is less diversity but greater individuality. The music tends to focus on the universal values of truth, goodness, beauty, unity, aliveness, uniqueness, perfection, order, playfulness and less on the accidental, the arbitrary or culturally valued. Since threefold vision music is a product of highest personal but non-transcendent level of development it is more likely to bear the unique stamp of its creator. "...a successful work of this type bears a distinctive character, so that, once understood thoroughly, it appears quite unlike any other creation, even those of the same composer. [this is where the concept of the "inner pulse of music" enters] Whereas works of single and twofold vision can be created by skill alone, music on the threefold vision level requires the participation of unconscious processes and hence cannot be convincingly 'faked'...In linear, temporal and emotional terms, threefold vision music is at a mid-way point between the solely personal (levels one and two) and the transpersonal (level four). (Funk, p. 61-62) Beethoven's 3rd symphony (the "Eroica") as well as most of his "second period" works are here.

Fourfold Vision involves an intense transpersonal vision characteristic of the seer, the mystic, the prophet. The emotions are archtypally powerful-horror, awe, ecstasy, desolation, unity. The music represents a reality more real, more saturated with BEING and TRUTH than music of the lower levels. Fourfold vision "...music is not only expressive of greater Being, its very form has been molded to match its content. Linearity, temporality, theme and its development, harmonic progression, personal emotionality and so on are all transcended. They are replaced by structures more suited to a non-linear, timeless, blissful mode of being." (Funk, p.62) You surrender to the higher agency and no longer hold the fiction that the ego is the ultimate source of creative power. This explains the apparent humility of many artists of genius who frequently experience themselves as mere vehicles or tools of higher powers. Examples of music at this level would be: Scriabin "Poem of ecstasy"; Bruckner "Great mass" and "Ninth symphony"; Bach "Mass in B minor"; Mahler "Eight symphony"; Faure "Requiem"; Strauss "Death and transfiguration"; Beethoven "Ninth symphony", "Missa solemnis", the last quartets, "Grosse fugue", "Heiligier dankgesang"; Mozart "Requiem"; Halpern "Zodiac suite"; Ives "Unanswered question"; Messaien "Quartet for the end of time".

Since this is a very broad topic, I can't go into it in the detail it deserves. For more information see:

- ∞ [American Theosophist](#) (1985) Spring Special Issue Color, Sound and Rhythm;
- ∞ Donald Andrews [The Symphony of Life](#);
- ∞ Jochim-Ernst Berendt [Nada Brahma: The World IS Sound: Music and the Landscape of Consciousness](#) and [The Third Ear: On Listening to the World](#);
- ∞ Joanne Crandall [Self-Transformation Through Music](#);
- ∞ Nevill Drury [Music for Inner Space: Techniques for Meditation and Visualization](#) and [Inner Visions: Explorations in Magical Consciousness](#);
- ∞ Joscelyn Godwin [Music, Mysticism and Magic: A Source Book](#) and [Harmonies of Heaven and Earth: The Spiritual Dimensions of Music](#)
- ∞ Peter M. Hamel [Through Music to the Self](#).
- ∞ Corinne Heline [Music: The Keynote of Human Evolution](#) and [Beethoven's Nine Symphonies Correlated with the Nine Spiritual Mysteries](#) and [Color and Music in the New Age](#) and [Healing and Regeneration Through Music](#);
- ∞ Sufi Inayat Kahn [The Mysticism of Sound, Music, The Power of the Word, Cosmic Language: Volume II of The Sufi Message of Hazrat Inayat Kahn](#)
- ∞ Hal Lingerman [The Healing Energies of Music](#) and [Life Streams: Journeys into Meditation and Music](#);
- ∞ Wilfrid Mellers [Bach and the Dance of God](#) and [Beethoven and the Voice of God](#);
- ∞ Mark and Elizabeth Prophet [The Science of the Spoken Word and The Science of Rhythm for the Mastery of the Sacred Energies of Life: Uses and Misuses of the Word in the Music of East and West](#) (two audio cassettes);
- ∞ Dane Rudhyer [The Magic of Tone and the Art of Music](#);
- ∞ Cyril Scott [Music: Its Secret Influence Throughout the Ages](#);
- ∞ J. Stewart [Music and the Elemental Psyche: A Practical Guide to Music and Changing Consciousness](#)
- ∞ Sullivan [Beethoven: His Spiritual Development](#);
- ∞ David Tame [The Secret Power of Music: The Transformation of Self and Society Through Musical Energy](#);
- ∞ Anna Turner & Stephen Hill [Music From the Hearts of Space: Guide to Cosmic, Transcendent and Inner Space Music](#);
- ∞ Andrew Watson and Nevill Drury [Healing Music: The Harmonic Path to Inner Wholeness](#);
- ∞ Shirley Rabb Winston [Music As the Bridge: Based on the Edgar Cayce Readings](#)

2. The Role of Music and Sound in World Religions

Compare these statements from two of the major world religions: Hinduism and Christianity.

- ∞ "In the beginning was Brahman, with whom was the Word. And the Word is Brahman" -Vedas
- ∞ "In the beginning was the Word, and the Word was with God, and the Word was God"- Gospel according to St. John

In both "...a Divine Being created the universe, and did so by means of a vibratory emanation. This sacred vibration is usually referred to in early Christian texts as the Word...In Hinduism the divine vibration is... referred to as OM...the Word and the OM are one and the same thing. Moreover, a great variety of other terms stemming from the different cultures of ancient times also refer to this same universal, eternal phenomenon. Cosmic Sound, infused with the essence of Consciousness, has been known variously as AUM, AMN, AMEN, AMEEN, OMEN, OMON, I AM, HU,

YAHUVAH, the Logos, the Lost Word, and by other names besides." (Tame, 1984, p. 205) "...the wilder excesses of gross materialism in science, and in the general outlook of Western man, in many ways peaked around the late 1800's and have since been steadily on the wane...there is present in the West today what is almost a hidden force at work; and underground network of individuals who cannot ever be specifically pinned down, defined or counted since there is as yet no one organization...to which they belong." (Tame, 1984, p. 256) Marilyn Ferguson refers to this phenomenon as The Aquarian Conspiracy (1980).

The spiritual-esoteric focus on this area emphasizes that in the higher realms of existence, musical understanding and spiritual realization are identical (Helene, undated). The search is to literally become "in tune with the infinite". "The ancients believed the use of sound to be the most powerful key of all for the unlocking of the door to higher states of consciousness as well as for effecting of practical changes in the world at large...[for example] the extremely scientific use of consonants and vowels as practised in ancient Egypt in order to accomplish selfless, right-motivated, and highly specific acts of white magic...this science of the spoken Word is the missing link in modern man's aspirations for self-evolution." (Tame, 1984, p. 276-278) "...different individuals react in two very different ways to the idea of men and women acting as tonal transformers for sacred energy to enter into the earth from higher dimensions of being. The contemporary materialist viewpoint sees the universe in terms of matter ...and in which the phenomenon of life is a mere accident of nature...Yet to the spiritual idealist, life-- and consciousness above all-- *is what the universe is all about...* These two diverse viewpoints are never more divergent than in their reactions to the idea of mystical chants by which the ancients believed the evils of the world could be dispelled. To the materialist, the idea is quite irrational. Yet to the mystical outlook nothing could be more sensible than that the most highly evolved phenomenon in the physical universe--man--should be able to act as an invoker and transmitter of the highest of all forms of force. For this force or spiritual energy...is believed by the mystic to be the controlling and guiding force behind all the known physical forces." (Tame, 1984, p. 280, italics in original).

3. Incorporating Music Into Your Spiritual Life

There are two approaches: one is passive accepting listening and the other is active production creation of music, using instruments and/or voice.

a. Passive Accepting Listening

Turner and Hill (1981) classify this type of music under the following categories (from their table of contents):

- ∞ *Contemporary Ancient*: music made today with awareness of the sounds and expressions of the deep past.
- ∞ *Transcendental Romantic*: expressive, emotion-creating music which opens one to higher experiences of beauty, peace or communion.
- ∞ *Electronic Space Music*: evolving, non-traditional music which sonically evokes the imagery of Infinite or Unlimited space-time.
- ∞ *Cyclic*: also called periodic or minimal and characterized by slowly changing, repeated patterns which create trance states.
- ∞ *Cellular Wave Music*: subtle movement meditation music used for deep journeys into the body.
- ∞ *Ambient*: as defined by Brian Eno, an atmosphere, a surrounding influence; a tint.

- ∞ *Sound Space Environments*: natural and electronic sound environments which are not formally "music".
- ∞ *Organic Nature Music*: designed to complement and attune you to the vibrations of our earth.
- ∞ *Etheric Tropical*: music which evokes the enveloping essence of our earthly paradise gardens.
- ∞ *Mystical Vibratory Experiences*: the highest, most refined music/sound experiences the authors have found.
- ∞ *Mantra*: traditional, (mostly) Eastern, cyclic religious chanting.
- ∞ *Meditative*: music consciously created to lead you in.
- ∞ *Raga and Eastern Classical*: traditional classical music from the Far East.
- ∞ *World Fusion Music*: the evolving synthesis-in form and instrumentation-of Western and traditional world music.
- ∞ *New Age*: contemporary songs whose lyrics contain New Age philosophy or concepts.
- ∞ *Cosmic Folk*: expanded consciousness musically traditional folk songs that are not about trains, farming or "da blooz".
- ∞ *Spiritual Pop*: contemporary popular songs which directly or indirectly speak of spiritual or religious experience.
- ∞ *Cosmic Rock*: Pink Floyd and their imitators; the Big Sound.
- ∞ *Psychedelic Program Music*: the result when LSD et al met the electric guitar et al.
- ∞ *Space Jazz*: spacious, meditative, non-nervous jazz.
- ∞ *Light Etheric*: music of predominantly high, airy sounds.
- ∞ *Restful and Relaxing*: music consciously created to slow down, balance out and open up the body/mind.
- ∞ *Western Classical*: the meditative, reflective, inner moments from the Western musical heritage.
- ∞ *Western Sacred*: from our great religious and choral traditions, the purest, most sublime moments.

Unless you take the proper attitude or approach to this music, you probably will consider most of it boring. Our normal listening is distant, analytical, objective as if we're looking for information, entertainment or excitement. With this type of music you slide through the audible ego barrier and immerse yourself in sound. "The more totally you can give yourself to the music you are experiencing, the more its energies can affect your being. Great music is powerful, but its ability to affect you and revitalize you is lessened if you are tense, resistant, critical, analytic, distracted, impatient, ungrateful, unwilling or have a closed mind. On the contrary, if you can bring a relaxed body, an open mind and reverent spirit to the music, it is likely to enter you and renew you." (Halpern & Savary, 1985, p. 154)

Lingerman gives the following instructions for obtaining the most benefit from the Healing Energies of Music (1983, pp. 10-12) (see Lingerman, 1988, for detailed descriptions of using poetry etc. with music):

BEFORE BEGINNING THE MUSIC

1. Experience your music in a beautiful place; avoid clutter and ugliness. Clear the atmosphere, increase colors and seek light. Take time to cultivate the most advantageous surroundings for your musical experiences.

2. Play your music in a quiet place; minimize outer noise and distractions. Turn off TV and avoid loud hums of appliances. Let your music emerge out of quiet or listen to it in nature. Be sensitive to the sounds of nature as they combine with the music to uplift you and link you with the eternal. Find the volume/loudness that is best for you.
3. Use good non-distorting equipment and sound sources (records and tapes) and take care of it/them.
4. Take a comfortable position, either in your favorite chair/couch or lying on the floor. If outside, lie on the grass or lean against a tree. What ever is the most comfortable.
5. Come to quiet for a minute.
 - Speak to your body; tell any tense areas to relax.
 - Speak to your feelings; tell them to be calm.
 - Speak to your mind; let go of racing thoughts.
 - Realize the Divine Presence in whom you will listen. You might want to use an affirmation or verse to center yourself, such as "Be still and know that I am God"
 - Keep this exercise short, simple and enjoyable.
6. Be grateful for the music you about to experience. Say "Thank you".
7. Surrender to the music. Open yourself to the music you hear.

WHILE THE MUSIC IS PLAYING

8. Release all tensions into the music.
 - Feel your music pulling you out of all negativity and tension.
 - Where ever there is a block in yourself, visualize an opening.
 - Breathe deeply, taking in the music. Let go completely.
9. Feel the music embracing and filling you.
 - Release all need to dominate or control the situation.
 - Open up to the healing, revitalizing currents of music that are entering you. Go inside the sound.
10. Give yourself to the music. Enjoy the music wherever it takes you.
11. Be filled with joy and praise.

WHEN THE MUSIC IS OVER

12. Do not play music for too long at a time.
13. Take time to absorb your music. Sit quietly for a few minutes after it has finished.
14. When appropriate, combine musical experiencing with other activity, such as keeping a diary, sketching, dancing or moving, or doing chores.

b. Active Creative Production of Music and Sound

Using the voice for creating special states of consciousness is very ancient. The Chant is the most widely known form. For several examples from Eastern and Western religions listen to the audio cassette documentary by T. Wilson Chant: The Healing Power of Voice and Ear (he also discusses the work of Alfred A. Tomatis which is dealt with later on in this unit).

For a remarkable example of what is possible with the voice listen to the strange and haunting sounds of the Tibetan monks on the audio tape Cho-Ga: Tantric & Ritual Music of Tibet, especially

to the last two sections (12 & 13 of side one and the first section of side two. Just so that you don't get the idea that you must go to Tibet or some equally strange place to learn to use your voice in marvelous ways, you can listen to Michael Vetter audio tape Overtones: Voice and Tambura, especially the voice side where he alone (no over dubbing or other tricks) sings chords and two melodies at the same time. As the record notes say "At first the innocent listener can scarcely believe his ears: out of the single-toned sound of one voice a second voice unfolds, and over the unchanging ground tone there develops a melodic line whose ethereally pure tonality and harmony seem removed from all things human. And yet, remarkably, it is perfectly natural; these are the overtones contained in all natural sounds, the means whereby man, speaking or singing, is able to distinguish an 'a' vowel from the vowel 'e'...To sing overtones and to deal with the musically requires, as with any musical instrument, a long and arduous training. But the voice as a tool for acoustical communication is innate in man, who from earliest childhood is instinctively aware through speech of the flexibility of his voice which, therefor, holds a special position as an instrument. If one actually listens, one requires no further teacher for the development of the voice. One need only sing slow, continuous tones for half an hour every day in the comfortable register of quiet speech making all the vowel form movements of normal speaking. Everything else follows by itself. Overtones...from the earliest times have been considered to have almost universal healing properties...To surrender oneself to feel and hear...the play of the overtones leads to regeneration...A prerequisite for the effectiveness of these vibrations and the music is...that one give undivided attention." While Michael Vetter is unusual, he is Western and modern (born in 1943 in Germany) and currently does research and training in his concept of "trans-verbal language" and "trans-verbal writing" at the Duerckheim Center for Meditation and Initiative Therapy in the town of Todtmoos-Ruette in the Black Forest. For the sound of a group of harmonic singers, listen to David Hykes and the Harmonic Choir (Current Circulation).

One specific approach to this which is closer to everyday reality (but you will still probably find different), "Toning" (Keyes), will be dealt with in a separate section. Two basic ordinary, spontaneous and usually very healing sound expressions of the human soul are crying and laughing.

Crying

The phrase "a good healthy cry" is another free prescription. "Allowing tears to flow from the eyes, allowing the body to shake and the voice to moan and sob, can help open many emotional and spiritual energy channels." (Halpern & Savary, 1985, p. 160) A truly releasing body wrenching cry is a "holistically human sound experience"; assign that you are in touch with your deepest/highest self. Since 1973, Dr. William Frey has been researching the topic of tears at his Dry Eye and Tear Research Center in Minneapolis and has discovered two basic uses for crying and tears: Irritant tears and Emotional tears. These two types serve different purposes and are controlled by different brain areas; only the final pathway to stimulate the lachrymal (tear) gland is the same. The idea is that the release from emotional crying results from the removal of certain chemicals that build up during emotional stress. For instance, the lachrymal gland concentrates and removes manganese from the body, a chemical which is implicated in mood changes."...[C]hildren who suffer an inherited disease called familial dysautonomia have two things in common: They can't cry tears and they have an extremely low tolerance for emotionally stressful events...it does appear that emotional tears play a role in the ability to tolerate stress." (Levoy, 1988, p. 10) (see Frey, 1988)

Related to crying is groaning and wailing. It can be an expression of spirit and it was and is, in Judaism, a form of praying. There is a strong tradition of lamentation or crying out to God in

Judaism and Jesus, being of that tradition, is reported to have used it in several places as a powerful, spiritual act. (e.g. Mark 7:34 and John 11:35).

Laughing

There is truth to the saying "S/He who laughs, lasts". A good laugh is a type of jogging in place. Your diaphragm, thorax, abdomen, heart, lungs and maybe even your liver get a brief workout. It flexes muscles in your face, arms and legs, setting your whole body vibrating. It also sends happy "vibes" to the environment. It helps relieve boredom, tension, guilt, depression and anger. It is a very safe and socially acceptable sound, an alternative to violence and anger. It helps clear foreign matter from the respiratory system, speed up circulation, increase heart rate and, possibly help fight infection and reduce hypertension. Norman Cousins (1981,

The Anatomy of an Illness) described how he laughed his way to recovery from a degenerative spinal condition. The hypothesis is that "...laughter stimulates the brain to produce [chemicals] called catecholamines. These [chemicals] may in turn trigger the release of endorphins, natural opiates that can reduce pain or discomfort..."(Halpern & Savary, p. 161) Raymond Moody, MD., has summarized much of this information in his book Laugh After Laugh: The Healing Power of Humor (1978).

Although laughter is a natural body reaction it also is an expression of the human spirit. You can learn to laugh from "the center of your being." Al Huang, in his book Quantum Soup: A Philosophical Entertainment describes the hara-laugh and how to "grow a proper laugh!" "Laughter is healthy soul food. It brings balance and harmony to the body, mind and spirit. It is a blessing on the earth." (Halpern & Savary, 1985, p. 162)

Dr. Annette Goodheart has developed a whole series of seminars, workshops and training programs as well as her own private practice in psychotherapy, based on teaching people how to laugh for their own good! (Sounds strange that when you become a "big person" you have to relearn to laugh and cry for your own mental and physical health. Sad but true.) She has and conducted seminars and workshops throughout North America, Europe and Australia and she has been featured on numerous radio and TV programs as well as newspaper and magazine articles. By listening to her three tapes, you gain an idea of what she means by her approach. The introductory workshop tape, Laugh Your Way to Health parts 1 & 2, discusses the overall approach to the use of laughter in the healing process. The lecture/demonstration tape, Cathartic Laughter: Why it Works, gives the theoretical framework for understanding why laughter and other cathartic processes produce the effects that they do). Then you might be able to grasp the importance of her slogan "Just because you are miserable, doesn't mean that you can't enjoy your life!"

The "Helping Professions" have discovered the therapeutic benefits of laughter and play and so 1986 saw the fourth annual conference on "The Power of Laughter and Play" held at Long Beach in California (where else!) with 16 high powered professionals representing the fields of psychology, nursing, medicine, social work, education as well as theatre and literature.

Voice Sounds

From the discussion on therapeutic laughter and as will be discussed in the section on "Toning", you probably realize that you can learn to use your voice in healing and spiritual ways. The most common traditional way is singing lullabies to babies. Too bad we "grow out of" this need (or do we?!). In a sense, creating your own music in the proper context is a form of dynamic meditation. You just need a deep felt willingness to open your mouth (and self) and project a sound. The sounds associated with song emphasizes vowel sounds whereas speech focuses on consonants.

Beaulieu (1987) provides various exercises in his book, especially the chapters on "Voice energetics" and "Toning". Katsh and Merle-Fishman (1985) provide a discussion and some exercises on the more advanced aspects of this approach in their chapter "Singing your heart out". More advanced and sophisticated yet is the approach of Garfield (1987) who describes the religious medical "vocal healing" approach to discover/create your personal Healing Song, a process she learned from her North American Indian shaman mentor (see especially chapters "Sounding off", "Voice and sound", "Medicine sounds", "Vibrational sound", and "Sacred sound") Finally (not really but I can't refer to everything!), Schulberg (1986) discusses the area in terms of the therapeutic benefits of "Music and singing" (chapter 2).

When you consider composing with your voice, usually you think of making up melodies, using several notes and sounds. However, singing one single note/sound is one of the keys to successful composing and self-exploration. "The process of singing one note for an extended time brings about a number of chemical changes and metabolic processes in the body, including the possible release of endorphins in the brain as well as a mental concentration that allows the hemispheres to synchronize their functioning." (Halpern & Savary, 1985, p. 163) The three pure vowel sounds of "ah", "oo" and "ee" appear in similar spiritual and healing contexts throughout the world. Each have vibratory realities that are traditionally associated with particular attributes, energies, and parts of the body that resonate to the sound. "Ah" signifies oneness or unity, radiates a golden color, radiates energy outward and is an earth sound which opens the heart. "Oo" (as in "cool") is generally considered blue color, associated with water, relates to the throat and tends to draw energy inward. "Ee" is more piercing, associated with air and related to mind with a bright bluegreen or turquoise color. Two other sacred sounds are "hmmmm" (humming) and "oh". "Hmmmm" is associated with the top of the head and produces all the colors of the rainbow. "Oh" (as in "go") combines the breadth of "ah" and the depth of "oo".

Discovering Your Own Sound

Halpern and Savary suggest the following: sing one sound on any pitch you like. Explore a variety of pitches with a glissando- slide up and down the scale- and find a tone that feels most comfortable and natural to you at this time. Select other sounds and do the same. Notice how the different sound/pitch combinations affect your body, mind and spirit. In addition to warming up the vocal apparatus and developing voice resonance, this gives you a chance to be more accurate in choosing a sound you feel comfortable with. "By working primarily with pure tones and vowel sounds, making up simple melodies, you can go a long ways to begin releasing energies within yourself. There are no harmful side effects to such music. It's totally free. There are no set rules. You really can't fail. Even if you have been told in school that you did not have a good singing voice and had no musical ability...You can create music that brings you joy and a sense of self-expression, because it is already inside you just waiting to come out'...Inside everyone there is a hidden

musician waiting to get out. If you don't make music yourself, it is quite possible that you're missing an important experience in your life." (Halpern & Savary, 1985, p. 165-166, italics in original)

In all of this, KISS ("Keep It Simple, Stupid"). You are deliberately using very simple sounds to help rediscover the ancient methods of using music, tone, vibrations and rhythms and to learn how they relate to spiritual and healing states of consciousness. You seek to make a connection to the energies available to you. This is the origins of the chant used in all spiritual traditions but, with many, they have become complicated and sophisticated requiring "spiritual professionals" and thus taking the benefits away from the people. "The point is not simply to make the...sound, but rather to allow the sound to carry you to the depths of your being, to the deepest sources of energy available to you. Let it carry you to that place where you connect with the energies of the universe, where you are in touch with the ground of your being, or where your soul meets God." (Halpern & Savary, 1985, pp. 167-168) You can choose the "Aum" chant or "Kyrie eleison" (Lord, have mercy) or the famous "Jesus Prayer" or any number of beautiful chants among the Jewish, Sufi, Hindu, Buddhist, American Indian as well as the Christian traditions. Or you can choose any single word or phrase that is powerful and meaningful to you. Remember, keep it simple and centered on the main purpose of the chant.

4. The Creative Power of the Voice: Toning and Developing Your Natural Voice

a. Toning: The Creative Power of the Voice

(1). Introduction

Reading and using Laurel E. Keyes' 1973 book of the above title is an excellent way to begin your practice. In addition there are two C90 audio cassettes available (of rather poor audio quality but, since Ms Keys is no longer living, are the best/only we have): Toning: Explanation and Examples- side one is a talk by Keyes and side two gives instructions and a demonstration of controlled and free toning. Excerpts from Toning Workshop- side one is a talk and side two continues the talk plus instructions on how to do toning where the audience tries some toning. It also includes a demonstration, using a member from the audience, of Keyes diagnosing and treating a physical complaint using toning. Another documentary tape that is very good but more general is CHANT: The Healing Power of Voice and Ear. It focuses on the discoveries and methods of A. A. Tomatis, which will be dealt with in a later section. However, the tape provides you with some amazing examples of Tibetan chanting and Gregorian chants: the power of the human voice.

Toning is an ancient but currently ignored method of physical, mental and spiritual healing. It is based on the idea that there are certain natural flows of energy in your body and if you recognize and cooperate with them, they benefit you. Toning aids healing and fosters wholeness in several ways: (1) it helps cleanse the energy fields surrounding you and others, (2) it invites the subconscious mind to cooperate with ideas held in the conscious mind, and (3) it helps harmonize and balance the energies of the body, mind and spirit. "Through Toning the body has opportunity to slip into, and rest in our perfect pattern. It surrenders to the highest which the soul can direct the mind to imagine." (Keyes, 1973, p. 28)

Although there is a strong religious bent to both the book and the tapes, toning is not limited to your religious beliefs or lack of them. It is not a "gift", but is an ability that is available to you if you go through the mechanics of letting your voice express itself in a natural way. If you can Groan you can Tone and experience its benefits. In toning you are watching the process and, after the initial sigh, direct it consciously. "Toning is a very positive, consciously directed identification with the

inner power of life, and the full awareness of the release of it at will. Rather than being submissive or losing consciousness, the Toner is extremely alert and the feeling is one of new control--of one's self, one's world and affairs; a new awareness of the unity with all life and one's inherent divinity, waiting to be recognized and claimed. There is not mystery about Toning. It can be understood through material science, physiology and psychology as well as the most ancient concepts of man's relationship to his God." (Keyes, 1973, p. 6)

The oldest methods of healing, occurring in many other cultures until the "benefits" of modern science and technology replace them, involve two common aspects: (1) sound or chanting and (2) rhythmic movements in dancing or stomping. In addition, as I discussed earlier, in all cultures' myths of creation and religion, the role of sound/word is basic. Using sound and music to connect with or influence higher powers and beings is universal. Properly understood, the metaphor of music/sound is the fundamental one in all religious philosophies and practices.

(2). Practicing Toning (Keyes,1973, chap. 4)

In practicing toning, one of the biggest initial blocks will be your feeling of self-consciousness, embarrassment, of acting silly or dumb or crazy. By the usual social standards of your "ego-mind" you will be acting silly/dumb/crazy etc. so don't do it with others around (unless they're fellow "Toners").

The most important factor of Toning is LET: let your body be free, let your voice be free, let health and happiness emerge. Don't strive or impose direction from your ego-mind. "You are going to learn to unfold from the inside out." (Keyes, 1973, p. 31)

"Think of Toning as *release*. First, release of tensions, pressures and blockages (through groaning) which prevent the natural, healthy expression of life forces. Second, release of the vital force contained in one's field, according to its pattern of perfection. We release health from within... We release will power as we release the positive feelings of our highest and best intentions. And, we release hope, confidence, love and joyousness." (Keyes, 1973, p. 56) The voice releases power; weight lifters and martial arts practitioners release a sound before they act. Until you recognize this power of your voice through Toning practice you may not have use of the great power in you.

Even though your personal experience will be unique, there is a general pattern for toning.

Phase one: Relax your body in a standing position if possible, although you can be sitting or even lying. Whatever position, let you body express itself in sound. Groan and watch the sound rise. Create a feeling that an offering is being made to your life force, which is eager to rise and be free.

The recommended posture is to stand erect, with your feet several inches apart. Stretch both arms high to pull the rib cage up so that air can get into the lungs and let them drop back behind you (not forward) so that the body is in a very erect but relaxed posture.

With your eyes closed, begin to look inward and feel. Let your torso ride on your pelvic bony structure with the feeling that the hip bones protrude a little as headlights. This is to counteract the usual tendency to bend forward. Standing erect should cause no strain but give an easy, relaxed feeling. Let the body sway as a flower on its stalk in a breeze. Feeling this process of aliveness within and around you, let your body speak. Relax your jaws so that your teeth are slightly parted. Let the sound come up from your feet, not down from your mind.

It may be a deep sigh which gives the feeling of release. Always start with low groans/sighs. Groan/sigh as long as the body wants, with abandon. Many of your repressed feelings and hurts (physical and emotional) will begin to flow out. You may feel like shouting or singing. Whatever happens don't let the ego-mind influence it. Put it into the mode of a passive non-judgmental witness.

Phase two: After the first few very low groans the sound will rise, and drop back and rise again, over and over until you reach higher notes without effort. Don't force it but let it go where it wishes, until it rises to what feels is a smooth high and flawless note. Strain defeats your purpose. It will probably be a new experience to feel an effortless action taking place in your body. Your ego-mind will be frightened and wish to put a stop to all this crazy nonsense (and so will your "friends"). Ignore it and them and give your body/voice liberty. Notice how your voice seems to want to rise into freedom. Witness this feeling without evaluation and expect your voice to rise in joyous release.

Phase three: Your body will eventually feel satisfied with what it feels is a perfect tone; the offering. This may be in ten minutes or it may be an hour. When your body/voice feels cleansed, there will be a deep contented sigh. This is a signal that there is peace in your nature and that your subconscious mind is ready to serve you. You feel good, as if you have accomplished something. You have brought yourself together into a harmonious whole.

Phase four: "As soon as the sigh is released and cleansing for that time is complete, something must be offered to fill the emptied cup...enjoy the sense of peace which comes...Let yourself enjoy the feeling of new aliveness, inside." (Keyes, 1973, p. 31) Now you're ready to accomplish something for yourself or others (or both). **"YOU CAN CREATE A NEW WORLD FOR YOURSELF THROUGH THE POWER OF YOUR VOICE."**

The vowel sounds can be used as vessels into which the Tone is poured and carried upwards: "Ah-Oh-Oo-Eee". "Beginning with the `Ah' sound, watch the natural progression. Watch the tongue and mouth in the formation of the sounds. `Ah' lets the tongue lie in a relaxed manner.

"Oh' begins to draw the lip muscles into form and tightens control on the tongue.

"The 'U' or oo-sound...further controls the lips and raises the tongue.

"In the 'E' sound, the tongue and breath are raised and all of the sound seems lifted from the throat to the head and there is a union of forces there. 'E' sound is very powerful, especially if one consciously causes it to resonate in the upper part of the head. It should not be done too strenuously or long in the beginning. Find your own comfortable way, your own rhythm, through experience. Tone until you feel good, newly alive, enthusiastic." (Keyes, 1973, p. 33)

"Certain sounds carry more power than others. The 'H' or 'K' sounds, such as Hi, Hah, Hoh, Hu, Kah, and Koo appear to stimulate the glandular system...these particular sounds (produced by tightening the abdominal muscles and forcing the breath out against the roof of the mouth) cause a strong vibration close to the pituitary area, thus causing an immediate reaction. A Zen master told his pupils that if they would say 'Ho! Ho!' vigorously for five minutes every day they would never die. I don't know about that but Santa Clause has been around for a long time." (Keyes, p. 108, italics in original)

SOUND MAKES YOU FEEL. That is the secret of its power. If you don't feel like Toning, DO IT ANYWAY. To get yourself out of a depressed mood stand erect and repeat, in a very declarative manner: Hi! Ho! Hu! Ha! Hi!

Other sounds considered to have an effect on the glands and organs are listed here for you to experiment with. (Keyes, 1973, p. 109)

Ah (as in "hard")	Upper lungs
Deep O (as in "home")	Lower lungs
Ohm	Heart
OO (as in "broom")	Sex glands
Ea (as in "head")	Thyroid, parathyroid and throat
Ee (as in "seed")	Pituitary, pineal and head in general
Rahm toned from the solar plexus releases a sense of authority & power	

Eh-He-Ah toned softly is soothing and relaxing. Let it drift off in a sigh.

(3). Benefits and Applications of Toning

According to Ms Keyes, "Once you have found the benefit of Toning you will not give it up or let anything prevent your doing it." (Keyes, p. 33) From the first sound of Toning you notice a difference; it is taking control of your body and life. Regardless of the negative condition you find yourself in, within a few minutes you will notice improvement. The Toning dissipates the negative condition. "It is the voice which releases the power in the body." (Keyes, 1973, p.34, italics in original)

Once you've the hang of it you should Tone daily because of the impact of external and internal influences of "bad vibes". It is essential to clean and re-establish your energy pattern every day and tune it to positive energy to maintain enthusiasm for life.

Recharging/Cleansing Toning Meditation Exercise

(Keyes, 1973, pp. 41-43)

- ∞ After the initial Toning, sit comfortably with your back straight, head erect. Close your eyes and watch your breath slow down.
- ∞ With each breath you inhale, feel pure white light pouring through the top of your head. Feel it go down the spine and out through the nerves to every part of your body. Inhale this light and feel your body filled with light. Feel yourself attached to the Higher Source by this cord of Light. Through its pulsations, as you breath, you are formed, sustained and become aware of your divine consciousness. FEEL "with every breath I inhale I am renewed and restored in the

perfection in which I was created." With each breath, imagine the healing power of the light going to every affected or painful area of your body. *Hold your breath there*; feel that you are forcing life to heal there. Feel the throb as you concentrate on that area. Then, exhale suddenly with a groan and feel the breath force out any imperfections. Feel the light increase in that place.

- ∞ With each breath you exhale, feel this changed to a cool violet cleansing light flowing up through and around you, dissolving all of the problems and tensions of your life. Make a soft humming sound and feel "With every breath that I exhale, I release all imperfections and the memory of every unpleasant experience, and I am left cleansed, healed and filled with peace."

Practice this at least 10 minutes but as long as convenient. The emphasis is not on concepts or ideas of the above but on *feeling* the breath/light enter and go into your body so that your subconscious realizes that something is happening. (see also the audio cassette by G.A. King Cleansing Breath)

When you're in pain somewhere in your body you begin Toning as low as your voice can reach and slowly raise the pitch. You will find that "*there is a tone which resonates with the pain and relieves the tension*". This is all done with sensitivity to feeling...Every pain has its companion Tone and by pulsating the tone softly for a time--as long as it feels good, 15 minutes or an hour--the pain will be relieved or eliminated. It is an escape valve for the pain because it is breaking up the tension which we label 'pain' and it brings new life energy to that place. It is an inner sonar massage." (Keyes, 1973, pp. 34-35, italics in original)

"The Tone does not have to be prolonged or noticeable to people around...This type of Toning is more of an audible deep sigh than verbal. It is always done with the exhaling breath--release--release--release. Toning assists *healing from the inside out*...Toning releases the health which is natural to the body but which is denied expression by obstructions of the natural flow of energy in the body...Toning stimulates only that which is natural to the body's field-pattern." (Keyes, 1973, pp. 36-37, italics in original)

"The power of the voice, with the mind-feeling-breath is a vast, almost unexplored realm in our western culture. The voice is so important because not only does *it set the pattern of our life, it gives us the use of the will to live it*. In speaking, Toning or chanting, with knowing and conviction, we are able to bring oneness to our divided nature. We are made whole. This applies to problems as well as need for healing. When one feels discouraged, inadequate, frustrated, fearful--any negative condition, the transforming change begins the moment one stands up, pulls up the ribcage, breaths deeply and sends the voice out with the authority to correct the condition...'In the beginning was the Word--' In the end we become the words we speak." (Keyes, 1973, pp. 43-44, italics in original)

Ms Keyes' book contains many examples of the impact of Toning on the person doing it or on others (see especially chaps 6 "Results from toning", 7 "Toning for others" and 8 "Miraculous healings") as well as a more extended discussion of the theoretical basis for the practice.

More recently, Don G. Campbell has taken up the cause and written The Roar of Silence: Healing Powers of Breath, Tone and Music, (1989) and produced two audio cassettes to discuss and illustrate this approach:(no date)Healing with Tone and Chant (Healing Benefits of Tone and Chant: Exercises for Individual or Group Participation) and (1990) Healing Yourself With Your Own Voice.

b. Finding Your Natural Voice

(1). The Importance of Your Natural Voice

A less religious but none the less important area is the proper use of your voice in everyday life. In his book, Change Your Voice, Change Your Life: A Quick, Simple Plan for Finding and Using Your Natural, Dynamic Voice (1984), Dr. Morton Cooper gives you the benefit of years of experience treating countless people, both from the general population and from those who use their voice for their living (singers, actors, statesmen, politicians, lawyers etc.). His belief is that the proper use of your voice is the secret to effective living and the source of the intangible power that advances people to positions of influence. The trait shared by all successful and influential people is that of effective communication and the proper use of the voice is the major method to achieve this end. He says that your "right voice" is well produced, natural to you and healthy; a very valuable asset.

Your Voice Image "... is one of the most vital, pervasive, meaningful and controlling factors in your life...It designates the way you perceive your own sound and the way you perceive others' sounds, as well as the interpretive judgments you apply to those sounds...it is the positive or negative value that you place on these sounds that lingers, and thus determines not only your immediate impression of another, but your long-lasting recollection of that person...A wrong voice can cause an individual to be viewed and remembered as an unattractive person...a positive and compelling voice image [is] a voice that draws you into its spell. Such a voice presents the substance and character of the speaker, as well as the content of his ideas, in a positive light."(Cooper, 1984, p. 5)

"Your voice is your personal trademark. It serves as a calling card, presenting you and your ideas and your personality to a judgmental world, a world that will remember your voice image as vividly as your physical image, and perhaps more vividly." (Cooper, 1984, p. 51)

"We each, as special and unique human beings, have a sound that is physiologically right; this sound, used in harmony with our personalities, is our tool for communicating with a judgmental society that records, and remembers, and rewards appealing uniqueness." (Cooper, 1984, p. 66)

"...you depend on your voice for up to eighty percent of all communication. A good voice can serve you well. Not only does it transmit information, perceptions, emotions, and responses, it describes to the world who you are." (Cooper, 1984, p. 10) However, think of all the time, energy and money spent on other aspects of your "presentation of self" to the world such as clothes, grooming (hair, skin care, makeup, perfume, deodorant) things to show off (cars and other vehicles, audio/video toys, jewelry, houses etc.), degrees and honors, miscellaneous status symbols. The list is endless but when you get ready for the day, do you give any thought to your voice? It's the one detail usually overlooked and yet it is your primary tool of communication. The "wrong" voice can counteract the care and attention you have given to the rest of your "presentation of self".

"Without even being aware of it, you have a long-standing, preconceived sound concept of yourself. It takes time to adjust to a new voice, even if it's a better voice... You'll be surprised to discover how much you've been influenced by 'voice images' and the extent to which these images have controlled the way you interface with the world." (Cooper, 1984, p. 39) "...psychological barriers...play a significant role in the success or failure of your voice retraining. They manifest themselves primarily in... 'voice images'. A voice image is a sound or voice that an individual either likes or dislikes, either identifies with or refuses to identify with. It has nothing to do with the

natural vocal abilities of the speaker, but rather is formed essentially by the culture around him...voice stereotypes abound in our society.

"Society, for the most part, endorses a sound projected from the lower throat and rejects the high-pitched and the nasal tones. But neither represents a well-placed sound...Yet attitudes towards these sound concepts are pervasive in our culture because so few people understand the elements that actually produce a well-used voice...[we have] a circular, spiraling movement: A misinformed society inculcates voice stereotypes; the individual...adopts one of these voice types which becomes rooted in the psyche as a personal voice image; the individual outwardly projects and thus fulfills the general characteristics of his or her voice type; the voice used is ultimately unsuccessful because it lacks aesthetic appeal or clarity or efficiency; the society in time rejects the individual who uses the voice type that the society initially inculcated."(Cooper, 1984, p. 79)

(2). Symptoms of Incorrect Voice Use

The incorrect use of your voice will hinder your relations in the world and can physically harm your vocal mechanism. Voice abuse leads to Voice Suicide. "Voice rehabilitation is a relatively new discipline...it focuses on the training or retraining of the voice to eliminate *dysphonias*...[that is] any voice impairment or any difficulty in making voice sounds...*Organic dysphonias* are voice disorders in which the larynx (or laryngeal structure) has been organically altered...Most organic dysphonias...result from, or are perpetuated by, functional misuse or abuse of the voice...In *functional dysphonias* there is no neurological or organic activating factors present. Voice misuse and/or abuse is occurring within a normal laryngeal structure...*Functional misphonia*...means functional 'wrong voice.'...It defines a tired, hoarse, or weak voice, or one given to acute and chronic laryngitis." (Cooper, 1984, pp. 109-110)

Negative voice symptoms are generally tolerated with casual resignation but need not be. "Once you know what they are, most negative voice symptoms of functional and organic dysphonias are easy to spot in yourself...*Visual symptoms* are determined by a laryngoscopic examination ...the vocal folds might reveal redness, inflammation, or swelling. Diagnosed disorders could include thickening of the vocal folds; growths or lesions on the vocal folds; bowed vocal folds; a paralyzed vocal fold; and possible neurological involvement...The *sensory symptoms* [those felt by you] include nonproductive throat clearing, coughing, progressive voice fatigue following brief or extended voice use; acute or chronic irritation or pain in or about the larynx; swelling of veins and/or arteries of the neck; throat stiffness; feeling of a foreign substance or a lump in the throat; ear irritation or tickling; repeated sore throats; scratchy or dry throat; a feeling that talking is an effort; a choking feeling; tension and/or tightness in the throat; earache; back-neck tension; headache; mucus formation; pain at the base of the tongue; and chronic toothache without apparent cause. The most common sensory symptoms are voice fatigue, coughing, and throat clearing. Unfortunately, these negative tendencies are considered normal...A well-produced voice flows smoothly, constantly, at the right pitch, with tone focus and resonance...for any length of time, and this means without voice fatigue, throat clearing, or coughing...*Auditory symptoms* [those heard by you and by listeners] include acute or chronic hoarseness; reduced or limited vocal range; inability to talk at will and at length in variable situations; tone change from a clear voice to a breathy, raspy, squeaky, froggy, or rough voice; repeated loss of voice; laryngitis; voice breaks, voice skips; a voice which comes and goes during the day or over a period of months; clear voice in the morning with tired or froggy voice in the afternoon or evening; missed or inaudible speech sounds." (Cooper, 1984, pp. 114-116)

(3). The Six Basic Attributes of Your Voice

Tone focus -Pitch -Quality -Breath support -Volume -Rate

Tone Focus: All voices are different, representing unique personalities and defining individual character but all voices are correctly projected from the mask. This includes the bridge and sides of the nose down to and around the lips. "By producing sound through the mask (as opposed to the lower throat or the nose alone), the voice opens up, becomes flexible, and is filled with expression and warmth. It has carrying power and range. Speaking through the mask gives the voice oral-nasal resonance which creates tone focus, which, in turn, gives the sound aesthetic appeal. It is correct tone focus that gives properly used voices a hypnotic effect...All great voices are produced in this manner." (Cooper, 1984, pp. 15-16)

Pitch "In every voice there may be two pitch levels: an optimal or natural pitch level; and a habitual or routine, pitch level which the speaker normally uses. If the speaker's 'natural' (or correct) pitch is different from the pitch level routinely used, the voice is being misused... [North] Americans tend to use too low a pitch...imagine the throat as a megaphone that projects the voice. Divide the throat into three areas: the lower throat, the middle throat and the upper throat. The upper throat centers around the nose; the middle throat centers around the mouth area; the lower throat centers around the voice box or larynx. Resonance or tone focus should be produced from all three areas...Good voices have balanced upper- and middle-throat resonance--oral-nasal resonance...--with natural lower-throat resonance...Tone focus in the mask makes voices sound rich, full, vibrant and flexible." (Cooper, 1984, pp. 19-20)

Quality "Voice quality is affected by pitch and tone focus. Good quality may be described as clear and resonant. Misused quality can be termed nasal, thin, horse, foggy, harsh, whiny, breathy, sharp or squeaky, to mention a few types."

Breath Support "Breath support for speech should be centered at the level of the diaphragm, which is located in the midsection of the body. Upper-chest breathing, in which the upper chest or shoulders heave up and down as one breathes, is incorrect and detrimental because of the tension it creates around the throat area."

Volume "Correct volume is measured by its moderate level. Volume should be produced comfortably, without strain, and should be appropriate for each situation; inappropriate volume is too soft or too loud."

Rate of Speech "Rate of speech should be easy, natural, and flexible in response to the demands of the circumstances. Fast delivery can set the listeners' nerves on edge. A slow monotonous rate can bore listeners." (Cooper, 1984, pp. 20-21)

(4). Finding Your Natural Voice

Your first reaction to this might be I never lost it. However, be careful with this assumption. Just because it's familiar doesn't mean it's natural. Remember, you can be "comfortable" with many things which are un-natural and even harmful. Indeed, many people are "Allergic to their addictions" (in my case it's coffee). "...if you wish to improve the quality of your own sound, you must confront one inescapable fact: Change will not occur unless you take responsibility for your own voice and make it occur. There is no magic pill...There is, however, a method...This method of

direct voice retraining requires a certain amount of concentration, practice, and self-discipline...But the rewards of mastering these fundamentals of voice use can extend to many areas of your life." (Cooper, 1984, p. 153)

"A good voice is projected from the mask. The mask includes the bridge and sides of the nose down to an around the lips. Speaking through the mask will open your sound, make your voice flexible, and fill it with expression and warmth. It will give carrying power and range, as well as facial (oral-nasal) resonance, which gives correct tone focus." (Cooper, 1984, p. 174)

To begin to find your natural voice (optimal pitch level and a balanced tone focus are interdependent) involves the simplest of acts. Again, Cooper's system is so simple that some people have difficulty accepting it and search for complex and expensive treatments instead. I will outline his basic approach for free. You can read and follow his instructions in the book for more detail as well as more extensive discussion of more serious voice problems and many examples from the famous and not so famous.

Any time you read something that you agree with or that applies to you say in a spontaneous and sincere manner "umm-hmmm". Use rising inflection with the lips closed. "The sound you are producing should be your right voice--this is your natural pitch, enhanced by tone focus...[If done right] you will feel a slight tingling or vibration around the nose and lips. This indicates correct tone focus, with oral-nasal resonance. If your pitch is too low...you will feel too much vibration in the lower throat, and very little if any at all in the mask area...Repeat the exercise, say 'umm-hmmm' [spontaneously and sincerely], to determine if you are doing it properly. Make a correction, if necessary, until you feel the tingling sensation about the lips and nose...this simple method is...one you can use all the time...this is the voice you will learn to use all the time." (Cooper, 1984, pp. 23-24)

For practice "Answer each of the statements below with a spontaneous and sincere 'umm-hmmm'. Use a rising inflection, with lips closed:

- ∞ Winston Churchill was a noted orator and wartime leader.
- ∞ Franklin Delano Roosevelt is remembered as a president who possessed magnetism and great persuasive powers.
- ∞ too, would like to be skillful in the art of communication.
- ∞ My voice may be selling me short because I've never been educated to use it in an effective and healthy manner.
- ∞ For the first time, I am aware that the voice I've always used may not be the voice nature intended me to have.
- ∞ Since I would like to be the best person I can possibly be, I would be well-advised to learn the easy and straight forward techniques of correct voice production.
- ∞ By disciplining myself to use my natural, right voice in everyday conversation, I can use the inherent gift of speech to my best advantage.

"Let's ease slowly and gradually toward producing the same pitch level in conversation. Be aware of the slight vibration that should be occurring about the nose and mouth." (Cooper, 1984, pp. 174-175) To practice using your natural voice in conversation you start with numbers. Sincerely say "umm-hmmm one", "umm-hmmm two" etc. The pitch of the number should be the same level as the "umm-hmmm". Listen carefully to your self as you continue counting. Precede each number with a natural and sincere "umm-hmmm."

Once you are comfortable with this proceed to use Energy Words:

These naturally bring the voice forward to the mask area.

"...maybe you're not sure that you are making the transition from your old or habitual voice to your correct level.

"Standing, with legs straight, bend forward from the waist as far as you can. Let your head and arms dangle loosely. "Say

- ∞ 'Right!'
- ∞ 'Right-one.'
- ∞ 'Right-two.'
- ∞ 'Right-three.'
- ∞ 'Right-four.'
- ∞ 'Right-five.'
- ∞ 'Right-really.'
- ∞ 'No.'
- ∞ 'Go.'
- ∞ 'Hello.'

"Now stand straight up again, this time with your arms stretched high over your head. "Say

- ∞ 'Hello!'
- ∞ 'Right.'
- ∞ 'Really.'
- ∞ 'Umm-hmmm.'
- ∞ 'Umm-hmmm-my-umm-hmmm-name-umm-hmmm is' and add your own name here.

"Lower your arms to your side and repeat the same." (Cooper, 1984, pp. 176-177)

Another way to find your natural voice is The Instant Voice Press. "Standing, place your index finger just under your sternum (where your ribs come together). Now press gently with a staccato movement and make sound with the lips closed. The sound you are producing is essentially the one you were born to make...Now say 'umm-hmmm' in that same voice." (Cooper, 1984, p. 24)

(5). Breathing for the Life of Your Voice

Midsection breath support is crucial for the good health of your voice. "...midsection breath support...allows for properly controlled air usage. It also takes the muscular tension away from the throat area, placing it on the abdominal muscles...Correct breath support also allows for controlled volume without effort or strain. In midsection breathing, movement should come primarily from the waist area or midsection. Your shoulders should not rise and fall, and the chest should remain still. As you breathe in, your stomach should move out slightly. As you proceed to talk, your stomach should move in smoothly and gradually. This should not be a dramatic or even outwardly noticeable gesture." (Cooper, 1984, p. 46)

The following exercise will help you with proper breathing and integrate it with speech:

"Lie on your back on the floor, with one hand on your chest and the other on your stomach. Breathe in gently through the nose. Exaggerated deep breathing is neither necessary nor desired. Your midsection or stomach moves outward as you breathe in, with the chest remaining still during inhalation. Now exhale through your mouth. As you do so, you will feel the midsection smoothly and slowly deflate...breathe in now through the mouth...and exhale through the mouth. Breathing should be soft and easy, not labored or forced. Repeat this exercise several times...

"[R]epet the same sequence in the standing position. Keep one hand on the chest and the other on your stomach.

"Once you are comfortable with midsection breathing in the standing position, proceed to a sitting position and repeat the sequence again...

"Finally, keeping one hand on your midsection and the other on your chest, breathe in and say: 'Umm-hmmm. Hello, right, really, my name is ----

Feel the stomach move inward slightly as you speak. Take another gentle breath in, with the midsection expanding slightly, and say: 'Hello. Beautiful. No. Go. Do.'

"Do not rush through these breathing exercises. Perform them at a leisurely pace. You might feel dizzy the first few times you do these exercises; this temporary phenomenon is caused by excessive oxygen intake. It should pass quickly." (Cooper, 1984, pp. 177-178)

"[T]he change in pitch which you have achieved, accompanied by tone focus, has given your voice carrying power and clarity, not loudness...with midsection breath support, your voice projects with such fluidity and ease that you may initially sense it is louder than it really is." (Cooper, 1984, p. 49)

(6). General Guidelines and Recommendations

- ∞ " If you have a recording device, make a tape of your old, habitual voice at the onset of the retraining process.
- ∞ "Update your voice tape on occasion, often if you can. This way you can keep an accurate record of your progress, plateaus, and regressions.
- ∞ "Be aware that your volume may sound louder to you than it really is in the initial stages. Your breath support in combination with correct pitch and tone focus has literally moved your sound to a different place.
- ∞ "Allow time, if you can, in the morning to perform the simple exercises you have learned. Carry them out in the bathroom while you shower, shave, apply makeup, or blow-dry your hair. Resolve to 'wake up' your sound and correctly place it--in the mask--every day.
- ∞ "If you read the newspaper over breakfast, practice using your right, natural voice by reading aloud.

- ∞ "As you drive to work, read aloud the names on the street signs as you make your way across town. Be aware of your pitch level, of tone focus, of breath support.
- ∞ "Monitor your breath support during the day by discreetly placing one hand on your midsection when you speak. Check to see that your stomach moves out imperceptibly before you speak and gradually moves in as you use your voice.
- ∞ "Talk into noise, not above it or below it. Your new voice should be clear and efficient without forcing it, in almost any situation.
- ∞ "Assume a slower rate of speech in the initial phase of your retraining if necessary. Many...will find this necessary in order to concentrate on the mechanics. After a period of familiarizing yourself with your new, right voice, you will no longer have to keep a slow pace. Speed it up a bit, but not to the point where words or ideas run together.
- ∞ "Ask a friend or relative to undergo voice retraining with you. You'll find that an associate or partner can make the process more fun, as well as more revealing.
- ∞ "Play back your tape on occasion now. Compare and contrast the difference in your old, habitual sound and your new right sound.
- ∞ "Practice reading aloud in the evening before you go to sleep. Again, monitor the various elements of correct voice production.
- ∞ "Slowly become aware of your new sound concept. This is your special and unique sound. It is your right, natural voice, placed in the mask and buttressed with midsection breath support.
- ∞ "Review...[your]voice image. Ask yourself where your old voice image came from and what you got from it. Did it serve you well? Did it present you in your best possible light? was it you? Is it still you?
- ∞ "Decide that you wish to abandon your voice stereotype. No one wants to be a 'type.' You can be really good to yourself by accepting and embracing your individual and correct voice image.

"The practical principles for correct voice production are now yours. You are well on your way toward achieving voice success through the use of your right, natural voice. Enjoy using it--because I know others will enjoy listening to it." (Cooper, 1984, pp. 179-180) (Fleming's audio cassette The Sound of Your Voice will help you in this aspect of your self exploration)

c. Voice Tones and Personality

Psychologist Sandra Seagal has made the fascinating discovery that aspects of your personality and preferred learning style are "encoded" in your voice and therefore can be detected by a perceptive listener or by specially designed electronic equipment for "voice spectrum analysis".

Seagal says there are three distinct tones in your voice which reflect the relative functioning of mental, emotional and kinesthetic (physical/sensory) expression. Musician/educator Nancy Fierro has likened the three tones to the tones in a standard triadic musical chord. She has used the approach in learning diagnosis and treatment. And electronics engineer Harb Hayre has designed equipment which can identify the dominant tone in your voice but as yet hasn't been developed to do a complete triadic analysis to indicate the relative importance of all three tones.

The implication of this model is that in a classroom of students, for instance, there may be six different ways of perceiving and relating to the world with some of the students "in synch" with the teacher's orientation. Each different orientation has an optimum instructional method and learning environment. The diagnostic approach using "voice spectrum analysis" (human or electronic) is much more efficient for discovering these basic orientations than the usual method of testing and diagnosis. With the development of more sophisticated electronic voice spectrum analyses, much of the need for traditional personality tests will be eliminated.

Hayre has also used the approach to identify three types of stress being experienced (chemical, physiological or psychological) and the degree of impairment of function which results from the stress. This has implications for transportation safety and control. By monitoring a pilot's voice, for instance, you can detect dangerous fatigue levels before the pilot is aware of the problem. The degree of alcohol or other drug impairment can also be determined with "voice spectrum analysis."

The various combinations of tones relate to six basic orientations to the world (Table 1) each of which in turn have a unique sense of space and time relationships (Table 2). The following tables outline the model:

Table 1: Six Basic Orientations to the World

	SEEING	KNOWING	DOING
OPEN	<i>Visionary</i> Sees Wholes	<i>Harmonizer</i> Sees Unity	<i>Producer</i> Coordinates Tasks
STRUCTURED	<i>Investigator</i> Sees Distinctions	<i>Designer</i> See Diversity	<i>Performer</i> Focuses on a Single Task

Table 2: Characteristic Experience of Space & Time for Each Basic Orientation

EXPERIENCE OF

BASIC ORIENTATION	SPACE	TIME
VISIONARY	Perceives space with a diffuse focus	Lives in suspended time
INVESTIGATOR	More definitely focused perception of space	Lives in present time
HARMONIZER	Perceives space as free flowing & communal	Perceives time as symbolic & spiral like
DESIGNER	Treats space as private territory within a bound flow	Perceives time in a liner manner
PRODUCER	Lives in relative, synchronous space	Lives in instantaneous, 'telescoped' time
PERFORMER	Lives in localized space	Lives in incremental, evolutionary time

5. Alfred Tomatis and Sonic Therapy

a. Introduction

Since the early 1950's, French MD Alfred Tomatis has been researching the critical function of the ear in regulating the overall energy level of the body and the quality of speech by developing a comprehensive approach to communication, language and learning based on listening. He uses the term "Audio-Psycho-Phonology" (APP) to describe his innovative and multi-disciplinary approach. According to Tomatis, listening is a process of "focusing the ear" and refers to both how the ear works as an organ as well as to motivation for making it work to its full potential. Listening involves the ability to actively attune your ear to a particular sound with the intention and desire to communicate and interact with the sound source, a very active and creative process.

b. The Origins and Development of Listening

"For Tomatis, the listening process begins to develop early in pre-natal life. It is now known that four and a half months before birth the ear starts to function, and that all of our senses, hearing is the first to develop in utero....among the many uterine sounds, the fetus is able to hear distinctly the voice of the mother...long before they are able to speak, infants 'recognize' sounds, particularly music and stories read by the mother, which they have heard pre-natally...while in the womb the higher frequencies of the mother's voice literally nourish the fetus. A pattern establishes itself very early of waiting for this sound and being gratified when it comes, waiting, being gratified and so on, a process Tomatis calls the uterine 'dialogue'. It is with this process that listening begins, and carries on into childhood. The development of later communication skills, language acquisition, learning ability and social adjustment in particular, depends on the quality of this early listening. But for a variety of reasons, such listening can be obscured, impaired or shut down altogether. **The objective of the Tomatis Method is to present a means of retrieving the 'open' listening which is our birthright.**" (Listen: The Newsletter of the Listening Center, Winter 1985/86, p.2, emphasis added)

c. Listening, Not Hearing

The hearing mechanism is involved in much more than translating air vibrations (the physical nature of sound) into electrical chemical nerve impulses which the brain interprets as sound. For one thing, you are literally charged/energized by the brain cortical activity which results from stimulation from the inner ear. (Tomatis includes the stirrup along with the usual inner ear organ, the cochlea, because of their embryonic origin and nervous connections. The stirrup controls the sounds coming from your body whereas the other two bones, hammer and anvil, control external sounds). The inner ear (Tomatis' definition) interacts closely with the balance (vestibular) system located near the ear. In general the inner ear and balance systems are very responsive to the body/mind state of the person and so change with different positions, moods and so on.

This "Brain Recharge" from inner ear stimulation is then distributed throughout the body, toning it up. The toning up is transferred by the vagus nerve to larynx (voice box), pharynx, lungs, heart, stomach, liver, kidneys and intestines. Not just any sounds are re-charging. The inner ear has more receptors for high frequency sounds so high pitched sounds (e.g. 2000 Hz and higher) have the most charging effect. Low pitch sounds don't give sufficient energy to the brain to compensate for the body's energy use and the absence of high pitch sounds have a discharging effect. Long exposure to low sounds can be physically and mentally exhausting. By listening to sound sources which emphasize the high frequencies, you will experience increased energy levels and reduced tiredness, increased motivation, competence, improved attention, concentration and memory. All good stuff. Since the ear regulates the voice box (larynx), the quality of your speech and singing is determined by the health of your hearing mechanism. The voice box can produce only sounds that the ear can register so if your hearing changes, so does your voice.

Various hearing defects produce different problems:

Defects between 500 and 1000 Hz impairs music appreciation,

Defects between 1000 and 2000 Hz impairs your ability to sing in tune,

Defects above 2000 Hz impairs your experience of the harmonic and other tonal qualities that make the voice pleasant or melodious rather than flat and unattractive.

Your right ear is the "leading ear" for voice regulation. Closing your right ear will cause problems of quality, pitch and time/rhythm, whereas closing your left ear will improve your overall performance. The same thing happens to playing an instrument or acting.

"It is important to stress that the difficulties addressed by the Tomatis Method are not those of hearing,...of physical problems,...though any of these may affect a person's ability to focus on sounds. Rather, the Method concerns itself with a whole constellation of physical, social and psychological factors which bear on listening. These may include one's family and emotional background, self-image, even posture and body coordination. A child with a reading problem, for example, very often presents myriad other difficulties such as short attention span, poor concentration, weakness in oral language, poorly articulated speech, poor vocabulary and poor sentence structure. Such children are also often immature, with a poor self-concept and poor sense of self-confidence. They may also have a mixed lateral dominance and a poor sense of space and time. They have difficulty adjusting socially to their families and peer groups. Many of these same

problems, of course, affect adults as well. The Tomatis Method takes into account all of these factors, which together make up the real-life context in which listening must occur, in designing individual or group programs of treatment." (Listen Winter 1985/86, p. 2)

In our society, we all suffer some degree of ear damage, whether physical or psychological. According to Tomatis, many hearing problems occur because people tune out their own hearing during traumatic periods at critical times of their physical development. These can be at any time in your development, but are especially critical when you are in the womb or early after birth. To treat these defects, his "sonic therapy" reproduces the ear's developmental stages emphasizing the high frequencies.

d. The Tomatis Method

The therapy begins by listening to filtered voice or music comparable to those you heard while still in the womb. Then you listen to repeated stimulation of the sudden change of frequencies you experienced during birth. Next you are exposed to "pre-linguistic" sounds (Gregorian chants, lullabies, nursery rhymes etc.). Finally, linguistic sounds are presented for repeated imitation.

This therapy has been used in Europe since the early '50s with impressive results for deafness, emotional disturbance, hypertension, insomnia, speech defects, epilepsy, hyperactivity, dyslexia and autism. "Essentially, the treatment consists of listening, through headphones, to high frequency music recorded through a device of Tomatis' invention known as the Electronic Ear. The music is called 'filtered', because the low frequencies have been filtered out, leaving only the highs, or recharging sounds." (Joudry, 1984, p. 2) There is also the intermittent hissing bursts of sound, similar to sudden increase of distorted power on a radio station while driving a car. There are three audio documentaries which explain and illustrate this fascinating approach:

An Invitation to Listening "...is an introduction to The Tomatis Method, a program of auditory stimulation and counseling offered at The Listening Center. The Method has been found to assist in and accelerate the development of listening skills, language, and communication. [The tape] is designed to express the value of Listening in the most evocative and appropriate way--by means of sound. You will hear Tim Gilmore and Paul Madaule, directors of The Listening Center, in a public presentation about Listening and The Tomatis Method, a sound collage of comments and insights by clients of the Center, and reflections by Dr. Tomatis himself on this most vital of human responses" (from the tape description) It demonstrates the filtering and energizing effect of the Electronic Ear, and shows, in the voices of children and adults who have been through the program, how it has helped improve a wide range of learning and communication skills.

About the Listening Center "answers some basic questions about the Tomatis Method. Who can be helped by this program of listening therapy? How long does the program last? How do we use the mother's voice to simulate the way we listened before birth? Why is counseling during the program important? What sort of changes can one expect from the therapy? The tape includes a demonstration of 'focused' listening, illustrates the sounds heard as one progresses through the various stages of the program, and captures vividly the day-to-day life of the Center." (from the tape description)

The third audio documentary CHANT: The Healing Power of Voice and Ear illustrates these and other aspects of sound and, while emphasizing Tomatis' work, is broader in scope. It is "a musical documentary which explores the immense power of chant and sound upon the human body and

psyche. Dr. Alfred A. Tomatis...found that the brain and body are energized by the acoustic content of Gregorian chant, and by the music of Mozart. Such sounds, says Dr. Tomatis, are replications of the earliest perceptual experience of the fetus. He demonstrates his findings on this tape. Also included are the reflections of the flutist Paul Horn on his experiences in the Great Pyramid, and the voice of the American Trappist monk, Thomas Merton, so that clinical explanation is blended with a profound and subtle meditation on Listening" (from the tape description)

The Tomatis Method acts on and with the ear, working on three levels at the same time.

The Neuro-Physiological Level exercises the ear (like a muscle) to enhance receptiveness to sounds, particularly the sounds of language. This is applied to the control of your own voice and language where the immediate effect of better response by your ears is the dramatic improvement in the sound and expressiveness of your voice. "The exercising of the listening ability is made possible with an auditory corrective device designed by Dr. Tomatis and called The Electronic Ear. This device, which simulates a human ear listening properly, is used to improve both receptive listening and the control of the voice. The Electronic Ear improves receptive listening by presenting sounds which have been modified so that they are boosted in the higher frequency range. The control of the voice (self-listening) is improved as the listener makes singing or language sounds through a microphone into The Electronic Ear. There they are modified (enriched in the medium and high frequencies) and fed back to the listener's/speaker's ears through headphones. This allows the speaker to hear his voice as a 'good' ear would hear it. After a certain number of hours (from 50 to 100 in most cases) of listening and self-listening exercises, proper listening ability can be permanently established." (Listen, Winter 1985/86, p.2)

The Emotional Level. "There are a number of encounters in a person's life which can detrimentally affect the desire to listen, and thus to communicate. A difficult pre-natal life, traumatic birth, early separation from the mother, health problems in infancy and early childhood all can be critical. Often the child's only possible response is to 'tune out' his environment by selectively dampening critical frequencies in the sounds around him. this is an unconscious process, which can quickly become a permanent filter through which a child's world is perceived darkly.

"To admit the light again, as it were, Tomatis goes back to the sounds of the pre-natal environment, taking the individual on an excursion in sound through the most significant stages of listening development. The person listens to his or her own mother's voice, if possible, filtered in a manner which simulates the sound heard as a fetus, then as a newborn, and later as an infant. The pre-linguistic and linguistic stages of listening development are reproduced by introducing children's songs, chants, and by the repetition of words, sentences and stories. At the end of the program of auditory stimulation, the integration of written language is introduced through reading out loud exercises. During this sonic journey, the individual can re-encounter these developmental stages and make a more positive emotional passage through each one. The duration of each of the different stages of the program varies for each individual." (Listen, Winter 1985/86, pp. 2-3)

The Relational Level. "Children with behavioural or learning-related problems are a major concern for parents, teachers and the school system at large. Because of the constellation of difficulties presented by these children, they often create confusion in their environment. The misunderstanding they experience accentuates their difficulties, magnifies their frustration, and leads to feelings of rejection. They may respond in turn by rejecting or turning away from important aspects of their environment- family, school or peers. Parents receive counseling [at the center] to help them understand the child who is hidden behind the screen of difficulties and to help that child meet the

demands of growing up in a communicating world. Adolescents and adults also receive counseling [at the center] during the course of the program in order to better understand the changes they experience, and to help them focus on the new perspectives that proper listening and communication skills offer to them." (Listen, Winter 1985/86, p.3)

e. Who Can Use the Tomatis Method

"The Tomatis Method applies to people of all ages. Most [center] programs are individual, though group sessions are often recommended. There is a comprehensive program available for schools. The Method applies particularly:

To Children:

- ∞ with delayed or disordered language development;
- ∞ with learning problems such as short attention span, poor organizational skills, deficiencies in written language skills (dyslexia), poor memory, difficulties with co-ordination, balance, and motor function, etc.
- ∞ with behavioural and emotional problems such as hyperactivity, immature tendencies, social adjustment problems, withdrawal, etc.

To Adults:

- ∞ with adjustment problems at work and in family life faced with mid-life change;
- ∞ with problems related to energy level (tension, fatigue, depressive tendencies, feelings of being 'fed-up', loss of enthusiasm, etc.);
- ∞ with problems of later aging;
- ∞ with creative blocks and decreased mental alertness.

The Tomatis Method is also used to improve musical and singing ability and in learning foreign languages." (Listen, Winter 1985/86, p. 3)

f. Joudry's "Sound Therapy" Adaptation of the Tomatis Method

Since there are very few places for the full Tomatis Treatment (The Listening Center, 1170-R Yonge St., Toronto, ONT M4W 2L9 and at centers in France, Mexico and U.S.A.) and since the full treatment is quite expensive and time consuming because you have to go to the office for therapy, and since the therapeutic effects in certain stubborn cases (such as my own) may require years of daily listening (3 hours a day) and since she feels it is essential to have a maintenance program because the therapeutic breakthrough event is not necessarily permanent and the effect will wear off in a few months without a maintenance program of listening; for these reasons Pat Joudry, who did take the full treatment, has devised a do-it-yourself approach. She emphasizes the neuro-physiological aspect of treatment with the higher frequency sound emphasis coupled with the Tomatis Electronic Ear treatment using the medium of music. In a letter to me of 1986 June 27 she wrote "We all recognize and acknowledge that the higher frequency and direct stimulation with the

original Tomatis equipment is preferable, where one has the time, the money, and the geographical location which permits daily visits to the listening lab. But the alternative is to not have the therapy at all, and I enclose a sampling of some recent letters from people who would not want to have been deprived of this opportunity."

When she moved from eastern Canada (Toronto/Montreal) she discovered Tomatis' Method being used in St. Peter's Abbey and College in Muenster, Saskatchewan, Canada. The sound input she experienced in Muenster was the same as she had in Montreal, as far as she could tell, so this meant that this aspect of treatment was available here as well as at the Tomatis Centers. However, there was still the problem of having to "go to the office" for the therapy and sit and listen to the tapes for three hours a day. She noticed that many of the students had personal-portable stereo cassette systems ("WalkPersons") and it dawned on her that you could have a portable therapy program and so not be tied to spending three hours a day "in the office". (There is some criticism of this aspect in that the typical portable stereo cassette system is not of sufficient quality to reproduce the high frequencies required. She says they must be able to faithfully play sounds at at least 15,000 hz). Thus, she developed her Sound Therapy for the Walk Man. She offers a series of metal cassette tapes of music (mainly Baroque and early Classic period composers such as Mozart, Vivaldi, Boccherini, Handel, Haydn, Telemann, Bach etc.) with the Electronic Ear treatment. These tapes are expensive (currently \$50.00 Canadian each) since they are metal and each one is made in "real time" (not mass/fast duplicated but made directly from the master to maintain the high frequency). You need at least the initial 4 tapes. (One person has criticized her tapes as being of inferior quality to the originals of Tomatis and far too expensive. Again, this may or may not be true but the alternative is nothing). She has also produced Sound Therapy for Children program, children's stories read with a filtered voice and Electronic Ear.

There is some concern by those who offer the full Tomatis Treatment that Joudry presents her adaptation as the complete Method when it only deals with one aspect. The complete method involves diagnostic testing, a series of specially designed treatments for specific problems, extensive individual and group counseling and support, follow up evaluations as well as the processed sounds that Joudry uses in her Sound Therapy.

Also, she makes great claims for benefits from her approach without the usual research documentation, relying mostly on individual case studies and testimonials. In chapter six "Case Histories" of Sound Therapy for the Walk Man she summarizes some results she has received from people who have used her approach. "In the two years since its inception, and before being made public, the modified therapy has been used by many dozens of people. They have listened on their Walkmans while going about their daily routines, and after a number of months, which varied with each person, have reported their results. Some of these were dramatic, some subtle. Certain effects turned up in all reports: the briefer, improved sleep; the relaxation, energy and sense of well being. Besides this, all seemed to have something uniquely theirs to add, showing that this method goes beyond the confines of laboratory testing, allowing for effects as individual as the individual brain and character...One clear fact emerged: everyone who followed the listening instructions faithfully reaped positive benefits; there was no person for whom the therapy did not work." (Joudry, 1984, pp. 89-90) In the June 27 letter she reiterates this point in the feedback she has received from people who have used her tapes. She describes the feedback from 11 people plus a summary of the comments of 6 students at St. Peter's College.

Opposite the inside cover of Sound Therapy for the Walk Man (1984) she has this to say:

"This book is based upon a new discovery about the effect of sound upon the brain. Sound Therapy is a listening technique using high frequency music for beneficially recharging the cortex of the brain. The effect upon the person is one of vitalizing, harmonizing and healing in almost every area of being.

"The technique is safe and thoroughly tested. It is simple to do, using a Sony Walkman and the specially recorded cassettes of classical music. These are pleasant to listen to and do not require concentration. The sound can be absorbed at very low volume in the course of all usual activities, taking no time at all from daily routine.

"Documented results include:

- ∞ Easier, more efficient sleep. Sleeping time shortened by 2-3 hours a night.
- ∞ New vitality and sense of well-being.
- ∞ Obliteration of tiredness.
- ∞ Deep relaxation and relief of anxiety, with consequent healing of stress-related disorders such as high blood pressure, hypertension, digestive problems.
- ∞ Improved hearing, restoration of hearing loss due to aging.
- ∞ Curing of disorders stemming from imbalance of inner ear fluid: nausea, dizziness, tinnitus.
- ∞ Alleviation of stammering and other speech defects.
- ∞ Help for dyslexia, hyperactivity and behavioural problems in children.
- ∞ Natural weight loss, due to slowing of metabolism and lifting of stress.
- ∞ Heightened creativity and mental capacity. Improvement of memory, concentration and learning ability."

That is an impressive list for just passive listening to specially designed tapes for 3 hours per day for a total of 100 to 200 hours or possibly longer. There is evidence that the full Tomatis treatment has produced many of these results and there is evidence in the form of many testimonials that Joudry's adaptation has produced some of the results. The problem with testimonial evidence is basically twofold:

1. *Selectivity*: mainly those who benefit bother to give testimony and those who do not, remain silent. Joudry has not received any letters of harmful effects that are not part of the cure (mentioned in her book p. 76) so it is not dangerous or harmful in producing unwanted side effects that can occur with some medical treatments.
2. *The "Placebo Effect"*: For certain lucky "placebo responders", almost anything helps them if they deeply believe it will. They have a great talent for self-healing.

Joudry has this to say about this issue of "proof" of effectiveness: "The Tomatis technique in its original form has been widely tested under controlled conditions in universities, hospitals, and institutions geared to scientific studies of this nature. No such tests have been conducted with the Walkman/cassette system. There would be little advantage in trying to 'prove' scientifically the value of this simpler, more direct approach; for it is being proven experientially every day in the arena of life." (Joudry, 1984, p. 89)

In my own trial of the technique, I spent a total of 117 days adding up to 525 hours without any noticeable benefit. I discontinued using the tapes since I felt I could benefit more from other audio-tape therapies that I include in LESEP. However, I am not one of the lucky "placebo responders". In a way I am the acid test for the claims of any system. If it works for/on me it will likely work for anyone. You must be the judge of its use to you.

If you have the time/money you can go to one of the Tomatis Centers. If not, try "Sound Therapy". The tapes, books etc. can be ordered from Steele and Steele, Box 78, St. Denis, Sask, S0K 3W0. The playback equipment must be able to faithfully reproduce the higher frequencies up to at least 15,000 Hz (including the headphones which are necessary.)

To provide you with a taste of what Jourdy's "Sound Therapy" tapes sound like, I give you brief (8 or so minutes each) samples from Jourdy's basic four 90 minute tapes. Keep in mind that the originals are on mental cassettes and provide the maximum effect of the high frequencies. The samples are on regular tape so the high frequencies are not as reproducible. The audio-documentaries (Wilson Chant: The Healing Power of Voice and Ear, An Invitation to Listening and About the Listening Center about the Tomatis Method offered by the Toronto Listening Center) also provide you with some samples of the filtered/electronic ear sounds as well as more detailed information about the history and potential of the approach.

6. Silent Music: The Sound Within

Just as valuable as creating the sound externally for yourself is the internal silence of the sound within. "Music has a 'without' and a 'within.' It has both audible and inaudible sounds. To experience music fully, both kinds of sounds need to be 'heard'...When you know 'the other way to listen,' you begin to hear things most people never hear-like wildflowers bursting open, rocks murmuring, or mountains singing. Once you learn how to do it, it seems the most natural thing in the world." Halpern & Savary, 1985, pp. 172-173) You have to learn to listen before you can hear and you have to hear before you can ever play an instrument. As Donald Andrews wrote (The Symphony of Life) "if we but had the right ears, we could hear these atoms humming and singing." (he is a chemist!! See Berendt, 1987, for an extensive discussion of this concept)

Lao Tsu says "Silence is the great revealer." "To receive the revelation that silence gives, you must first immerse yourself in it. Silence is not merely the absence of noise or sound, it is a positive and specific state of consciousness. It is not easy to attain...Yet for almost everyone, silence seems to be a necessary prerequisite to higher forms of prayer and meditation...Silence is not a desideratum in our day. Many who approach deep silence find it frightening, so they panic and flee.

"In contemporary literature, according to R. Murray Schafer in The Tuning of the World, who researched references to sound and silence in published works, there are few happy descriptions of silence. 'The modifiers of 'silence' used most recently,' he writes, 'are solemn, oppressive, deathlike, numb, weird, awful, gloomy, brooding, eternal, painful, lonely, heavy, despairing, stark, suspenseful, aching, alarming.'

"This is not the silence of peace, contentment, fulfillment. This is not the silence that is the gateway to the divine presence... *When there is no audible sound, the soul is most alert for the inaudible vibrations of the universe. When there is no audible sound, the soul is most alert for the voice of God. In silence, the soul is most ready to hear....*

"Perhaps in our generation we have less need to speak to God than to begin listening to God. When sound meditation is true to itself, it calls us to listen in ways that transcend cultural limitations. It invites us to listen to God, to the eternal Song of the Kingdom. But what would be characteristic of such divine music? Any sounds made by God would have been initiated before our birth, would have continued unabated and unchanging throughout our lifetime, and would extend beyond our death. Such a sound, as Schafer observes, would be perceived by us as silence. This is not the silence of an empty vacuum, but the positive and full silence of the eternal music." (Halpern & Savary, 1985, pp. 187-189, italics in original)

In the earlier parts of this Unit, especially part "The Effects of Music on Human Mind, Emotion and Society" and part "The Role of Music and Sound in World Religions", I indicated that ancient civilizations used music and sound for very specific purposes. Tame believes that these civilizations had music which effortlessly elevated the consciousness of the masses, even to the spiritual realms, and so transformed and maintained societies and cultures at a high level of functioning for thousands of years. According to this belief, there are certain archetypal combinations of frequencies, sounds and resonances that can trigger indwelling responses to purify and uplift the listener. These combinations were learned and used very precisely and deliberately by composers and performers to stimulate the energies of unselfish love, caring, cooperation, a sense of justice, a desire for peacefully productive human relationships. Indeed, all that seems to be lacking in our world today.

Music and meditation have long been associated. Silence is an integral part of both music and meditation (ask any musician and you'll frequently get the response that the "rests" are the hardest parts to play--always the possibility of "coming in at the wrong time"). There is a tradition of "Hearing Secret Harmonies" (Godwin, 1987, chap. 2); "The Healing Silence" (Garfield, 1987, chap. 12) "Nada-Yoga" (nada= the continuous, persistent cosmic sound which is perceived inwardly in the head) (Hamel, 1978, pp. 191- 94); the "music of silence" exercise in Berendt (1987, pp. 146-149) and so on. In the broader picture Lingerman has provided extensive suggestions for daily focused reflection providing themes for meditation, short readings and imagery, combined with suggestions of particular pieces of music. "They open doors into Silence." (Lingerman, 1988, p. vii)

Steve Halpern has designed specific music for this purpose in his Spectrum Suite which is to be used in conjunction with visualization. His description of how this came about is illustrative of the relationships between silence, music and meditation. He started out originally as a trumpeter and guitarist and gravitated to jazz while becoming increasingly interested in mysticism. "Some years later, while he was meditating in the woods near Santa Cruz, his perspective in this area deepened. 'I started hearing this gently flowing music...Basically I heard what became my album Spectrum Suite in a couple of seconds.' He walked down the road to a nearby growth center...and began to play on the piano. The music needed developing but the essential ingredients were there. 'Since I had never studied piano...I was working more from sounds that I would hear--phrases and harmonic and melodic combinations.'" (Watson and Drury, 1987, p. 90)

In the "Spectrum Meditation" Halpern points out that there is a correspondence between the seven-member scale of musical tones, the seven-member scale of colors of the rainbow (spectrum) and the seven spiritual energy centers (chakras). This meditation combines openness to color, sound and the energy centers to welcome and channel the appropriate energy. "A problem with Halpern's system, however, is that the colours do not equate with the traditional symbolic colours ascribed by the Hindus themselves to these chakras. Nevertheless, the point is made that one can progress

meditatively from the active energy levels to the more introspective realms of spiritual awareness using these musical scales." (Watson and Drury, 1987, p. 29)

For the "Spectrum Meditation" you use the meditation format (approximately 20 minutes long) of the Spectrum Suite. The longer extended version is useful for relaxation and going peacefully to sleep. The instructions are as follows:

SPECTRUM MEDITATION

"...take a comfortable posture in which the spine is straight--either sitting, standing or lying on your back. Take a few relaxed deep breaths and let yourself relax even more. Then let the music begin.

"As the music plays, do not attempt to analyze or anticipate the musical structure, but simply allow your body, mind and spirit to float with the sound. You might imagine the music washing over you, or massaging you. The recording is divided into seven sections, each is about three minutes in length [so the complete meditation takes about 20 minutes.]

"During the first selection, which is in the keynote C, allow your attention to focus around the base of your spine, the first spiritual energy center. Hear and feel the tones of this selection resonating in that area and imagine...vibrations of pure red bathing this area of your body, filling you with the energy to transmit life.

"When the second selection comes on, with the keynote D, begin to raise your focus of attention to the second energy center, below your navel...Experience the vitality of the orange color and the energy of self affirmation it brings.

"At the third selection, keynote E, focus upon the area around the solar plexus. Visualize the color yellow, and open yourself to the energies of courage and forgiveness, including self-forgiveness.

"When the fourth selection comes on, keynote F, focus upon the heart area. Let yourself be bathed in green as you welcome the energy of unconditional love, for yourself and others.

"When the fifth selection begins, keynote G, visualize the color sky blue around the throat. Welcome the energy of will power into your life.

"When the sixth selection begins, keynote A, focus at the center of your forehead. See the area bathed in deepest blue, and be open to the grace of wisdom.

"When the seventh and final selection begins, keynote B, focus your attention at the crown of your head. Visualize a violet color there and welcome the energy of divine consciousness.

"When the music concludes, allow yourself to remain in this elevated state for a few more minutes. Enjoy the reality of your spiritual nature. Express your gratitude in any way that seems appropriate. When you are ready to return to ordinary waking consciousness, you will probably feel relaxed and refreshed." (Halpern & Savary, 1985, pp. 185-186, underlining added)

The most common, and very ancient, form of silent sound meditation is called "Mantra Meditation". It is most common and most developed in the Hindu religion but is not restricted to it. Every

religion, at one time or other, has used sacred power words, even though many have lost meaningful practice and have degenerated into mere formula and empty ritual.

Dr. Judith Tyberg (The Language of the Gods) says that the ancient Sanskrit language was evolved and developed by spiritual geniuses/ancient sages as divine revelations. Scholars of Sanskrit hold that every word or sound has a power. This intrinsic power is inseparable related to the sound. In Sacred Sanskrit scriptures the power of the word/sounds was intuitively discovered and consciously used to alter and heighten consciousness. These ancient sages, in their deep meditations, had the mantras divinely revealed to them and they passed by word of mouth until they were finally recorded in the Vedas. The perfection of the individual and the realization of the Cosmic Self can be realized through the sacred mantric syllables. They have the power to illuminate your consciousness; they are the sounds or syllables of great spiritual significance and carry an intrinsic power. According to Swami Shivananda (Japa Yoga, The Divine Life Society, Tehri-Garhwal, U.P., Himalayas, India, 1972), who was a great sage and practicing medical doctor (d. 1963) "The mantra is a mass of radiant energy...[it] awakens supernatural powers...A mantra generates, accelerates the creative force...Each mantra is unique, powerful and supremely divine...They represent different aspects of the Infinite Creative Intelligence."

The power was a combination of mind and Spirit. Mantras are designed to bring about a twofold effect: they invoke some aspect of the Infinite and they are a force which brings about spiritual influences through their vibrations. A mantra consists of sounds whose vibrations unlock the potential of super consciousness within. Thus, just any "secret word" will not do. The popular movement of TM (Transcendental Meditation) uses mainly if not exclusively, the Bija (or seed) mantras (see Lalita Choose Your Own Mantra, 1978, pp. 125-131). The best known of these is OM (AUM) which is the seed/origin of all creation ("In the beginning was THE word"). To learn the basic TM style of meditation, you can use Pat Carrington's CSM: Clinically Standardized Meditation self-instructional program involving three hour long cassettes and a workbook. Again, this is a very large topic. For more information see: Lilita, 1978, Choose Your Own Mantra; Easwaran, 1977, The Mantram Handbook: Formulas for Transformation; or Blofeld, 1977, Mantras: Sacred Words of Power.

C. Guided Imagery, Hypnotism, Subliminals and Healing with Music

1. Guided Imagery (section under development)

a. Synesthesia: Sensory Blending

The phenomenon of synesthesia or sensory blending involves the perception of a stimulus in one sense mode producing an experience in another sense. The most common is the hearing of a sound producing, in addition to the actual experience of the sound an added experience of vision. There are other possibilities as the evocation of smells or tastes or physical or emotional feelings or combinations of experiences. "For a synesthete, a voice can spark color or taste as well as sound. Information from one sensory department crosses to another in regular and amazing ways. Perhaps we cast off our synesthetic sense as we grow up; it's quite common among children." (Marks, 1975, p. 48)

The sound perception may trigger whole experiences or memories which can be quite vivid and involve several senses at once. "Sound, when it delivers you to memories, creates sensations in the body that induce involuntary movements. These twitches, chills, shakes, finger and foot tappings release joys, sorrows, and fears that haven't been fully discharged. (Garfield, 1987, p.9) The whole

area of imagery and music and many applications of music in psychotherapy depend on this very human ability of synesthesia.

However, many adults have a stunted ability. "The synesthete may see clearly what the rest of us see dimly. While less than 10 percent of the population regularly have such experiences...most people have at least some capability of sensing the world synesthetically." (Marks, 1975, p.48) "Children, with few exceptions, experience synesthesia regularly, but it vanishes in the socialization process. We do children a disservice teaching them not to tune into a multiplicity of senses at once...Those hardy souls who have kept their aptitude intact into adulthood are to be congratulated for their fortitude and self-possession. (Garfield, 1987, p.9)

The most common are visual hearing and visual tastes but Lemley (1984, p. 65) reports one person who had taste/physical feeling blending in the area of food. "Whenever Watson tastes food, he also feels geometric forms pressing against his face and hands. Sometimes, the shapes are quite complex: Roast beef 'feels' like long marble archways, and spearmint like cool, glass columns. His hobby is French cooking, and he says his taste-touch crossover is a great help, for while other cooks must test a dish by taste alone, Watson can also 'add some points to a chicken if it's too round'." (Lemley, 1984, p.65)

Research has come up with a few generalizations in the area of visual hearing: Speech-Color: Vowels are the most powerful. "Ah" produces red or yellow; "E" (late, let, beet) and "I" (bit) produce white; "O" (home) produces red and black; "U" (boot) produces dark colours like deep blue, brown and black. Music evokes much more variety and greater individual differences since it has much more complex stimulus qualities. In general, pitch and/or volume give rise to visual brightness (high and loud being the brightest). (Marks, 1975)

"To regain your full sensory capacity, isolate yourself either with headphones or by taking private time to listen intently to some of your favorite musical pieces...It's easiest to start with something you were very fond of when you were young...Close your eyes, breathe deeply, let yourself relax totally so your mind floats freely as you hear the music. Let your consciousness float, meandering until you reach smells, sights, and memories which are more real than ordinary recall. Continual reconnection with synesthesia in a specific setting will set the stage for spontaneous experiences." (Garfield, 1987, p. 9)

Sections planned but not done:

- b. Bonny's GIM (Guided Imagery With Music) (under development)**
- c. Miller's Source Learning Systems (under development)**
- d. Houston and Masters' Mind Games (under development)**
- e. Galyean's Mind Sight (under development)**
- g. Gawain's Creative Visualization (under development)**
- h. Drury's Music for Inner Space (under development)**

See the C90 audio cassette D.G.Campbell and V.R. Beasley Symphony for the Inner-Self: Personal Harmony Through Sound and Subtle Energies and Don Campbell Lightning on the Moon and Crystal Meditations

2. Hypnosis, Suggestion, Guided Imagery and Metaphorical Environments

a. Introduction

Lee Pulos, in his Adventures in Learning tapes, uses two basic approaches. Hypnosis is a guided imagery/suggestion approach using two techniques. One side has the same voice/instructions in both ears ("Single Induction") the other side has two related but different sets of instructions, one to each ear ("Double Induction"). The other basic approach is the use of subliminal messages, a technique which will be discussed in the next section. Dick Sutphen and others also produce their programs in both formats (direct and subliminal suggestion).

Pulos defines "hypnosis" in rather broad terms. To quote from the booklet accompanying the tapes "Hypnosis is a natural state of consciousness that we drift in and out of quite regularly. For example, while driving along a highway and then suddenly discovering that you 'lost' several miles without being aware of it. This can also happen during reading when you may notice that you have 'read' a chapter or two without being mindful of the content. Hypnosis is basically a technique for focusing consciousness. It allows you to shift from outer to inner awareness and tap deeper levels of consciousness...

"[You] will remain aware during hypnosis. As one goes deeper into hypnosis, a part of you will enter a deeper level of consciousness and a part of you will remain aware. This process is called dissociation and is becoming more accepted as a definition of hypnosis. On occasion, particularly if you are quite tired, there may be a brief masking of consciousness as you drift in and out of a light sleep but your inner mind continues to hear and record tape messages.

"Hypnosis is a skill that everyone can learn with increased practice. Like other skills such as playing the piano, learning tennis or mastering a foreign language, some persons are 'naturals' and can become accomplished with little training while others can increase their abilities with regular practice. Fortunately, most goals in hypnosis can be accomplished in a light or medium state.

"All hypnosis is essentially self-hypnosis. You can either agree to accept suggestions or you can choose to mentally override them or change them to better suit your needs. As one becomes more relaxed and less critical or analytical, suggestions are more easily received by the subconscious mind...

"Most learning during hypnosis is subconscious learning. Just as your mind may drift while driving along the highway, your subconscious tends to everything that will keep the automobile moving and properly oriented. Your subconscious functions in the same manner during hypnosis...

"As you go deeper into hypnosis, you will have easier access to the subconscious. Since the subconscious controls such functions as pain management, bleeding, blood pressure, healing and the immune system, and much more-you will actually have more control rather than less...

"Since approximately 80% of most physical and psychological problems are stress related, one of the greatest benefits of the tape programs will be to teach you how to reduce tension and stress levels of your body and mind. In addition, as suggestions are made directly to the subconscious, you can learn to control most automatic functions such as heart beat, blood pressure, healing, the relaxation response and many other processes...

"The hypnosis on our tape programs is for clinical and educational purposes to help you grow and achieve certain goals..." (Pulos booklet)

b. Changeworks' Ericksonian Hypnosis Approach

Another very sophisticated approach is provided by the Changeworks people (Thomas Condon, Carol A. Erickson and Steven Feinberg). The tapes they have produced are titled "Self Hypnosis for Reducing Your Stress" (27 mins), "Deep Self Appreciation" (44 mins) and "Natural Self Confidence" (40 mins) as well as a 6 tape program with workbook by Condon titled "Expanded Intuition Training" (there is a 40 minute sampler tape for this program). They combine the Ericksonian approach to hypnosis with multi evocation (two or more voices speaking at the same time) and special sound effects. To quote from their advertising brochure:

"Multi Evocation cassettes are so effective because of new and unique methods of learning. Each tape features:

"ERICKSONIAN HYPNOSIS- also called 'the new hypnosis', based on the pioneering work of Dr. Milton H, Erickson. This type of hypnosis is gentle, open-ended, and indirect. The hypnotic messages and suggestions are offered in a way that evokes powerful unconscious resources, yet is respectful of your individuality.

"MULTIPLE VOICES- each Multi Evocation cassette features at least two voices speaking simultaneously during hypnosis. This is an innovative method which works especially well for rapid, easy trance induction and to help the analytical thinking mind let go. [see the Pulos "double induction" approach described later].

"METAPHORICAL ENVIRONMENTS-each cassette uses metaphorical environments in combination with hypnosis. Research has shown that the language of the unconscious is primarily metaphorical. Multi Evocation uses metaphor in a directed fashion to evoke and support the positive changes and results in each tape. Thus, your unconscious mind is being spoken to in its own language.

"SPECIAL EFFECTS- the tapes use music, advanced psycho-acoustic techniques, and state-of-the-art special effects to deepen the reality of your hypnotic experience. Some Changeworks cassettes feature 3-dimensional sound--especially processed effects that sound like they are actually *happening* in your presence. Listeners report that the realistic quality of sound puts them more fully into their hypnotic experience." (see the discussion of holophonics in an earlier section of this unit)

Listen to the tape Introduction to Hypnosis and Multi Evocation for an explanation of these aspects of their tapes.

c. Double Induction and Multi Evocation

The "Double Induction" technique is a unique aspect of Pulos' system. Most hypnosis tapes are the typical single voiced induction. To continue on from the booklet: "A regular hypnotic (side one of all our tape programs) has one voice offering visual and suggestive imagery. A double induction is developed with two voices on two tracks (both voices are Dr. Pulos'). There is a great deal of overlap or speaking simultaneously of the two voices. It is a relatively new and innovative technique that has been proven to be very powerful and effective for most people. The suggestions

are offered in an indirect, natural and permissive manner that speak directly to the subconscious. Double inductions are particularly useful for persons who are overly analytical, critical and intellectual in their approach to hypnosis. Both techniques [single and double induction] are equally useful and effective. Many persons prefer to alternate or have a choice between different styles of learning hypnosis. It is most important to try not to follow both voices simultaneously. Most persons prefer to allow their conscious minds to wander during a double induction and allow their subconscious to do the listening and learning." (Pulos booklet)

The voices on the Changeworks tapes sound contrived and artificial when you first hear them. They are definitely not the usual way of speaking in terms of volume, pitch, speed, and pronunciation. This is planned to produce the maximum impact. They are "exquisitely choreographed" and not intended to be a duplication of normal speech.

The content of the suggestions are very permissive with many qualifiers like "might", "consider", "try", "perhaps", "or" leaving you with the choice to participate or not. Also, they are very metaphorical and use many analogies, stories and parables to induce change. Thus the suggestions are very indirect. This helps get around much resistance to change and growth that the conscious ego mind produces and speaks more directly to the creative unconscious aspects of your personality.

d. The Best Way to Listen to Hypnosis Tapes

The Changeworks people provide the following instructions for the maximum benefit from their tapes which also apply to the Pulos and other tapes (from the Changeworks tape enclosure) (Also listen to the tape Introduction to Hypnosis and Multi Evocation for an explanation and instructions about their tapes):

"Find a quiet, comfortable place that is free of outside distractions. Close the door, unplug the phone, remove any contact lenses, etc. Get comfortable in either a sitting position or lying down, loosen any tight clothing. Then turn on the tape, close your eyes, and simply listen.

"When the multiple voices begin to speak, you may, at first, want to keep track of what each voice is saying. After a while, you might let your conscious mind wander freely among the voices. By listening in a relaxed way, the messages, metaphors, and images can flow more easily to the unconscious parts of you that need them most. Many people go into deeply relaxed, natural trance states or drift off into restful sleep. Later, they may consciously remember only a portion of the hypnotic experience and yet feel the benefits in their daily life. This is perfectly fine, as the unconscious remains receptive to only positive suggestions and ideas even in sleep.

"Multi Evocation tapes are designed for frequent use and benefit. Great care has been taken to make the tapes not only effective but *interesting* enough to listen to often. Many people tell us that they hear new meanings and find new value in our tapes, even after months of use and benefits. There are multiple levels of metaphor, puns, and complex special effects in each tape. Part of the fun of using the tapes is in finding your own new levels and dimensions of meaning.

"Tips to Enhance the Value of The Tape

- ∞ Use headphones whenever possible. These tapes are made to be heard in stereo. If you don't yet have headphones, even inexpensive ones will do.

- ∞ You can listen to the tape as often as you want. At first, we recommend listening from four to seven times a week. During the day, the tape will provide you with a refreshing time out from the day's activities. Listening to this tape at bedtime is perfect preparation for a good night's sleep and pleasant useful dreams.
- ∞ Use the tape regularly. The practice of hypnosis is a skill and like any skill, it requires practice. A relatively small investment of time will positively affect your performance and state of well-being throughout the entire day.
- ∞ If you are using the tape before bed, make sure the player is out of the way in case you go to sleep. Give yourself a suggestion that you can drift off into sleep when the tape is over and ignore the wake-up instructions at the end of the tape.
- ∞ You can also ask your unconscious mind to provide you with some pleasant beneficial dreams, perhaps helpful to some problem you are in the process of solving.
- ∞ Ask yourself a question each time you use the tape. You may or may not get obvious answers at first but before long, answers will begin to come.

"Since the cassettes do help you reach a deeply relaxed state, **NEVER PLAY OR USE THEM WHILE DRIVING A CAR, OPERATING MACHINERY, OR DOING ANYTHING WHICH REQUIRES YOUR WHOLE ATTENTION.** It is also advisable to wait for at least 15 minutes after each listening before going on to any new activity."

e. Description of the Three Changeworks Tapes (from the ad)

Self Hypnosis-For Reducing Your Stress (27 mins)

"For a relaxing time out! This tape takes you to a magical place that can be anything you want it to be. For stress reduction, goal setting, problem solving, enhancing inner resource states, and getting fresh perspectives. (Erickson and Condon)"

Deep Self Appreciation (44 mins)

"A 3 voice 'hypnotic chorus' and multiple special effects to brighten and support your inner well being on many levels. This tape is also excellent for insomnia and dream enhancement. (Erickson, Feinberg and Condon)"

Natural Self Confidence (40 mins)

"A beautiful inspiring tape that offers a natural setting where you can experience the depths of confidence within your unconscious mind. (Erickson and Condon)"

f. A Description of the Expanded Intuition Training Program

This program consists of a workbook and 6 instructional tapes. It offers clear, direct tools to tap the power of intuition and gives practical training in the use of intuition in life. The tapes employ "Multi Evocation" (multiple voices providing simultaneous left/right input of information

programmed to be mutually reinforcing in effect), guided exercises, metaphor, guided imagery and parable to connect with your deep self, original music and three dimensional ("holophonic") sound effects for heightened reality. These techniques provide a rich enjoyable experience and greatly enhance the effectiveness of the program.

An Intuition Sampler tape of about 40 minutes explains and illustrates the various aspects of the program with excerpts from each of the 6 tapes in the series. It might be useful to listen to this as an orientation to the concept and techniques used in the program. Also, a glance through the workbook that accompanies the tapes might be beneficial.

A review of the program in Magical Blend magazine (issue # 17) says the following: "Most of us experience intuition as something that comes and goes bringing useful information or spiritual insights, but in a random, mysterious way. This tape series starts from the premise that everyone has intuitive capacities that can be brought forth and used deliberately. Once you learn to recognize how your intuition communicates, you can then apply it to practical problem solving, understanding relationships, finding spiritual guidance, and answering your own questions.

"While this is not a new idea and many writers espouse the value of intuition, this tape series takes an experiential, how-to-do-it tact. And it works: Expanded Intuition Training is a fascinating, practical and intelligent approach to developing intuition. These tapes actually deliver more than they promise.

"Thomas Condon is a well-know teacher of Neuro-Linguistic Programming [NLP], and Ericksonian Hypnosis which is based on the work of Milton H. Erickson [the "new hypnosis" which is much more permissive and uses metaphor and parable to produce deep and lasting change]. In the tapes Condon has combined techniques from these two disciplines along with meditative practices, and the results of his study of highly intuitive people. He has also added some really magical special effects..."

[Multi-evocation, Metaphorical Environments to evoke and support the positive changes and results, and Special Effects and music to deepen the reality of the experience.]

"Tape 1 uses a process called Multi Evocation which features 2 versions of Condon's voice speaking simultaneously through stereo channels. This process is explicitly hypnotic and seeks to balance both hemispheres of the brain and integrate the rational with the intuitive. This is all done indirectly through metaphor: you begin in a forest, walking down a path where 2 streams are flowing side by side. They gradually begin to merge into a larger river as Condon's two voices turn into one voice...

"Tape 2 features a series of exercises which help the listener identify the subjective difference between intuition and conscious thought. You then set up a direct channel of communication with your intuition and apply it to specific situations in your life. The exercises are direct and simple but evoke surprisingly clear results.

"Tape 3 deals with blocks and inhibitions the listener may have to becoming more intuitive. On side B there are movement exercises to discover the physical difference between a blocked state and one in which intuition flows freely. This uses the 3-D sound ["holophonic"]; Condon actually sounds like he is *walking around* in the room with you. The effect, at first, was startling and then subsequently helpful (once I realized that I wasn't going to bump into him).

"Tapes 4 and 5 are really special. Both feature elaborate 3-D effects in metaphorical environments and both tapes allow you to ask direct questions of your intuition and get answers.

"On **tape 4**, The Ultimate Library, you begin in a house (modeled to your own psyche, a la Jung) and find a secret passage which leads to an underground tram rather like a ride at Disneyland. This takes you to the library where the sum total knowledge of the universe is stored. There is a computer named Akashic 1 who acts as a go-between and will take questions from you and then search the library for answers.

"**Tape 5** is more spiritual in tone. In it you encounter an intuitive guide and develop a telepathic rapport. The guide will also answer your questions in a much more personal way.

"Both of these tapes are wonderfully written and performed. They are relaxing, affirming, and fun (Akashic 1, for instance, is an actual computer programmed for the tape). Above all, though, the formats work. I [the reviewer in the magazine] have asked questions of the library and guide at least 50 times now and I never fail to get clear helpful answers and practical solutions.

"**Tape 6**, Beyond Time and Space, deals directly with psychic phenomena. The introduction is fair, balanced and plain. There are techniques for predicting the future, remote viewing, and getting first impressions about people. I've [the reviewer] been working with a partner on these exercises and we both get uncannily accurate results.

"This series is a must for any explorer of new and inward realms as well as those who want practical guidance in daily living. It is designed for and will doubtless reach a large audience but is also compatible with more spiritual orientations." (Magical Blend magazine, issue # 17)

The blurb which accompanies the tapes says the following:

"**Clear, no-nonsense tools to tap the power of your Intuition.** "Now you can profit from your Intuition if you have ever wanted to:

- ∞ Have fast dependable access to your Intuition
- ∞ Find guidance for decision making
- ∞ Correctly judge and forecast
- ∞ Solve problems creatively
- ∞ Understand and improve your relationships
- ∞ Challenge the limits of the possible...

"Expanded Intuition Training tm is based on years of original research into the neuro-physiology of Intuition. It was discovered that intuitively gifted people unconsciously use certain abilities that are common to everyone. These abilities are available to each of us--it's just a matter of learning your own Intuitive language.

"This tape series and workbook will teach you how to:

- ∞ Identify your own 'Intuitive style' (through words, feelings, or imagery)
- ∞ Allow your Intuitions to come through for you
- ∞ Know which signals to look for and trust

- ∞ Use your Intuition on demand
- ∞ Get high quality information for any purpose you desire.

"These tapes also feature state-of-the-art special effects, including Multi-Evocation (multiple voice hypnosis) and 3-Dimensional sound effects that are 'more real than real'. This breakthrough audio technology provides a richly enjoyable experience and greatly enhances these uniquely effective learning tools.

"**Thomas Condon**, M.A., is the Director of The Changeworks in Berkeley, California. He is an adjunct faculty member of the University of California at Berkeley. His writings have appeared in a number of periodicals...He is a consultant to organizations, guest lecturer at conventions, universities and on television. He conducts seminars and workshops on Expanded Intuition Training, Ericksonian Hypnosis, and the Therapeutic Uses of Humor."

The workbook discusses the program and its origins, the various aspects of the intuitive experience and the "types of intuition": Personal Intuition, Interpersonal Intuition, and Transpersonal Intuition (workbook pages 1-39)

Both the workbook readings and the tapes are meant to be read and listened to more than once. This is especially true of the tapes since there are many things going on at once and they deal with many levels of meaning simultaneously. The workbook and tapes are also meant to be used in conjunction with each other in an integrated manner.

To begin, you read about the tapes and how to use them to the maximum benefit on pages 40-44 of the workbook. Then listen to Side A of tape 1 (Opening up to Intuition) which is an introduction to the Series and a brief lecture on Intuition with a brief 12 minute version of the full hypnotic experience contained on side B (see description on page 45 of the workbook). If you have listened to the "Intuition Sampler" tape, this will be a reinforcement of that material.

Once you have been oriented, you are ready to begin your program. Before you proceed with actually trying and experiencing a specific tape I would recommend that you read the description and information about that tape (tapes are discussed on pages 45-63 of the workbook).

Tape 1- Opening Up to Intuition: Side B of tape 1 (discussed on pages 45-47 of the workbook) is your first in-depth experience and it uses the "Multi- Evocation" (multiple-voice hypnosis) technique in a natural setting and it is *strongly RECOMMENDED that you use STEREO headphones* for maximum effectiveness. It will help awaken and motivate your Intuitive abilities.

Tape 2- Your Intuitive Language: incorporates 4 different exercises (two on each side) to be done in order. It teaches you how to identify and then interpret the language of your Intuitions. *STEREO headphones are OPTIONAL* (see pages 47-53 of workbook for discussion of tape 2).

Tape 3- Blocks to Intuition: Side A *STEREO headphones are OPTIONAL* but Side B (the Intuitive Walk) *uses the 3-D sound effects and so REQUIRES STEREO headphones* for this effect. It helps you identify and work with any blocks or resistance you may have to using your Intuition more often. See manual pages 53-56.

Tape 4- The Ultimate Library: *REQUIRES STEREO headphones for the special 3-D effects*. The first of two fantasy journeys to metaphorical environments where you can ask questions of your

intuition. You go on an inner journey to consult a library with infinite information. On side B you can ask specific questions and receive answers. Workbook page 57.

Tape 5- Your Intuitive Guide: *REQUIRES STEREO head phones*. This is the second of the journeys to a metaphorical environment. The Intuitive Guide helps you establish a relationship with your Intuitive resources. In addition, you can consult the guide on particular questions, issues, and decisions in your life. Workbook pages 58-60.

Tape 6- Beyond Time and Space: *STEREO head phones are OPTIONAL*. This deals with the development of Transpersonal Intuition (discussed in the workbook pages 28-39). It offers information and techniques to develop psychic capacities. It features exercises for predicting the future, and remote viewing. The tape is discussed on pages 61-63.

g. List of Affirmations on the Pulos Hypnosis Tapes

Developing a Winning Attitude (DWA-D)

1. I'm influenced only by positive thoughts and positive people.
2. I control my self talk and am actively in charge of my life.
3. My strengths grow daily and I am confident in my abilities.
4. Challenges and goals stimulate my strengths.
5. I am a unique and extraordinary person.
6. I am positive about life and choose to employ my strengths.

Confidence and Self-Esteem (CSE-D)

1. I am peaceful and at ease in every way, every positive suggestion finds its way, deep into my subconscious and becomes my very own.
2. My body functions perfectly. My mind is calm and serene. I am able to think more clearly, concentrate more easily. My memory improves daily and my mind sees things in new perspectives.
3. I'm the complete master of myself in all situations with which I have to deal.
4. I'm completely confident in all circumstances which I can handle naturally and easily.
5. I feel this deep inner calm through every fiber of my being and no matter what I do I am convinced of my abilities and know I can attain whatever goals I set for myself.
6. All my objectives become easier and easier to accomplish.
7. With every breath I take, these suggestions go deeper and deeper into my unconscious.
8. I enjoy optimal health and feelings of well being at all times.
9. I enjoy eating foods that are good for my body and all my habits and thoughts are becoming directed toward increasing physical and mental vitality.
10. When I go to sleep at night both my mind and body relax and enjoy the opportunity for rest and healing.
11. I sleep soundly every night and awaken refreshed and invigorated, looking forward to the enjoyment and challenges of a new day.
12. Every day my intuitive sense about people and situations is awakening and becoming stronger.
13. The more positive thoughts I have about myself and other people and new challenges, the easier it is to achieve my goals.

14. In times of stress, I will replace negative or fearful thoughts with meditative or relaxing imagery.
15. Everyday I feel more and more independent, better able to stand up for myself, to express myself and hold my own no matter what situation arises.
16. I enjoy new opportunities for learning and can look at new ideas with an open mind.
17. I can always find something positive in people and be tolerant of their weaknesses or shortcomings.
18. As I become more tolerant of others I am better able to see and appreciate the strengths and character of my own being.
19. Life is a fascinating adventure and I enjoy life to the fullest.
20. I am able to participate fully in the flow of life and essence of my being, physical, mental and spiritual.

Goal Setting (GS-D)

No affirmations. Instructions about waking dreams and developing a dream guide.

Stress Management and Deep Relaxation Direct (SM-D & DR-D)

No affirmations

Creative Thinking and Problem Solving Direct Induction (CTPS-D)

No affirmations

Developing Intuition (DI-D)

No affirmations

Improving Memory (IM-D)

1. Each problem I face stimulates my strengths and increases my mental efficiency.
2. I have an excellent memory and my capacity for retention increases every day.
3. I am able to create interesting associations, focus my concentration, and remember what is important, better and better each day.
4. Interfering thoughts from the past fade into the background as I concentrate on learning in the now.
5. My mind is calm and relaxed as new information flows smoothly and is absorbed easily.
6. I have the self-discipline to accomplish my goals.

Concentration and Studying (CS-D)

No affirmations, teaches a thumb press technique for remembering, concentration etc.

3. Subliminal Suggestions

Subliminal audio tapes are very popular tool for self improvement now. This development is relatively recent and still quite controversial (Levine, 1986). Taylor's book, (1986) Subliminal Communication: Emperor's Clothes or Panacea?, presents a balanced review of the field and discusses the problems and potentials of subliminals in an easy to understand manner. I will discuss four sets of tapes: Lee Pulos' Adventures in Learning, SuperLearning's Second Nature, Steve Halpern's Soundwave 2000 tapes, and the unique John-David Learning Institute Brain/Mind Expansion tapes. A selected list of companies which produce subliminal tapes is provided at the end of the unit list of sources and bibliography.

a. Introduction

"The success of subliminal messages has been reported in popular publications such as Time magazine, Omni, Psychology Today, and the Wall Street Journal. In the Time magazine article 'Secret Voices', it was reported that subliminal messages in a department store's muzak system ('I take a great deal of pride in being honest, I will not steal') reduced shoplifting by 37% over a nine month period. A similar claim in a Wall Street Journal story accounted for significant reduction in pilferage and theft in a New Orleans supermarket. Dr. Norman Dixon, a psychologist at University College in London, England has written a scholarly book, Preconscious Processing, summarizing significant research on subliminal learning. He cites 748 references and over 80% of the studies on the effects of subliminal stimulation revealed positive results.

"Dr. Hal Becker, a behavioral scientist at Tulane University in New Orleans, has been investigating the successful outcome of subliminal communications for over twenty-five years. He published dozens of research articles which support the effectiveness of subliminal stimulation. In essence, the research data is factual and convincing. Subliminal perception does effect the subconscious and can be an effective tool for influencing behavior..." (from the booklet accompanying the Lee Pulos' Adventures in Learning subliminal tapes)

b. Research on Psychoactivating Subliminals

Much of the research has been done with visual subliminal suggestions (Key, Parker, Silverman). Parker's study (1982) in an education situation is particularly interesting. In a course on business law, three times each week Parker presented three different visual messages to three different groups using a tachistoscope which allows the message to be flashed at a rate beyond your ability to see it consciously. The students were instructed to imagine some academic situation that made them tense. When the situation was in mind they looked through the eye piece and saw a flash. Then, whenever the students began to feel tense about something in school, they were advised to remember the flash of light. All told, each student received 48 flashes of light during the term.

The course grades were then compared for the three groups of students. The group which received the control/neutral subliminal message of "People are walking" scored in the low B range. If you were in the group who received the message "The Prof and I are one" you scored in the high B range. If you received the message "**MOMMY AND I ARE ONE**" you would be in the low A range. The only thing that could account for the grade differences were the different subliminal messages. Also, four weeks after the course was over, those students who received the two non-neutral suggestions remembered more of the course content. In addition, there were spill over effects to other courses and life in general. The students reported that things in general were going

better. This has been found in other studies also. Increases in self-discipline and self-motivation, more controlled about TV watching, better behaved at home and in school, improved self image all have been reported.

The power of the suggestion "MOMMY AND I ARE ONE" has been tried in many different settings with different groups and different cultures (schizophrenics, neurotics, depressives, stutterers, phobics, general patients in counseling and psychotherapy, dieters, smokers, alcoholics and drug abusers, delinquents, assertiveness trainees, students on various levels of education).

This research on psychoactivating subliminals (which address unconscious areas of conflict) has been pursued most vigorously by Lloyd Silverman (unfortunately, he died in 1986 and so it is unclear who will continue the research). His interest is mainly in the area of treatment of disorders by psychotherapy. His theoretical interests lies in investigating the reality of the idea that each of us has a powerful unconscious wish for a state of oneness with "the good mother of early childhood" and that gratification in fantasy of this wish can enhance adaptation and performance. There are some limitations to this effect:

- ∞ It assumes that you have developed your self-concept or sense of self sufficiently so that "fantasy fusion" doesn't threaten you. This would be true for all normal people. There are critical differences with certain populations of schizophrenics.
- ∞ There is a difference between males and females. For almost all male groups of whatever type, the "Mommy and I are one" message produced good effects. For about half of the female groups, there was no effect. However, "Daddy and I are one" was effective, but not for males.
- ∞ The use of "one" in the suggestion is crucial for the effect (close, alike, the same as etc. doesn't cut it).
- ∞ "Dosage" level is important; that is, repetition of the message makes it more effective.
- ∞ Finally, it is important that the message be subliminal and by-pass the conscious mind for it to be effective.

A fascinating study by Hayden and Silverstein (1983) demonstrated another aspect of this area. Using university men and dart throwing task, those who got the subliminal "It's OK to beat daddy" did better than those who got "It's not OK to beat daddy". The phrase "It's OK to win mommy" (and thus beat daddy) also improved performance.

Silverman has reviewed the literature in several articles (1980b, 1983, Silverman & Weinberger, 1985) and a critique of the methodology of the research has been done by Balay and Shevrin (1988). The effectiveness of this approach has not been established to many peoples satisfaction, especially those with a scientific interest.

c. The Position of Health Care Professionals on Subliminals

"Habit control, stress reduction and relaxation messages have been programmed into subliminal tapes which are being used by a variety of health clinics. Since 1980, the McDonagh Medical Clinic in Cladstone, Missouri has utilized subliminal stimulation in their waiting room to reduce anxiety in patients. Medical clinics in Donville Pennsylvania, Mt. Vernon Illinois and Toronto Ontario have also played positive subliminal messages for their patients. While it is by no means universal, there is an increasing professional awareness and support for subliminals as an adjunct to conventional medical and psychological treatment." (Pulos' brochure accompanying the tapes)

d. Dangers and Ethics

"Depending on intent, a laser can be used for constructive or destructive purposes. Theoretically, subliminals could serve similar motivation. In other words, the content of the message determines the outcome. For this reason, a complete list is enclosed of all the subliminal words and phrases used in each tape. Subliminal communication poses serious ethical considerations because it can influence a person's behavior without conscious awareness. It could be a form of 'mind control' suggesting connotations of 'Big Brother'. It can also represent an invasion of privacy, especially since subliminal messages are difficult to establish or prove. Dr. Dixon, in his book Subliminal Persuasion has described a number of instances where advertisers have inserted subliminal messages without consumer awareness. The Federal Communications Commission, for two decades, has had a policy against 'concealed' advertising, but no rule prohibiting it. We [Adventures in Learning] do not believe in subliminal stimulation without your informed consent. In addition to listing all subliminal messages in the tapes, all of Dr. Pulos' voice tracks, before mixing, are available for examination upon request...

"Both hypnosis and subliminal stimulation bypass critical or analytical thinking. Both processes rely on unconscious learning. Hypnosis, however, is an 'active awareness' and engages different flows of consciousness, depending on the suggestions. Subliminal perception is a more passive process and relies on frequent repetition of messages. Both are equally effective. However, motivation plays an important role. If you are genuinely motivated to lose weight or reduce stress, then either self-hypnosis or subliminals can be a powerful ally in achieving personal goals..." (Pulos tape brochure) For an important audio-documentary on the power and problems of hypnotism and subliminals listen to D. Stuphen The Battle for Your Mind: Persuasion and Brainwashing Techniques

e. Brief Descriptions of the Tapes

(1). The Pulos Adventures in Learning Tapes

"Several subliminal recordings are already available through catalogues and advertisements [see the list of companies at the end of the bibliography]. Most of them use a very basic technique of lowering the voice volume and feeding it into a bed of white or pink noise. After reviewing the electronic and acoustical literature, we discovered that we could make significant improvements to the traditional subliminal approach. Dr. Pulos' voice was 'treated' by spectral analysis and then broken into sub harmonic chord components. Subsequently, the subliminal voice was filtered, synchronized and carefully blended with originally composed music. The final result produces a synthesized subliminal voice that becomes an integral part of the music. This is a powerfully effective manner of communicating with the subconscious in the manner it understands best, namely music and nonlinear language. **SIDE A** [of the Adventures in Learning tapes] features four original, contemporary, customized compositions. Especially written by WAVE PRODUCTIONS for our subliminal programs, each musical selection is bright and continually interesting with an innovative jazz influence that appeals to people of all ages. **SIDE B** was recorded on the west coast of Vancouver Island and features the universally calming sounds of ocean waves and the surf." (Pulos tape brochure)

Special tapes using the ocean only sound format have been developed combining the following: "Creative thinking and Problem Solving + Developing Intuition", "Relaxation and Stress

Management + Goal Setting", "Developing a Winning Attitude + Confidence and Self-Esteem", "Improving Memory + Concentration and Studying".

(2). Second Nature SuperLearning Tapes

The following is taken from the promotional description of their program. "Think of a good resolution you've made--to learn a language, to lose weight, to be less critical, to exercise more. Remember how you started off with gusto. Then days passed and your drive began to peter out...it was as if some part of you was dragging its feet. Maybe it was. The unconscious self has a mind of its own. Getting 'yourselves' together can be an open sesame to positive change. Now, there's a new, clear channel of communication to get the word to your inner self. With that help you can make accomplishment and excellence second nature.

"What You Don't Know Can Help You. SuperLearning's Second Naturetm Tapes speak directly to your subconscious with subliminals. Subliminals are anything picked up by the senses that you're not consciously aware of. Pithy, positive statements-- audio subliminals--bypass the filtering conscious mind but are clearly registered and acted on by the ever listening subconscious. You hear only the covering sounds--music, surf, pink noise. Your inner self hears the embedded messages.

"Do It In 'No Time'. The best part of talking to yourself subliminally is that you can do it--literally--in no time. You can play subliminals anywhere, when you're doing anything. Some experts think subliminals work best when you're paying attention to something else. Just let your subconscious do the work.

"Why SuperLearning and Subliminals Go Together. 'A Hot New Trend!' Time, Omni, The Wall Street Journal, even the Bar Association Journal have discovered subliminals. But subliminals aren't really new. The Soviets began researching them 50 years ago. In part, SuperLearning draws from that work. What's unique about accelerated learning-- SuperLearning is that it allows you to organize and work with the vast amount of data picked up unconsciously. SuperLearning is always aimed at dissolving blocks and self-limiting patterns on the unconscious plane. Go-anywhere subliminal cassettes are an added, powerful way to speed inner repatterning for outer accomplishment...

"State of the Art Audio Subliminals. With Second Naturetm Tapes, your inner self hears positive, activating messages at three times normal speed--a good pace at which to engage the unconscious, plus it allows us to give you more reinforcing messages per tape. The 'chanted' subliminals are synthesized and embedded in a special way into the dynamics of SuperLearning music and into rolling surf sounds. Ostrander and Schroeder created the messages..."

- ∞ Learning Well (LW) helps increase motivation, enhance the ability to learn quickly and well.
- ∞ A Great Memory (GM) helps improve access to the great memory that's there waiting for you.
- ∞ Easy Test Taking (ETT) helps reduce anxiety and improve efficiency for any kind of exam.

A special C90 cassette containing the surf sounds of the three tapes has been developed. Side one contains Learning Well and the first 2/3rds of A Great Memory. Side two concludes A Great Memory and continues on with Easy Test Taking. For studying purposes, this format may be better and less distracting than the music format.

(3). Steve Halpern's Soundwave 2000 Subliminal Tapes

Steve Halpern is another pioneer in the use of sound and music for various growth producing purposes. This Unit MUS: "Using Music and Sound to Enhance Learning and Life" relied heavily on his work. His first major work in what he calls the "Anti-Frantic Alternative" was the Spectrum Suite, used both as a meditation aide and, in the extended version, as a very effective relaxation aide. I use it frequently to fall asleep with since it shuts off my over active mind chatter. He has numerous recordings, both solo and with other artists. Most involve just music. One recording which is specifically designed for studying and learning is Comfort Zone. He also has over 12 recordings in his subliminal series called Soundwave 2000 AudioActive Cassettes. The following is taken from his brochure:

"SOUNDWAVE 2000 AudioActive Cassettestm are not like ordinary subliminal tapes that use synthetic ocean sounds and stock music. SOUNDWAVE 2000 utilizes the latest developments in Multi-modal Learning and Audio Technology, with specially composed and performed music, to help you enjoy a richer, fuller life.

"Each SOUNDWAVE 2000 cassette is designed to fill a specific need. You just select the appropriate title...the AudioActive cassette does the rest.

"SOUNDWAVE 2000 makes use of a unique process which modifies the volume of spoken, positive statements. The resulting 'Harmonic Affirmations'tm are blended with the unique music of Steve Halpern's 'Anti-frantic Alternative'tm and sometimes sound like faint whispers, or may be completely inaudible to the 'conscious ear.'

"The balance of spoken word and beautiful music is scientifically designed to create a harmonic interface between the creative and logical hemispheres of the brain.

"With most SOUNDWAVE 2000 cassettes you can listen at any time, while you work, play or even while you sleep. Certain titles are designed for deep relaxation and should not be used in circumstances that require alertness or quick response."

All 'Harmonic Affirmations'tm are listed. One difference between Halpern's affirmations and those of the other subliminal tapes is that he uses "You" instead of "I" in his statements (see the list in later section).

"What is unique about '**Study and Learning**' is the use of music as the vehicle that enhances the powers of concentration. Using Dr. Halpern's technique of **harmonic Affirmations**tm, the music acts as the carrier wave for large amounts of information. In effect, this process serves to integrate the functions of both hemispheres of the brain.

"Most educational orientations appeal only to the left, or logical, hemisphere of the brain. By providing an environment that stimulates both the creative and logical aspects of the brain, this tape opens up a broader avenue for learning, both more rapidly and with greater retention. Indeed, this could well be the educational environment of the future.

"With 'SuperLearning' techniques such as those used on this cassette, adults have learned to speak a foreign language in a month as opposed to a year, and first graders have completed a two year curriculum in 60 days.

"Dr. Halpern's music is used as an integral part of many organizations providing workshops and seminars in 'Optimalearning' and other systems. This cassette provides you with an inexpensive and easy-to-use method of improving your learning abilities using both Dr. Halpern's music and his **Harmonic Affirmationstm**"

Instructions

"To set the mood and prepare yourself to absorb and retain information, play this cassette at least once a day. Continue to listen to the music as you study and for a time after you have put away your books. When you have an important examination coming up, listen to the tape in the morning before the exam."

(4). Instructions for Listening to Typical Subliminal Tapes

"Since the tapes are designed for listening during work or play, there are virtually no restrictions. They may be listened to during any daily activity. The relaxing ocean sounds on side two can also be used as meditation background sound or can be listened to just before going to sleep at night. **We recommend that you take thirty seconds to review and read the printed messages before listening to the tape to reinforce the suggestions.** Repetition and reinforcement strengthen any new learning situation. Common sense, however, should assist in determining when and how often you listen to the tapes. If possible, avoid a 'should' or 'anxious' motivation for listening. Listen when it feels comfortable." (Pulos tape brochure)

(5). The John-David Learning Institute: Brain/Mind Expansion Tapes

This unique program involves a series of 4 tapes titled Brain Mind Expansiontm. The tapes are: "Eliminating Self-Sabotage", "Long-Term Memory", "Short-Term Memory" and "Concentration". They operate simultaneously on two basic levels (conscious and sub-conscious) with several "sub-levels" within each. They were developed by John-David Schonbrook, Ph.D. of the John-David Learning Institute of San Diego, California. The tapes have been used with many different types of people including brain damaged people.

The following is what the institute writes about these tapes in the short article titled A generation beyond mere motivation tapes: [the reader should be aware that this approach, as well as other commercial systems described in this unit, have not undergone independent scientific evaluation and so the claims made are untested]:

"All these levels, under the direct supervision of John-David (a veteran of 20 years experience in accelerated learning using altered states of consciousness, one of the world's most recognized neuroscientists and educators), creates for you a rare opportunity to reach out and use these state-of-the-art breakthroughs for your own benefit, to effortlessly grow and expand, to make level jumps only previously envisioned. The most sophisticated motivation tape uses only 2 tracks or levels, one hearable-- usually the voice of the guide plus maybe some background music or ocean waves, with

a subliminal message, unhearable, merely repeating some positive affirmations...[T]his ...simple explanation of the 7 levels [introduces you to] a major breakthrough in neuroscience.

"Level 1 is the voice of John-David guiding you through mental exercises. Just as you would at a physical fitness center, he gently coaxes you through brain/mind exercises.

"Level 2 Sometimes ocean waves, sometimes classical music, sometimes positive, upbeat music mixed with primal sounds gently relax you, ease your stress and resistance, allowing you to go into alpha state. Just with these two levels the tape has tremendous value.

"Level 3 Here you begin to experience major brain/mind shifts. This is the first inkling, just barely audible, of special sounds, sometimes rhythmically vibrating. This is that special 'brain speak' sound invented by John-David that allows the subliminal messages to be escorted, to 'speak to pre-designated areas of your brain/mind'.

"Up to now all three levels have been hearable, noticeable by the left brain. Up to now your old belief systems could filter out (no matter how much you wanted to do otherwise) any attempts to expand your learning or thinking abilities, your old habits that no longer served you. Your resistance to change, your clinging to old habits prevailed.

"Level 4 John-David is now guiding you through even more exercises--perhaps to eliminate self-sabotage, perhaps for prosperity, perhaps for better sports performance, perhaps for increasing your memory, your self-confidence, your self-esteem, or guiding you through steps to allow you to create self-healing within your body or brain. He has been doing this subliminally, unhearable by the left brain, going directly into the right brain.

"Level 5 Here you again experience, subliminally, that special 'brain speak' sound that is escorting John-David's voice, mentioned in Level 3, into 'pre-designated areas of your brain/mind'. Without this special state of the art discovery his subliminal voice would just be floating, allowed to hit or miss with a quality absorption of no more than 20%, but with this sound the quality absorption can reach as high as 80%, bypassing your resistance to change, increasing your commitment to have your life finally work for you, not the other way around.

"Level 6 Accompanying his voice are sounds that 'set the scene' for issues being discussed such as in an office or classroom, background sounds of you being praised and acknowledged, or career acclaim, or sports background, or sounds of prosperity, etc., mixed with primal sounds to move energy through the body...to heighten change and absorption...

"Level 7 Entertaining music, ocean waves, seagulls, topical winds, rustling of trees, birds chirping upon the evening fields, Tibetan bells, harpsichord, continuing to support your absorption, your receptivity."

In summary: "The secret behind these tapes is that each has...hearable ...levels...under layered with...non-hearable or fully subliminally(with a) revolutionary 'sound' to activate receptivity and decrease resistance. It is a process of directing signals specifically to pre designated areas of the brain/mind bypassing conscious resistance".

Instructions for Using the Brain/Mind Expansion Tapes

(exerpted from the information provided with the tapes by the institute)

Repetition is important as is the attitude of DEEP RECEPTIVITY. Under it all ("deep down") resides the most damaging aspects of your "self-sabotage" syndrome and so JUST a conscious, verbal level of work is not sufficient. Thus, while working on the conscious/verbal level you will be working also on the sub-conscious level with the tapes. The nice things that, because it works sub-consciously, it is not necessary to pay conscious attention to it. You will likely resist this concept since our culture is overly impressed with the conscious/verbal/systematic/rational approach and tends to deny validity to all which does not fit this model. Also, the ego is a very defensive authoritarian/totalitarian psychological structure which will literally defeat you, as a total person, in order to maintain its image. We human beings are not so much rational as RATIONALIZING animals.

The tapes in the Brain/Mind Expansion series are designed to work for you without you doing anything. However, you can slow down or speed up the results. By active participation you can magnify the results.

Some Basics on Using The Brain/Mind Expansion Tapes

1. Do **NOT** use them while driving or operating machinery.
2. You may find that use of some tapes just before going to bed may result in a burst of energy and creativity, thus preventing you from sleeping. If so, don't use them at this time. About 40%, however, report a very restful sleep after using them. You will have to find this out for yourself.
3. It is best to listen to them in a relaxed, comfortable place and posture. Lying down is not required; you may listen while at your desk, at work or wherever.
4. If you happen to fall asleep while listening, the effect will still be present. Since the tapes by-pass the conscious level, much of the effectiveness of the tape is still present, even if you fall asleep (nice!!). However, because you want to create harmony and integration between various aspects of your self, including the conscious/unconscious, verbal/nonverbal, it is wise to stay awake. With headphones still attached, get up and walk around, wash your face with cold water, turn the lights up, massage your body, speed up your breathing etc.
5. Listen to the whole tape, from beginning to end, for maximum benefit (except for the "Concentration" tape which has special instructions).
6. The conscious or audible sounds and words do have some benefit, but they are primarily a form of entertainment for the conscious ego mind while John-David's voice speaks directly to pre-designated areas of your brain/mind.
7. You may notice, on different tapes, a humming sound at different intervals, sometimes pleasant, sometimes irritating. This sound, coupled with John-David's voice and his ability to guide you through your subconscious while leading you on brain/mind exercises, is one of the major tools for re-education. This "discomfort" or "irritation"

indicates, in part, the emotional struggle you are experiencing in letting go of the old self-defeating habits and beliefs. There are other sound effects on the tapes, some "spacey", much use of the sounds of ocean waves and the sea shore, with various types of music plus other sounds. All have some purpose,

8. Listen at the highest, yet comfortable volume you can. Immerse yourself in the sound.
9. Make sure the heads on your cassette player are clean. If in doubt clean them with a Q-tip and plain rubbing alcohol. Also, a head demagnetizer is recommended.
10. For maximum benefit, you must use a stereo cassette player since different messages are going to different halves of your brain. Do not use a cheap player...it just cannot reproduce the sounds that produce the desired results.
11. Use a high quality pair of headphones--preferably those that cover the entire ear. Immerse yourself in the sound.

After about a month of daily usage, depending on the person, you can begin to taper off. Alternate, every other day if you are not doing systematic self-change activities. If you are, then stick to the above schedule. Then, to maintain gains, you may start to listen ESS every third day or so. You may wish to take a vacation and put it away for a month to see how your life works without it. If you feel you're slipping back, then give yourself a refresher boost. On the whole, it is best to use ESS once a week.

f. List of Suggestions on the Subliminal Tapes

(1). Brain/Mind Expansion Tapes

This is a list of the affirmations that are audible on the Brain/Mind Expansiontm tapes produced by the John-David Learning Institute. The subliminal suggestions are the same. You will note that there are numerous repeats.

(L)= in left ear, (R)= in right ear.

[]=indicates where comments etc. are located on tapes.

Eliminating Self-Sabotage (ESS) (21.5 mins)

[introductory comments and instructions, right/left check]

1. I am free to grow and to unfold according to my own inner light; my own inner light.
2. I let go of all negation and excessive stress.
3. I let my body express its fullness.
4. I am committed to the expression of a new lifestyle for myself, for my loved ones, for society, for the planet.
5. I release the past and I experience my good today, now, this moment, this second.
6. I forgive and move through every seeming hurt in my life. (L)
7. Success from reading, studying, learning is my divine right. I chose it before entering this life and I again choose it now.
8. I forgive myself for having given my authority to others. I now, this moment, re-choose to have absolute authority over myself.
9. The creative mind in me provides the central focus for my life; the central focus for my life.
10. I am in full control of my life and my affairs.
11. I forgive myself for all transgressions or broken agreements committed unto others, as I forgive those who have committed same unto me.
12. I love and enjoy the perfection of my body. I am willing to do whatever it takes to manifest that bodily perfection.
13. I choose to acknowledge, accept and love myself. (R & then L ear)

[explanations and comments]

14. I forgive my mother for any negative thoughts or acts towards me.
15. I forgive my father for any negative thoughts or acts towards me. Forgive, forgive.
16. I acknowledge myself for having created the perfect life in which to grow, to stretch, to enjoy happiness and, if appropriate, its opposite. I have chosen total perfection in this life, now.
17. I am committed to keeping all my promises, for my good and the good of others.
18. I will do many things this day to improve myself and my life.
19. I forgive myself for all broken agreements. I will also take any appropriate action necessary to clean up those broken agreements or relationships.
20. I forgive my religion, or the religion of my parents, for any negative acts or thoughts they may have committed against me.
21. I release all things that limit me. I am free (R). I am free. (L)
22. I am now free of all destructive fears and doubts. (repeated once)
23. I was born with a limitless capacity for success and happiness; success and happiness.
24. I constantly practice being loving; this helps me as much as it helps others.
25. My career is becoming more self evident, resulting in direction, effortlessness and success in my life.
26. Each time I listen to these tapes I make quantum leaps in my life It is just that easy; just that easy.
27. There is a way to meet each challenge, and through that way I am victorious.
28. The one I am seeking is my self. In me and only in me is there total perfection. (R)
29. No condition or situation, past or present, is too difficult for me. Growth is the law of my life. I welcome it and bless it.
30. I am a remarkable person. I'm important to myself, to others and to God.

31. Every experience in my life is a golden opportunity for success; a golden opportunity for success.
32. I have the ability and the power to save myself from all negation.
33. I take command of my life and make it what I want it to be. (first R then L)
34. My friends and work mates love and support me and consistently praise and acknowledge me to others.
35. Preparing myself for the next day is effortless. I am always on purpose and consistently fulfill my highest expectations of myself.
36. Each day I jump more and more levels. Quantum leaps in my life are normal, everyday experiences.

[closing instructions and comments]

Long-Term Memory (LTM) (21.25 mins)

[introductory comments and instructions; R/L check]

1. My environment is important to me. To support my learning with ease, I always create the perfect environment, free of outside noises but with pleasant smells, brain integrative music, good lighting and comfortable body posture.
2. At work, at school, at home, I always pay appropriate attention. I retain 90% and have effortless recall retention.
3. ESS # 36.
4. Studying is easy, effortless and vastly rewarding.
5. Everyday, my ability in long-term memory increases, whether I am working, studying, playing or sleeping.
6. My memory recall retention is effortless.
7. ESS # 25.

[instructions and comments]

8. Long-term memory, long-term retention, easy effortless recall are my rights.
9. I choose now to experience 90% recall retention without effort; effortlessly, freely, resulting in success and prosperity.
10. I am a successful, energetic and highly acknowledged person.
11. ESS # 34.
12. ESS # 36.
13. ESS # 26.
14. Everyday my income, my success, increases whether I am working, playing or sleeping.
15. My wealth, be it mental, emotional, spiritual or material, contributes to my aliveness and the aliveness of others.
16. The greatness of my memory contributes to the planet, to my society, to my friends, to my loved ones and, particularly, to myself.
17. Everyday my memory increases whether I'm working, playing or sleeping.
18. 90% long-term memory is effortless and total joy.
19. At school, at work, at play I experience 90% retention and recall.
20. My homework is a joy since it easy, effortless and I retain 90% and produce way more than I expend.

21. I have the ability and the power to save myself from all negation and to replace that with effortless success.
22. ESS # 31.
23. LTM # 5.
24. I love to read for I know it is easy, enjoyable and results in absolute success.
25. LTM # 17. (repeated three times)

[closing remarks]

Short-Term Memory (STM) (21 mins)

[introductory instructions and comments, R/L check]

1. In exams and presenting of papers, I store and easily recall all short-term memory information. I then effortlessly file into easily accessible short and long term areas of my brain.
2. Determination and perseverance make the impossible possible.
3. LTM # 1.
4. Sorting long-term information and short-term information into and through the appropriate areas of my brain is easy and results in my full success.
5. It is OK for me to accept love and money.
6. Listening to these tapes is a momentous commitment to my own success and prosperity and happiness.
7. In school or office, I assimilate short-term information easily and recall it at will.

[instructions and comments]

8. STM # 7.
9. My income exceeds my expenses whether I like it or not.
10. I forgive my parents for any negative thoughts or acts towards me. (see ESS #s 14 & 15)
11. Phone numbers are fun to learn and recall. It results in effortless success in my life.
12. I have 90% recall of names, directions and phone numbers; 90%.
13. Random figures are easily assembled and recalled at will, with ease.
14. People's names are important to me. So I know people appreciate hearing their own names. This results in closer relationships; people serving me more effectively and thus effortless success in my life.
15. Everyday, everyday, my ability to recall names and phone numbers and figures, dates and directions increases whether I am working, studying, playing or sleeping.
16. My bank loves and supports me, whether they know it or not.
17. ESS # 20.
18. Everyday, my ability to concentrate increases, whether I am working, playing or sleeping (L and then R).

[comments and instructions]

19. ESS # 28.
20. I develop my full potential by developing both sides of my brain.
21. ESS # 7.
22. LTM # 4.
23. ESS # 26.

24. LTM # 17.
25. Every time the ocean waves lap against the shore, I make another step for success.
26. I am a successful, energetic and highly acknowledged person. (R)
27. STM # 13.
28. STM # 12.
29. STM # 7.

[closing remarks]

Concentration (CON)

[introductory instructions and comments]

Section 1: (6 mins)

1. STM # 18.
2. LTM # 1.
3. LTM # 4.
4. ESS # 26.
5. My ability to concentrate results in me being a successful, energetic and highly acknowledged person.
6. I am now becoming all I am created to be.
7. ESS # 28.
8. I love to read for I know it is easy, enjoyable and results in total success. (see LTM # 24)
9. My wealth contributes to my aliveness and to the aliveness of others. (L)
10. No matter what my environment, my ability to concentrate is heightened, resulting in high productivity, creativity and 90% recall.
11. Outside distractions are an opportunity for me to display my ability to concentrate.
12. Concentration is easy and effortless. It is easy & effortless. (R)

[end of section 1 comments]

Section 2: (7.5 mins)

[comments and introduction, R/L check]

13. Every experience in my life is a golden opportunity for success. Experiencing the ability to concentrate is a manifestation of my success. (see ESS # 31)
14. I take command of my life and I make it what I want it to be. Thus I choose to have the ability to concentrate.
15. I have the ability and the power to manifest concentration, zeroing in on that which I choose to be part of.
16. I choose to eliminate all outside distractions that keep me from preventing my greatest goal: to manifest success, to manifest my greatness, to acknowledge myself for my purpose on this planet, to my loved ones and to myself.
17. I treat all people with love and respect; therefore all people love and respect me. (R)
18. I create outside distractions as an opportunity to experience my greatness in concentration, my ability to be on purpose, and to be prepared to meet my goals.

[comments and instructions]

Section 3: (8 mins)

[comments and instructions;, R/L check]

19. STM # 20. (repeated once)
20. As I sit down to read, my ability to concentrate is heightened, resulting in easy reading, absorbing the material into my life and 90% recall retention. (R & then L)
21. Outside distractions are a wonderful opportunity, for my ability to concentrate is heightened, stimulated, enhanced. (see CON # 11)
22. I understand that determination and perseverance make the impossible possible. (see STM # 2)
23. Due to my ability to concentrate it is easier for me to recall names, phone numbers and figures and dates and directions.
24. Everyday my income increases, whether I am working, playing or sleeping. (see LTM # 14)
25. In school, in class, at work I pay appropriate attention; I retain 90% and I have effortless recall.
26. ESS # 34.
27. ESS # 36.
28. LTM # 20.
29. LTM # 1.
30. I forgive others for their jealousy of my success in concentration.
31. ESS # 25.

[closing comments]

(2). Pulos Adventures in Learning Tapes

Developing a Winning Attitude (DWA-S)

Side A: Music Affirmations concerning these topics:

- | | |
|--------------------------------|------------------------------|
| 1. Free of negative restraints | 7. Determined yet relaxed |
| 2. Confidence in my abilities | 8. Emphasize my strengths |
| 3. I am assertive | 9. Release limiting thoughts |
| 4. High energy and vitality | 10. Attract positive people |
| 5. My strengths grow daily | 11. Positive self-talk |
| 6. Positive about life | 12. Overcome all obstacles |

Side B: Ocean Surf

1. I am influenced only by positive thoughts and people.
 2. I control my self-talk and am positive at all times.
 3. I am accomplishing my goals.
 4. I am a unique and extraordinary person.
 5. I am actively in charge of my life.
 6. Every day in every way I get better and better.
-

Confidence and Self-Esteem (CSE-S)

Side A: Music Affirmations concerning these topics:

- | | |
|---|--|
| 1. Focus on strengths | 7. Positive self-talk: I am worthy |
| 2. Inner security | 8. Ignore negative input |
| 3. Poised and confident | 9. Inner and outer confidence |
| 4. Optimism and pride | 10. Increasing my self-reliance |
| 5. Relaxed and at peace with myself | 11. Centered-confident-proud |
| 6. Emotionally and psychologically strong | 12. Convert negative into positive strengths |

Side B: Ocean Surf

1. Each problem I face stimulates my strengths and increases my confidence.
 2. I have the ability to be proud and happy and control all aspects of my life.
 3. My inner strengths and power of my ideas will all work toward increasing my self-esteem.
 4. My subconscious will do whatever is necessary to be the master of everything I do.
 5. My dreams at night will work toward increasing my feelings of well being, pride and confidence.
 6. Every day in every way I feel better and better.
-

Goal Setting (GS-S)

Side A: Music Affirmations concerning these topics:

- | | |
|----------------------------|--------------------------------|
| 1. Confident and focused | 7. Inspiration from within |
| 2. It is up to me | 8. I am successful |
| 3. Mental picture of goals | 9. Bounce back from setbacks |
| 4. Easy to attain | 10. I am my own expert |
| 5. Pride in achieving | 11. Look forward to challenges |
| 6. Positive expectancy | 12. I am an action person |

Side B: Ocean Surf

1. I can easily visualize my goals.
 2. I have a sense of purpose and accomplishment about life.
 3. I have the discipline to set and achieve my goals.
 4. Challenges become opportunities for attaining goals.
 5. I am positive and assertive about what I want to achieve in life.
 6. Every day in every way I get better and better.
-

Stress Management (SM-S)

Side A: Music Affirmations concerning these topics:

- | | |
|---------------------------------|--|
| 1. Peace of mind | 7. Inner peace |
| 2. Easy to relax | 8. Conscious & subconscious relaxation |
| 3. Inner harmony | 9. Relax now |
| 4. Mind & body relaxation | 10. Mental calm-physical comfort |
| 5. Rested and relaxed | 11. Let go of stress |
| 6. Think only positive thoughts | 12. Increased physical & mental energy |

Side B: Ocean Surf

1. My body feels quiet, comfortable and relaxed.
 2. I am able to let go and dissolve all unnecessary tension in my mind and body.
 3. Any tension I feel will mobilize my coping skills.
 4. Coping and relaxing is becoming easier and easier.
 5. I am experiencing a greater sense of energy and freedom.
 6. Every day in every way I feel better and better.
-

Developing Intuition (DI-S)

Side A: Music Affirmations concerning these topics:

- | | |
|--------------------------------------|---------------------------------------|
| 1. Trusting my intuitive abilities | 7. Flowing with my subconscious |
| 2. Inner & outer minds work together | 8. Intuitive abilities are stronger |
| 3. Intuitive dreams | 9. Positive applications of intuition |
| 4. Confidence in my sensitivity | 10. Able to sense the subtle |
| 5. Inner and deeper inspiration | 11. Can anticipate more easily |
| 6. Harmony of all levels of mind | 12. Wisdom through inspiration |

Side B: Ocean Surf

1. I am able to awaken from my normal awareness into intuitive consciousness more easily and clearly when I choose.
 2. As I learn to flow with existence, my intuitive abilities become stronger.
 3. I am able to tap into all levels of my inner and outer being for greater wisdom and vision.
 4. All my inner landscapes are becoming easier to see and to sense.
 5. Both my waking and night dreams are working toward increased awareness and sensitivity.
 6. Every day in every way I feel better and better.
-

Creative Thinking and Problem Solving (CTPS-S)

Side A: Music Affirmations concerning these topics:

- | | |
|--|--|
| 1. Creative channels opening daily | 7. I feel creative, I am creative |
| 2. New perspectives on old problems | 8. Confidence in my abilities |
| 3. Twilight creative states are increasing | 9. Creative, waking dreams |
| 4. Night dreams offer creative inspiration | 10. Easy access to subconscious |
| 5. Creative blocks are dissolving | 11. Total openness to creative inspiration |
| 6. Able to tap deepest wisdom within | 12. Deep relaxation--creative flow within |

Side B: Ocean Surf

1. The imagination, vision and power of my inner ideas are finding more effective expression each day.
 2. My mind is open to all levels of intuition and creative consciousness both within and outside my being.
 3. The wisdom of my subconscious will do whatever is necessary to help me solve problems in new and exciting ways.
 4. Both my waking and night dreams will create fresh solutions to help attain my goals.
 5. Each problem I face stimulates my strengths and my creativity.
 6. Every day in every way I feel better and better.
-

Improving Memory (IM-S)

Side A: Music Affirmations concerning these topics:

- | | |
|---------------------------------------|----------------------------------|
| 1. Let go of distractions | 7. Memory improves daily |
| 2. Stay focused | 8. Effortless concentration |
| 3. New information is absorbed easily | 9. Retain what is important |
| 4. Self-discipline | 10. Increased mental perspective |
| 5. Make interesting association | 11. Relaxed about new learning |
| 6. Interfering thoughts fade | 12. Can focus in the now |

Side B: Ocean Surf

1. I am able to focus my concentration at will.
 2. My mental efficiency is improving daily.
 3. I am able to remember and concentrate on what is relevant.
 4. New learning opportunities stimulate my mental discipline.
 5. I am able to relax and increase my recall.
 6. Every day in every way my memory is improving.
-

Concentration and Studying (CS-S)

Side A: Music Affirmations concerning these topics:

- | | |
|-------------------------------|------------------------------------|
| 1. Relaxed and focused | 7. Selective awareness |
| 2. Mind is clear | 8. Concentrating efficiently |
| 3. Total attention and energy | 9. Creative associations |
| 4. No interfering thoughts | 10. Confidence in mental abilities |
| 5. Focused concentration | 11. Focused attention |
| 6. Easy recall | 12. Total control of my thoughts |

Side B: Ocean Surf

1. My mind is clear and I remain calm, peaceful and relaxed in everything I do.
2. Each problem I face stimulates my strengths and increases my mental efficiency.
3. I am able to remember what is important, focus my concentration and associate learnings in a new and creative way.
4. I have an excellent memory and my capacities for retention increases every day.
5. My subconscious will do whatever is necessary to help me increase my memory and attention span.
- 6 Every day in every way I feel better and better.

(3). Second Nature SuperLearning Subliminal Tapes

A Great Memory (GM)

- | | |
|----------------------------------|--|
| 1. Memory records everything | 8. Vivid images |
| 2. I remember all I need to know | 9. I trust my memory |
| 3. I remember all I want to know | 10. It's natural to have a good memory |
| 4. Relax and remember | 11. I enjoy having a good memory |
| 5. My memory improves with use | 12. I have a good memory |
| 6. Concentrate, associate | 13. All is well with me, now and forever |
| 7. Pay attention to remember | |

Learning Well (LW)

1. Love of learning lights up my life
2. New ways of learning empower me now
3. Relax and learn
4. It's OK to learn easily & well
5. I deserve to learn easily & well
6. I learn easily and well
7. Vast mental abilities are available
8. I use more and more of my abilities to learn
9. Absorb new things easily
10. Mistakes are OK. I learn from them
11. Unconscious can find a way around blocks
12. I learn quickly & remember well
13. I am one with infinite mind
14. Learning is easy for me
15. All is well with me, now and forever

Easy Test Taking (ETT)

1. I'm OK no matter what happens on the test
2. Tests bring out my inner strength
3. Prepare well
4. My body is relaxed during tests
5. My mind is alert during tests
6. Calm
7. I remember all I need to know
8. Relax and recall
9. Calm and centered during tests
10. It's OK to succeed
11. Self confidence feels good
12. I feel self confident
13. I like my self
14. Tests are a game I can enjoy
15. All is well with me, now and forever

(4). Halpern's Soundwave 2000 AudioActive Subliminal Tapes

Study & Learning

1. You have total recall of all that you study and read any time that you want and need.
2. Studying comes easily to you; you enjoy it.
3. It is possible to recall all that you study any time that you want or any time that you need to.
4. You can remember all that you have studied at any time that you desire.
5. Listening to this music helps you to go deeper and deeper into your accelerated learning state, in which all learning becomes effortless and enjoyable.
6. This relaxed and centered state allows you total recall of all that you study.
7. Listening to this music assures you of deep relaxation so that you are totally refreshed and relaxed while studying and refreshed and alert at the end of the study period.
8. This same relaxation state will be transferred any time you are in an examination or any other time you need to recall this information.
9. Studying is effortless and fun.
10. The music makes it easy to understand all that you read.
11. The music makes it easy to remember all that you read.
12. Studying is enjoyable, effortless and efficient.
13. You enjoy studying.

14. Acquiring information is now effortless and enjoyable.
 15. Remembering all that you study is effortless and enjoyable.
 16. You can program your own bio-computer so that you can more efficiently and effectively study any subject that you want.
 17. You are now in control of your multi-billion cell bio-computer.
 18. You decide what you want to study and when.
 19. Each time you listen to this tape, you make even more progress studying.
 20. Effortlessly and instantaneously you go to that state where you are in tune with the inner workings of your bio-computer.
 21. Easily and enjoyably you can now orchestrate your own brain to bring you what you need.
 22. You can choose what you want to study.
 23. You look forward to learning experiences.
 24. Studying is a pleasure.
 25. Studying is enjoyable.
 26. It comes easily to you.
 27. Each time that you hear this tape, your learning and studying becomes more and more effective and enjoyable.
-

Creativity

1. Every day in every way you become more and more creative. The unlimited powers of your subconscious mind bring you creative solutions to challenging situations
 2. The music helps trigger the appropriate brainwaves to tap into your wellspring of creativity.
 3. You have the ability to totally concentrate your attention and your energy.
 4. Every day in every way your creative abilities emerge and intensify.
 5. You enjoy the feeling of being creative.
 6. Creativity now comes easily to you.
-

Productivity

1. You have the power and ability and desire to perform at your personal best.
 2. You are a high performer.
 3. You are a winner.
 4. You are filled with optimism and enthusiasm.
 5. You do all your jobs well.
 6. You enjoy your work.
 7. You enjoy contributing to the growth of your organization.
 8. You are a positive role model for others.
 9. You now accomplish far more than ever before in less time.
 10. You stay focused and concentrate on what you are doing.
 11. You increase your speed and productivity every day.
-

Deep Relaxation

1. You are calm, centered and relaxed.
 2. Your breathing is deep and regular.
 3. You are at peace with yourself, and in harmony with your world.
 4. You now experience total relaxation.
 5. The music caresses you in a warm bath of sound.
 6. Your body resonates harmoniously as it is played by this music.
 7. All circulatory systems in your body are functioning perfectly and in harmony.
-

Sleep

1. The music carries you effortlessly into realms of restful relaxation.
 2. As the music begins to play, the cares and tensions of the day melt away from you.
 3. As the music continues, your eyes are getting tired.
 4. The music and these suggestions help you shift from wakefulness to the welcoming velvet of sleep.
 5. Night is a time of rest and relaxation.
 6. Sleep time is good.
 7. The music triggers the sleep response.
 8. You enjoy your newfound freedom to sleep when you want.
-

Starting the Day

1. As the beautiful music begins to enter your consciousness, you become aware that another day is dawning.
 2. Today is a new day. Today is a great day.
 3. Let the music carry you from the world of dreams to the world of waking reality.
 4. This day begins on a good note.
 5. Everyday in every way you are getting better and better.
 6. You appreciate and acknowledge the opportunity to share love with others.
 7. The music and birds all help to make your transition effortless and enjoyable.
 8. You enjoy starting your day listening to this music.
 9. You are happy that you're giving yourself this opportunity to treat yourself well.
 10. You feel wonderful starting your day off like this, rather than with the alarm clock.
-

Driving

1. As you listen to this music, you become increasingly relaxed and alert.
2. As you listen to this music, driving becomes a pleasure rather than a chore.
3. You are totally relaxed, totally refreshed, and totally alert.
4. Driving is now a pleasure rather than a chore.
5. You are totally refreshed and energized while you are listening to this tape.
6. Driving is fun.
7. You enjoy driving.

8. The music massages you and lifts away any tension in your back, in your arms, and in your neck.
 9. Driving is a pleasure.
 10. You are totally attuned to the conditions of the road and to the flow of traffic.
 11. You are totally aware of the positions and activities of all of the drivers on the road.
 12. You are totally in control, totally at one with the act of driving, and totally alert to all that goes on around you.
 13. You know what all the other drivers might be doing, even before they may do it.
 14. Your reflexes and reaction time are instantaneous.
 15. You seem to know intuitively what other drivers are going to do even before they do it.
 16. You are a wonderful, safe and legal driver.
 17. You are a safe driver, driving at speeds that are appropriate for the conditions.
 18. You enjoy keeping a safe following distance behind the vehicle in front of you.
 19. In all situations you remain relaxed and fully alert, fully in control, and comfortably relaxed.
 20. Your peripheral vision is greater than it has been in the past.
 21. As you are listening to this music and looking far ahead, you recognize any possible driving hazards.
 22. You are totally capable of taking any actions needed to avoid any driving hazard.
 23. You enjoy being a safe driver as you listen to this music.
 24. Your concentration is totally on your driving and yet you are aware of all of your surroundings.
 25. Your peripheral vision is much better now that it has ever been.
 26. You always maintain a safe following distance behind the vehicle in front of you.
 27. You will arrive at your destination relaxed, totally refreshed, and totally alert.
 28. You look forward to driving safely again so that you can experience more of this beauty.
-

Pain Control/Accelerating Self-Healing

1. Perfect health is your birthright.
 2. Everyday in every way you are getting better and better.
 3. You have the power and ability and desire to accelerate your own healing.
 4. The Life Force of the universe flows through you and heals you.
 5. You are at peace with yourself and the world.
 6. You now choose perfect health as your reality.
 7. All the circulatory systems in your body are functioning perfectly.
 8. Your body produces the appropriate chemicals and substances in the appropriate amounts to control your pain threshold.
 9. The music helps your body orchestrate its own healing symphony.
-

Fitness and Exercise

1. As you begin to move, your entire body breathes in oxygen, not only through the nose, but through all the pores of your skin.
2. Blood flows to the outer extremities of your skin.
3. Your heart beats regularly, powerfully, and harmoniously.
4. You enjoy exercising.
5. Exercise makes you feel good.
6. You like to exercise.

7. You like to feel good.
 8. You like to look good.
 9. Your body knows what it likes, and it likes this.
 10. Let the music carry you effortlessly into a new world of fitness and harmony and joy and health and love.
 11. Your entire body breathes in the music and the energy.
 12. You get increasingly energized as you exercise.
 13. Your body loves to move to this music.
 14. You achieve optimal performance in working out to this soundtrack.
 15. Everyday in every way you get better and better.
 16. The more you do it the better you feel, and the better you feel the more you do it.
 17. New and higher levels of transfer of life-giving oxygen from the air you breathe is accomplished as you exercise aerobically.
 18. You reach new levels of physical well-being and proper functioning of your human instrument, the physical vehicle.
 19. As you breathe in, you draw in life-giving oxygen and energy known as prana.
 20. As you breathe out the bi-products of metabolism, you breathe out toxins, you breathe out stress.
 21. The universe loves you when you play.
 22. Your body is your temple.
-

Weight Control

1. Now is the time for you to achieve your ideal weight.
 2. You have the power and ability to control your weight.
 3. Everyday in every way you get better and better.
 4. A thin and healthy body now becomes your reality.
 5. You follow your own inner wisdom choosing the food and portion size that are more appropriate for you. It is easy to create this positive reality for yourself.
 6. You give thanks for your increasing health, beauty and vitality.
 7. You are joyously and vibrantly healthy.
 8. Your body is perfectly balanced and integrated.
 9. You enjoy getting enough exercise to complement your eating habits.
 10. You love and accept your body fully.
 11. Your body is radiantly aglow with perfect health and vitality.
-

(5). Dick Sutphen's Valley of the Sun Tapes

Turning Bad Times Into New Opportunities

1. You are now open and receptive to finding new ways to achieve economic security and peace of mind.
2. You now become aware of creative ways to turn adversity into positive new opportunities.
3. There are not obstacles in divine mind, therefore there is nothing to keep you from experiencing abundance.
4. There is nothing to prevent your ultimate success.

5. You exist within a universe of abundance and you now choose to experience abundance.
 6. You are challenged by the excitement of new potentials.
 7. You now begin to receive new ideas and inspiration to increase your security.
 8. You are inspired to find new ways to make your life work.
 9. Your mind is unlimited in its ability to assist you to achieve your desires.
 10. You now find new opportunities and you act upon them.
-

Bushido Personality Transformation Programming

1. You are unaffected by negativity while you retain the ability to enjoy all the warmth and joy that life has to offer.
 2. You are detached from negativity. You are open and receptive to love.
 3. You do not complain, and you accept other people as they are without expecting them to change.
 4. You are patient, calm and harmoniously centered at all times.
 5. You let go of all fear-based emotions such as blame, jealousy, guilt and possessiveness. These negative emotions are not part of your past.
 6. You are independent and self-responsible and you fully realize that you are unlimited in your ability to create your own reality.
 7. You rapidly develop perception expansion techniques and psychic powers.
 8. You have the ability to totally concentrate upon the subject of your immediate focus, be it business, pleasure or meditation.
 9. You now cease to resist that which you can not change. You accept "what is".
 10. You keep your mind like calm water.
 11. You remain centered at all times. This means to be physically relaxed, emotionally calm, mentally focused and spiritually aware.
-

Healing Acceleration

1. You are surrounded by a divine blue healing light.
2. Divine light streams through your cells, healing you quickly and completely.
3. You have the power and ability to accelerate your healing.
4. Your body is filled with positive, healing energy and you accelerate the healing.
5. Your mind is all-powerful and you now use it rapidly to heal yourself.
6. You now heal yourself (repeated)
7. Each minute...each hour, you move more rapidly toward total healing.
8. You are healing...you are healed.
9. You accept total health as your reality...and it now becomes your reality.
10. You focus the healing power of the universe upon your body and mind.

4. The Physics, Physiology and Medical Aspects of Music and Sound

a. Assumptions about Brains and Minds and the Relationship Between Them

One of the exciting and frustrating aspect of brain theory and research is that practically anything that is said and discovered about it is true: Are functions localized? yes AND no! Does massive brain damage produce massive inabilities? yes AND no! Are mental abilities dependent on brain functioning? yes AND no? Are brain and mind simply two different ways of looking at the same phenomena? yes AND no!

Models of the Brain's Organization and Operation

There are several theoretical models as to how the brain functions. Given the complexity and sophistication of the brain all are partly true and capture the facts. However each approach has different assumptions.

Left and Right Brain: Hemispheric Specialization A Model of Horizontal Brain Structure/Function

Probably the most popular is the hemispheric specialization or left vs right brain model. There are a number of labels for these two modes of functioning such as:

left mode vs right mode
analysis vs synthesis
part vs whole
rational vs intuitive
convergent vs divergent
temporal vs spatial
verbal vs visual
sequential vs simultaneous
logical vs metaphorical
analysis vs synthesis
and so on and on

Each approach is true. Another pair of terms is either/or vs both/and; when considering the brain, "both/and" is the most valid approach. You need both and need to integrate the two approaches. After all you have both potentials within you. Some times you find the systematic, analytical step by step way most suitable. Other times you relax and "tune in", "go with the flow" and "let it happen". Both work and things go better with the integrated movement between the two approaches. Most people experience and process music using the "right mode". One interesting finding was that musical training results in a transfer of this experience to the left mode analytical approach. "Unfortunately for many music students the development of critical skills in the left hemisphere decreases the emotional impact of experiencing music." (Harvey, 1986, p. 176)

MacLean's Triune Brain Model A Model of Vertical Brain Structure/Function

A second approach is Paul MacLean's triune brain model which is a vertical organization of the brain using an evolutionary context. The brain is seen as three interconnected bio-computers, each with a special type of intelligence, its own subjectivity, since of time and space, its own memory, motor and other functions. The most primitive is called the reptilian brain (hind brain) or instinctive mind controlling ritualistic regulatory functions. The next level is the paleo-mammalian brain (limbic system) or emotional mind. "According to music therapy (Altschuler's Thalmadic Response Theory) the most basic and primary response to music may be at the limbic system level...the limbic system is at a response level that is also non-verbal, non-analytical, yet powerful." (Harvey, 1986, p. 177) The "highest" level is the neo-mammalian brain (cerebral cortex) or rational mind. "It is to the cerebral cortex that our traditional education programmes, including arts (music) programmes, direct the majority of their instructional and experiential efforts...it is even more limited by a focus on principally left-brain-type activities and styles of learning." (Harvey, 1986, p. 177)

"While dual brain theories have focused upon the significance of the cerebral functions of the brain, the triune brain theory has brought to awareness the significance of the limbic system...in attention, emotion, learning and resulting memory processing...The importance of the limbic system is recognized in its mediating ability between mood and emotional states such as: rage, fight-flight, relaxation-tension, pleasure-pain, expectation-actuality, stability-instability, participation-warding off, and sociability (self-transcending)-self-asserting." (Harvey, nd, p. 17)

Pribram's Holographic Brain A Model of Non-Spatial Brain Structure/Function

An interesting concept which attempts to account for the incredible functioning of brains uses a model from "HoloGraphic" photography which has now broadened to the field of sound in the area of "HoloPhonics". This was described in an earlier section and so will not be repeated here. As a reminder of the terms: *HoloGraph* is derived from two Greek roots: *holo* meaning "whole" and *graph* meaning "to write". With HoloPhonics, the root *phon* means "sound". The broad term reflecting this idea is "HoloNomic" meaning in the wholistic manner, (Leonard, 1978)

The process for creating holographs and holophons was described in the earlier section and the reader is referred to them as a refresher.

The holonomic properties of brain functioning, especially memory, are where this theory is most useful. However, it is also one of the few theories which could explain the startling abilities of people who have half a cortex or no cortex. There is a question of whether some of us, at least, really need our brains!

Since the brain is both localized/specialized and generalized at the same time, the holonomic model provides a way of understanding the physics that may underlay it. "If a small section of the photographic plate is cut out and a laser light projected through it, the observer will still see the entire three-dimensional object, although it will be diminished in intensity. We may apply these holographic properties usefully to instances in which stroke patients report complete but greatly dimmed memories... [There is a debate in neurophysiology over] the degree to which brain function is isolated in specific anatomical areas and the extent to which all functions are diffused throughout

the entire cortex...A holographic model resolves this dilemma since it accounts for both localized functions as well as the fluidity...[B]rain function is potentially distributed throughout each cell of the brain, although certain anatomical areas specialize and emphasize certain aspects while other potentials remain dormant in those areas...[T]he brain's ability to associate one bit of information with another finds an analogy in the hologram produced by bouncing laser light off two different objects. In this procedure, the light reflected from each object becomes the reference wave for the other object. Then if either one of the original objects represented on the photographic plate is re-illuminated with the same laser light at the same angle, the other object will also emerge, resulting in two distinct images. (Pelletier, 1979, pp. 113-114) (for some of the important thinking on the holonomic model, see Wilber, 1982; see also Bentov's description "What is a Hologram?" provided earlier in this unit)

Is Mind Just a Term Describing What the Brain Does?

The rise of interest in spiritual approaches in psychology, broadly referred to as "Transpersonal Theory" (see Washburn, 1988 and Wilber, Engler and Brown, 1986), has revived the debate about the relationship between the brain and various mind/psychological functions like memory, thinking, problem solving, creativity etc. Although I don't want to go into this issue in depth at this time I want to point out that there now is much less faith in the long believed dogma in psychology that all psychological processes are products of brain structure and function. Recent discoveries of very intelligent people who have virtually no cortex ("pea brain") or half a cortex (hemisphere-ectomies) raises serious problems for the reductionists (those who reduce mental/mind phenomena to neurological/brain structure/function). Wilder Penfield the pioneering Montreal neuro-surgeon, spent his entire life studying the brain and memory and concluded at the end of his research that mind and brain are two separate realms of reality, related but not identical (see his Mystery of the Mind: A Critical Study of Consciousness and the Human Brain, 1975).

The approach to memory used by the Institute of Advanced Thinking, "Instant Memory: The Automatic Memory System" is very firm in stating that memory and other psychological or mental processes are not "Cerebrocentric" (centered in and originating from the brain). They say there is no mechanical or physical basis for mind and one of the primary blocks to perfect memory and mind skills is the widely held but erroneous belief that mind originates in the brain. Their approach emphasizes freeing you from this fallacious unconscious belief which will make your mind much less influenced by factors such as aging, fatigue, poor nutrition, sickness, anxiety, drug effects etc. Other approaches to training "higher" or intuitive powers talk about the right/left brain distinctions with the implication that mind training is basically brain training.

My own attempt to understand what the mind/brain relationship might be has lead me to a couple of analogies. The fact that, in spite of some dramatic exceptions (e.g., a "pea brained" person with an advanced degree in mathematics) MOST people, when deprived of their brains (through accidents, drugs, birth) don't function too well (try doing an intellectual problem when very drunk or unconscious!). To handle the exceptions I use the analogy of computers.

You have basically three levels of functioning which must all be performing well to produce proper output. The mechanical/electrical level would correspond to our body/brain (the "hardware" in computers or "squishware" in biology). The CPU= Central Processing Unit, which is the heart of the computer, would be like our brains and Central Nervous System. The various "peripherals" such as the key-board, joy stick, "mouse", light pen, modems, disk drives, monitors etc. might be like our senses which add or give information to the CPU. The printers and other output devices could be

analogous to our motor system (muscles, glands etc.) that act or produce things from commands from the CPU.

However, even though there is some built-in or wired-in processes in the CPU (just as there is in the brain/body through inheritance) most of what the computer does is via "soft ware" programs which are added to the CPU memory. Without these programs, the computer is very limited and rigid (especially micro-computers). However, the computer doesn't create these programs, it just uses them and the program can be good, bad or indifferent regardless of the rest of the computer. A bad program produces bad output regardless of how sophisticated the computer (GI GO= Garbage In Garbage Out). The soft-ware programs could be analogous to mental or psychological processes.

The question becomes, where do these mental programs come from. A specialist in computer function and structure produces (programs) the soft-ware packages for a variety of purposes and a variety of types of computers (CPUs). What is the analogy to the computer programmer in mental processes (mind)? It is my hypothesis that this is what people would call spirit. From whence do programmers come? From programmer creators (originally called parents). Where do (does) spirit come from? This is what people call God, Ground of All Being, Creator etc.

Thus, the three levels are:

HUMAN BEINGS	COMPUTERS
Brain/Body	The Hardware. CPU, keyboard, joy stick, disk drive, monitor, printer, modems, etc.
Conscious & Unconscious mind/ Psychological	The Software. Computer programs for various purposes (accounting, writing, composing music, drafting/designing/graphics, comparing, listing/filing, problem solving, games, storing information)
Spirit/Supra conscious/Intuitive	The Programmer. Creator of computer software.

GROUND OF ALL BEING. SOURCE OF ALL

Except for those rare people who don't need much of their "squishware", most people require a well functioning unit (CPU), the more sophisticated the better (see the discussion in the final section of this unit of various programs to improve physical intelligence such as "Learning Breakthrough" and "Educational Kinesology"). Although mind and spirit transcend matter, the limits of most people's functioning is funneled through the "squishware" of brain/body which determines their performance level. If you can transcend this level, and function independent of it, then you can beat this restriction. This is where we encounter various "miracles" (minor or major) which violate the limits of the physiological level. I recommend that you keep your "squishware" in good form, however. No computer owner would pour beer and "special sauce" in his CPU and expect his sophisticated software programs to work. So take care of your brain/body!

One further point to clarify the origins of mind, using another analogy. Everyone with a TV set knows (I assume) that the programs don't originate inside the set. When something doesn't look right (poor output) the problem could be with the signal coming into the set or it could be the set

distorting the signal. However, when neuro-psychologists approach the area of psychological functioning/output and see that something is not working right, they automatically assume the signal is created by the "squishware" and never consider that the signal could be fine and the problem is in the set distorting the signals. This issue is not at all settled. Most of the research studies the "squishware". I take the approach of improving the software and programmer, transcending the limitations of the "squishware".

Here are things you can do to increase the efficiency of the "squishware", such as proper nutrition, deep breathing, proper body posture, physical and mental relaxation and the various programs to improve "physical intelligence". A lovely description of the integration of Body and Mind with the total environment is contained in George Leonard's The Silent Pulse: The Search for the Perfect Rhythm that Exists in Each of Us (1978, pp. 87-91)

As with computers, when the hard- and soft-ware (Brain and Mind) are working in harmony at top efficiency in tune with the environment, incredible results ("miracles") occur. Remember:

LET THE FORCE BE WITH YOU!

Planned sections but not done

- b. Bonny's "Music Rx"**
- c. Diamond's Life Energy Approach**
- d. Campbell & Coulter's Musical Brain**
- e. Harvey's Therapy Approach**
- f. General Music in Medicine**

D. MUSIC, EMOTION AND THOUGHT

1. Music and the Evolution of Consciousness

Although the historical origins of music, consciousness and the relation between the two must remain in the realm of logical speculation, it is reasonable to assume that the two must have evolved together. Voiced sound can be seen as an attempt to internalize nature in the form of imitation or mimicry as well as its use as signs and signals between people. Some sounds can be better mimicked by using instruments other than the voice and so beating, strumming and piping/blowing/whistling would come into existence also. The above elements constitute all that is needed to form what we mean today as acoustic (non-electronic) music.

The entraining properties of music and sound discussed earlier would provide the connection between sound and life events. For instance, the different rhythms of drumming would produce different emotional and behavioural effects in people. The somber slow throbbing beat of a funeral procession is not some arbitrary convention. Fast brisk rhythm stimulates people to action. Music would have mirrored early human reality, within as well as without, just as it does today. Outwardly, the relation between sound and the surrounding environment is fairly simple and straight forward; imitation and communication/signaling. Inwardly, however, the meaning of music and sound is more complex and more closely related to development of consciousness.

Jerison, in Evolution of the Brain and Intelligence, argues that the perception of sound is central to the human nervous system's unique ability to create an internal model of the external world. He

concludes that the very early mammal's sense of hearing was primary and critical in shaping what would eventually become human consciousness. The first large leap in animal intelligence, according to his theory, occurred when the animal became conscious that a sequence of sounds was a unified, meaningful auditory image. Up to this point, it was more or less "out of hearing out of mind". He believes that a similar event occurred later in the vision sense followed still later by an integration of the two in sensory cross referencing. These sounds and sights became linked together and embedded in the brain with their common significance and meaning. Today, skilled musicians can see a written score and hear inwardly what it sounds like. In modern human beings, such mental imagery can be quite independent of any external reality and people can see/hear in their mind totally new and improbable realities.

As this ability to carry external reality in their minds developed, so did the need to communicate with others to discover if there was some form of agreement among people in their internal models. They sought to discover whether others shared roughly the same world picture. If so, what did it mean? The results of this interchange would allow comparisons of internal models. This would occur not just through what we call language, but more fundamentally through the arts--painting, sculpture, dance, mime and music. Today we recognize that the arts can construct subtle and exquisite images of complex reality, sometimes more real than that which it refers to. Art is seen to capture the "essence" of a bit of reality. When we seek to capture and communicate emotional reality, the language of music is the most efficient. As Aron Copland said, music can evoke specific shades of joyousness rather than just joy/non-joy. The artist/scientist who has done the most sophisticated thinking and research on the biological basis for the communication of music and emotion is Manfred Clynes. He has provided the foundations of a new science that aims at the precise measurement of emotional expression and of the qualities of expressive form that we intuitively recognize in a great work of art. This science he has called *Sentics*.

2. Sentics: The Biological Basis of Music and Emotions

a. Introduction

One of the most important theoretical and applied areas (which has yet to reach mainstream psychology) is Manfred Clynes' discovery/invention of "Sentics". Clynes is one of those geniuses who excel at everything. He is a concert pianist turned neurophysiologist, inventor, engineer and self-taught pioneer computer programmer. Born in Vienna, reared in Budapest, in 1938 he moved to Australia where he entered the University of Melbourne at the age of 16 and graduated with honors in music and engineering. He won a graduate fellowship to study piano at Juilliard where he received his master's degree in music, and later the University of Melbourne awarded him a doctor of science degree on the merit of his contributions to physiology.

He gave up a promising career as a concert pianist and professor of music at Princeton University. Since he needed a better salary, he applied for job as a computer specialist (not having any experience in the field!) and got in on the ground floor of the new fields of data processing and control-systems analysis. He became interested in how the structure of the nervous system determines the internal structure of the world we perceive and relate to. To research how the brain responds to stimuli, he needed a method of recording the constantly changing electrical activity of the brain and selecting out the critical wave forms. The new computer technology had promise but no software existed to do the job so he invented the Computer of Average Transients (CAT). This was the start of an important new field in sensory physiology. Although he studied other senses, his main interest was in sound and music. And he was not only interested in the response to external

sound but was primarily interested in the internal meaning of music. What does the brain do to record and communicate meaning in music? This is an attempt to measure the internal reality. He further speculated that, since music is universal in human culture, there must be innate organizing principles or forms imbedded in the human nervous system. Also, since music is the most efficient language of emotion, these innate forms must relate to emotion.

b. Measuring Musical and Emotional Communication

Given that the human nervous system has these "wired in" organizing principles or forms, how are they expressed so that we understand each other's emotional communication? Being a concert pianist he knew that the only physical action available was mainly through the hands and fingers. The same was true of string players. How is it that, given performances that are equally good in technique, one will be superior in communicating the emotional content of the music? Somehow the "inner pulse" of the composer's intention must be processed by the nervous system of the musician and, with piano and string players, translated in hand/finger movements that are qualitatively different.

The problem was reduced to trying to measure the movements of the hand/finger when they were required to "play" in their mind certain musical passages. He developed his famous button box. The task involved placing the index finger on the button and moving it in vertical and horizontal directions to attempt to express certain musical passages. He combined this technique with his Computer of Averaged Transcents program to discover if there were common patterns emerging. He used himself as his first subject. He would imagine himself playing a piece and, using only his index finger on the button, move it about as he mentally went through the piece. The computer recorded these movements and, with the CAT program, came out with a reading for that piece. Then he took another piece by the same composer (Mozart) and did the same thing. By doing this with several different pieces and comparing the resultant curves for each, Clynes discovered that Mozart had an "inner pulse form". Repeating this procedure with another composer (Beethoven) he discovered that he also had an "inner pulse form" different from Mozart. He had other musicians do the same thing for him to ensure that he wasn't somehow producing these amazing results by fluke. What he found was that each different performer's sets of curves agreed on Mozart compositions and each performer's curves agreed on Beethoven compositions. Further, the Mozart and Beethoven curves (Inner Pulse Forms) were different and distinct. He tested other composers and found that each had his own inner pulse which was distinct from other composers and could be measured precisely using his technology. (see Fig. 1)

**Clynes believes that all the music
of a composer has
a specific "inner pulse."
The "inner pulses" of Mozart
and Beethoven, produced by various
musicians, are shown below.**

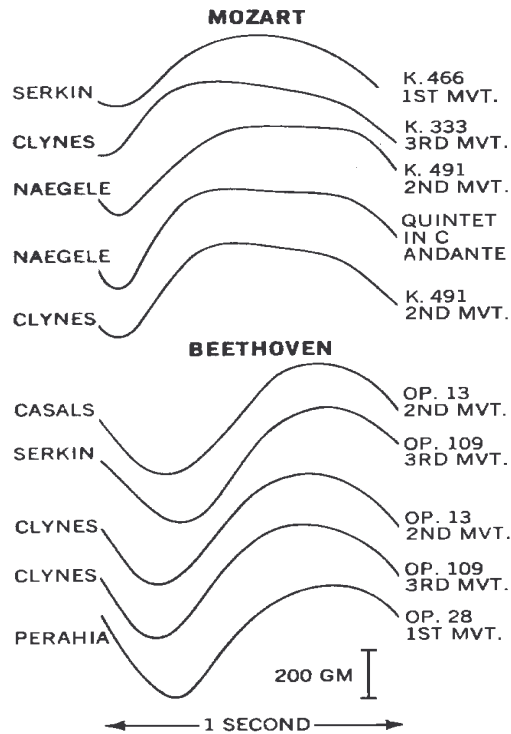


Figure 1: The Inner Pulses of Mozart and Beethoven

The next move was to relate this to qualitative differences among performers. In a nut shell, the great performance, as opposed to just the technically competent one, is the one which captures the "inner pulse" of the composer. The great performer listens inwardly with utmost precision to the inner form of every musical sound and then produces that form precisely; precise concept and precise execution of the concept. They must capture the correspondence between the contour and shape of the melody and the appropriate volume shaping of the individual notes. The way the contour of the melody shapes the tones is by the slope of the "pitch-time curve" which includes both time and changes of pitch. This curve influences the amplitude shape of a particular tone to deviate from a basic shape as follows: "If the time slope of the pitch-time curve is upward, the shape is skewed forward. If the slope is downward, it is skewed backward. In both cases it is in proportion to the slope." The shape of the present tone is governed by the nature (pitch and time) of the tone to follow. The shape of the present tone clues the listener to the tone to follow. This relationship is a significant element of musicality. It helps give "a feeling of continuity and continuity of feeling." (see also Diamond, 1981, 1983)

The final step was to try and measure emotions directly without the intermediate music. The method is sheer simple genius. Subjects sit in an armless, straight-backed chair with their index finger on the button placed at a comfortable height on a table. The button is hooked to his CAT system. Then, in response to randomly spaced, soft-spoken commands from a tape recording, they are to "fantasize" each emotion and express it through the vertical and horizontal movement of their finger. The emotions used were Love, Hate, Anger, Grief, Joy, Sex and Reverence in addition to No Emotion. (See Fig 2)

The shapes below are the essentic forms of various emotions. The upper trace for each emotion is the vertical component of finger pressure; the lower trace, the horizontal component (at twice the scale).

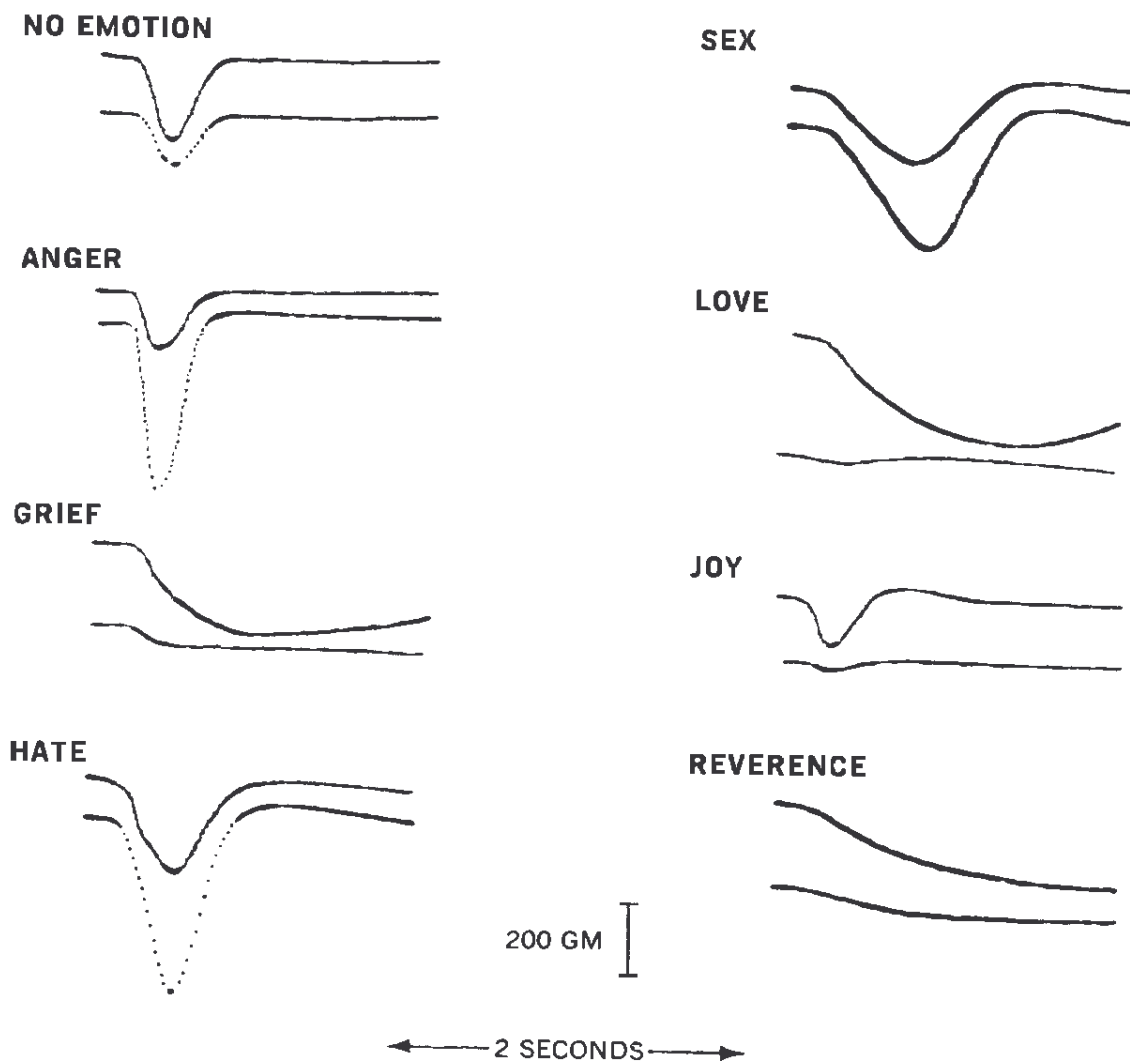


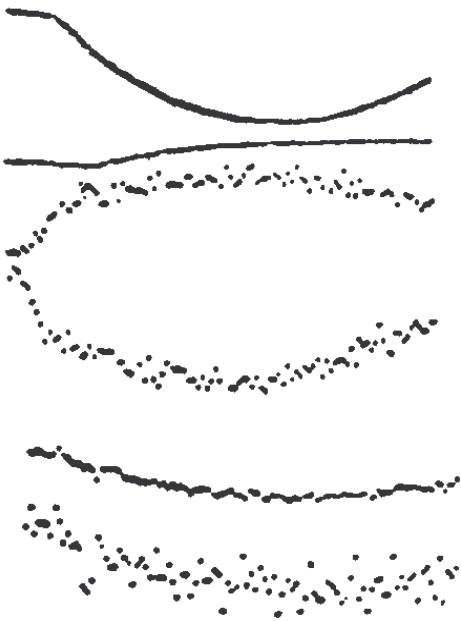
Figure 2: Shapes of emotions

He has also related the innate sentic forms research which generate the curves using button pressing to the visual arts. The pair of drawings by Picasso ("Mother and Child" and "Piping Pan") show

how a great artist intuitively captures the essentic forms of love and sex in a few strokes of the pen.
(see Fig 3)



Love



Sex



Figure 3: Picasso’s “Mother and Child” and “Piping Pan”

What Clynes found was that each emotion had its own "inner pulse" as indicated by the distinct pairs of curves, one for the horizontal movement and one for the vertical. These curves were the same for different populations, ages, sexes, and cultures. He concluded that there is a common brain program for each specific emotion that determines the character of the expression of that emotion (the movement and time course of the movement). This is true regardless of the particular body movement that expresses the emotion. This specific dynamic form of action which underlies each emotion is universal, unlearned and genetically programmed.

He found that subjects improve with practice; that is, the more a subject practices a clearly separate fantasy emotion, the more his individual expression approaches the common form for that emotion. The subjects receive no feedback about the shapes they are producing by button pressing and yet their tracings become more accurate and precise as the trials continue. The implication is that the subject is finding within himself those precise emotional expression programs that were there all along. You can learn to be more precise and in tune with the universal, biologically given forms of expression with practice. By training your brain/body you can learn to communicate emotional meaning much more precisely. When two people have different forms (curves) they report differences in the emotions experienced, even though they may use the same label (e.g., joy). Think of the implications for training musicians and actors to communicate emotional states better to their audiences.

These pre-programmed neurobiologic codes for an emotion are so precise and have been so precisely measured that Clynes has found differential equations to express them and has programmed them into a computer to simulate human forms of emotional expression. Clynes has taken these various curves and translated them back into auditory form as tones. (listen to the short audio cassette from Music, Mind and Brain) University students and aborigines from Australia, on hearing these for the first time, identified them with unusual accuracy. Joy was the most accurately assessed emotional sound with more than 80% identifying the "Joy tone" correctly. Nearly 70% identified the sounds of anger and grief. Fifty per cent identified sex and 40-50% hate. Reverence and love were highly confused by the subjects. Males and females did equally well.

c. Implications and Applications of Sentic

(1). Music and Musicians

Interpretation. Musical masterpieces contain the unique "inner pulse" of their composers, which can be evoked by sensitive performers. How is it that a phrase of music when performed by a great artist can move and transform the state of listeners, penetrate their defenses and make them glad to be alive, while the performance of the same phrase by a lesser artist, only slightly different in form, does not have this power? The artistry lies in the performer's feel for the phrase. The performer is guided by the "itinerary" of the piece. He expresses each tone according to the shape of the melody and his concept of the piece being performed. This concept, in turn, springs from the total empathic knowledge of the musician. (see also Diamon's "New system of aesthetics", 1981, p. 11 and his general "Life energy in music", 1981, 1983

The greater the empathy, the more clarity in his expression and the deeper the listener's response. The clearer a musical expression is, the more powerfully does it act in scanning our whole being and experience for its likeness. A clearly expressed musical idea is one that is true to its essential form.

Performance. Musicians can "take the pulse" of their own unique essential forms. Being true to your own pulse form allows greater control of your innate musical potential. You can refine your skills of emotional expression.

Composition. Composers now have at their disposal a powerful method of evoking various emotions and can combine them in ways that they choose. Clynes has developed a computer program for selecting and combining essential forms. The composer can mix feelings just as a painter mixes colors.

As stated above, the specific tone form for specific emotions have been identified. Using the computer program developed by him, composers can produce a particular emotional experience in the listener. Clynes has identified loudness/amplitude shaping as the critical variable in eliciting emotional reactions. Changing the amplitude with tiny variation in the duration of the notes can trigger strong emotions. A melody becomes fully expressive only when its individual tones are appropriately shaped in amplitude. These shapes vary considerably from one tone to the next. The expression of a given emotion requires not only that a pattern of tones be suitably spaced in time and pitch, but also that these be organized in terms of amplitudes to correspond to the appropriate essential form identified for that emotion. The more purely the form is realized, the greater its power to move the listener.

From about 1750 the inner pulse of the individual composers became more and more obvious. These pulses apply to the entire work of the composer, to both slow and fast movements and to different time signatures. If modern electrical technology had been available to these early composers so that they would have clearly known the varying extent of volume and duration differences among notes, a more precise musical notation might have developed to exactly communicate what the composer intended. Music composition theory would have included this as part of the curriculum rather than just the relations between the notes.

Electronic Computer Music. Applied sentics advances the art of synthesizing sound. With synthesizers it is possible to obtain expressive performances of existing works that surpass most or all real-time performance. Unlike conventional instruments, synthesizers provide unlimited opportunity for artistic shaping of individual tones or phrases. At present, most electronic music concerns itself with imitating the sounds of conventional instruments rather than surpassing their limitations.

Clynes' computer program (being tried in the public schools in New South Wales, Australia and patented internationally) can create emotionally expressive music through the *shaping of loudness and softness within* individual notes and small *deviations in time and duration*. These micro-structure variations give music its meaning. Most conventional synthesized music sounds sound dead and uninteresting without this attention to micro structure since very small differences here sharply change the psychological character of the music.

The new technology allows a musician to take his time and shape the form of the music's micro structure with a subtlety that no human real-time performer/composer can match. Also, a child can interpret his own music, complete with nuances, without spending years studying scales before performing. According to Clynes "Modern technology lets us create the most subtle musical forms with discrimination, stability and repeatability beyond the power of any living musician."

(2). The Therapy of Doing Sentic Cycles

One of the interesting spin-offs of Sentic research is the discovery that doing the Sentic Cycle of expressing emotions by finger pressing has a calming, meditative effect. The technique has been used by psychotherapists with a variety of patients as well as uses in "affective education" in schools. Clynes discovered the cumulative, cathartic effect because at first he couldn't convince anyone to go through the cycles. Initially, he would sit in his laboratory for hours at a time and go through one sentic cycle after another. At the end of the day, when you think he would be bored to tears or nervous or upset at performing such a "silly act" he instead found himself surprisingly refreshed. His sense of well-being lasted from 3 to 24 hours. After the initial period of calmness he noticed a marked increase in psychological energy, physical activity, creativity and spontaneity. He also found that he needed less sleep and that the sleep he did get was much more restful than usual. Eventually, others reported similar experiences. The quality of the expressive act is important for the effect and not the sheer quantity of energy (e.g., beating a pillow to "work off anger or frustration").

The cycle takes 20 to 50 minutes and the benefits of going through a sentic cycle are entirely independent of the recording of the responses with the pressure transducer computer hookup. To get the full experience of a sentic cycle, the only apparatus you need is:

- ∞ a tape recorder and a properly programmed tape,
- ∞ a straight-backed armless chair,
- ∞ a table or surface at the proper height to mount the button on and,
- ∞ the right kind of surface to press your finger against.

Surfaces that are too uneven, too sticky, too yielding or too hard can interfere with concentration and reduce the effect. You can use a small, hollow plastic knob that feels "neutral" to the touch that can be firmly attached with a blob of putty to any convenient table top of the right height. The most important factor of all this is the random spacing of the signals for expressing an emotion. If you try to initiate each expressive act on your own, rather than responding to an unpredictably timed signal, the effect will disappear entirely.

The procedure is basically very simple. You select one of the seven emotions (anger, love, sex, hate, grief, joy, reverence. There is a possibility of an 8th "essentic form", that of blissfulness) and, using a tape with the random unpredictable signals (clicks) express the selected emotion with your finger press approximately 50 times and then move on to the next emotion. If you have the tape developed by Clynes for his initial research, the emotions are given on the tape followed by the random clicks. For instance, if the tape says "anger" you fantasize that emotion each time you hear the click and express anger as precisely as possible by pressing your finger on the button.

Because this activity doesn't sound like what a grown sane person would do with out a reason, I provide you with the list of the benefits of doing sentic cycles summerized by Tom Linker (from Sentic Newsletter, v. 2, # 1, March 1980, p. 3):

1. Sentics can refine your awareness of your emotions and help you to recognize and deal with your feelings.

2. It can make you more flexible, get you out of an emotional rut by giving you a safe way to express and 'get out' emotions that your daily life seems to leave unexercised. I would call it an 'exercise for the emotions' and compare it to a physical fitness program for the body.
3. Sentics can increase your compassion, awareness of others' feelings.
4. Sentics can give you more of a sense that you can choose to express an emotion (as opposed to having it 'well up' and overtake you).
5. Sentics is as satisfying as music, is a metamusic that one needs no musical training to enjoy.
6. It will make you feel better, more cheerful, might even make you feel more at one with the universe.
7. It's simply a fascinating activity for its own sake.

3. Mutual Inter-Dependence of Emotion and Thinking

a. Introduction: Theory of Emotional/Cognitive Structures(ECS)

One current very popular fallacy is the belief that emotion and thought are somehow incompatible or at least independent of each other; that you are either being logical or being emotional, that heart and mind are in opposition. Both brain science and general psychology have, until this theory, assumed that the feeling and thinking systems are relatively distinct and independent. To use an analogy: the emotional themes are the rivers, railroads or roads while the houses and buildings they connect are cognitions and the resulting settlement is an Emotional/Cognitive Structure.

Psychiatrist William Gray and systems theorist Paul LaViolette have developed a theory which explains how feelings, cognitive processes and the brain act in an integrated interdependent manner. This new theory has great implications for personality theory, education, therapy and society in general.

It is true that you can be unbalanced in this Emotional/Cognitive aspect of life but it works both ways: Emotional Drivenness means that ideas can be pushed into action by strong emotions that short-circuit the more refined knowledge coded in more subtle feeling-tones (e.g., mob psychology, mass hysteria etc.). De-Emotionalizing means losing touch with the emotional basis of your thinking and results in a sterile form of thought which ignores the feeling aspects of human nature. Since we are feeling beings before we are thinking beings this means you ignore basic aspects of personal reality.

Feelings are the organizers of your mind and personality. Your thoughts are not purely intellectual but are embedded in emotional codes. Feelings are the vehicle while thoughts are the passengers. Finely tuned emotional tones (note the musical analogy) help you formulate your thoughts, integrate your personality and encode information into your memory. In infancy you experienced a basic set of global feelings. With maturity these "primary" emotions become differentiated by experience into many subtle feeling tones. When they are refined into complex emotional nuances (blended feelings), they form, encode, cross reference and link thought and experience. Nuances or blended feelings form patterns so that you can match categories and information. They let you know that something is like something else. The "Metaphorical Mind" (Samples, 1976) uses these

nuances to continually organize and reorganize mental content. Emotions must undergo refinement so that you can actualize your thinking potential.

The brain handles information more like an AM/FM radio receiver than a computer. Mental events such as sensations, perceptions, feelings, and ideas are encoded and processed by the brain as if they were AM/FM neuro-electric wave forms. These wave forms are the encoded emotional nuances and blended feeling tones which are amplified into thoughts while they cycle and recycle between the areas of the brain dealing with emotion (limbic system) and cognition (cortical system) (see MacLean's "Triune Brain Model" described earlier in this unit). However, complexity of thought does not depend on complexity of the nervous system and brain. Rather, it depends on the emotional coding system on which thought is based. Thus, consciousness and thinking are located, not in a particular place and function of the brain, but in the structure and relationships developed between feeling tones. When you are cut off from your feeling tones, making mental connections is difficult. This is why abstract and unfamiliar information (e.g., mathematics) is hard to recall and relate to. It has no intrinsic grounding in your emotionality. So learn to love your maths!!

Emotional nuances serve as coded labels for experience stored in memory. The coding of thoughts via emotional nuances makes it possible for millions of items of information to be classified in a holistic way under relatively few code labels. (see Pribram's "Holonomic Brain Model" described earlier in this unit) Human beings are more intelligent than other animals because they have a richer supply of emotional nuances available to encode experience. Intellectual differences among people are due to the fact that the wider and more subtle the range of emotional expression available the more complex is the intellectual expression available. There is a close relationship between emotional responsiveness and awareness and advanced thinking ability. This means that the attempts to produce disinterested, dispassionate and non-emotional scholars, scientists and technicians is self-defeating in that they will end up less able to reason and think. Rather, the drive should be to develop people who have a very precise and refined emotional life so that they can think better. Both aspects of an emotional/cognitive structure (ECS) are necessary for adding a thought to the store of knowledge and contributing to the persons personality. The problem is that, in our highly verbal oriented culture, feeling tones tend to become submerged and almost totally ignored. Those people who are involved in the arts are the ones who are most sensitive to them. The common person is usually only aware of the informational aspects of thoughts and not their emotional nuances.

This also means that feelings are not to be ignored, discounted or repressed. Because feelings form the underlying foundation for thought, an awareness of emotional nuances is the key to remembering, to recognizing patterns and relationships in ideas and to generating new ideas. The goal is to become intelligently rational about your feelings and intelligently feeling about your rationality.

b. Implications and Applications

The general implication of this theory is that, for a person to be highly intelligent they must also be highly emotional. There are many misconceptions about these two phrases: the phrase "Highly Intelligent" implies cold, unemotional, unfeeling, rational (Star Treck's Mr. Spock) whereas "Highly Emotional" implies constantly "going off half cocked", out of control, impulsive (Dr. MacCoy). However, geniuses in the real world are high on both aspects with their personal very sophisticated "Emotional/Cognitive Structures" (Captain Kirk).

(1). Education and Schooling

Many of our society's problems are the result of this separation of thought from feeling. Feelings give thought personal importance and meaning. This separation is a social disease, arising from our general fast paced life style and tendency to cut corners for efficiency's sake. In the long run, ignoring feelings prevents long/wide range in-depth learning and so we have many highly specialized and trained people causing large long range problems with their "techno fixes". This feelingless thought probably is implemented by parents who don't have time to explain things properly. Then schools, which mirror society's fascination with speed, perpetuate the problem and institutionalize minimal, tunnel vision style learning

Real learning requires a period of time (gestation) for the proper depth of emotional connections to develop and grow. The irony of it all is that while the pace of life has increased ("Future Shock") our cognitive abilities and capacities have not and may have even gotten worse. By trying to get ahead more rapidly than we should, our society is actually getting behind conceptually. Schools engender shallow learning ("Going through the motions") as less and less time is given to organize, connect with, make sense of, material. (see Warren, 1988, Schooling vs Learning)

The biggest irony is that the Emotional/Cognitive Structure approach to learning is far more efficient than purely cognitive/rational ones. The purely cognitive/rational approach is slow, tedious, dead. As a result, many years of schooling ("Tell `em `n Test `em") are devoted to what could be learned in a few years. People who drop out of school and return to it when it has personal meaning to them, learn much faster and easier. The emotional codings are more easily and rapidly acquired than the information they represent. Appropriate attention to the feeling tones that govern thought processes would lead to big payoffs in cognition. This does not mean only focusing on basic feelings. This is no more useful than focusing on facts. Connections need to be made. For example, it is not enough to simply know that you like someone or something. It is important to know exactly what kind of liking it is, its shadings and specific-ness.

(2). Creative Thinking

Emotions are the hidden source from which the creative process grows. The prior Emotional/Cognitive Structures (ECS) or older patterns of information become modified by new feeling tones. Feeling tones and their associated information continually circulate within the brain in an "idling cycle". When there is a desire to know something (a question, wish, desire, intention, plan), you tap into prior knowledge. The "desire to know" acts as a type of tuner (AM/FM) to resonate with the emotional nuances and Emotional/Cognitive Structures with similar feeling. The intensity of the desire to know becomes like a flowing, self-organizing emotional theme which brings in (entrains) surrounding resonating ideas. Each new organization ECS blends contents from the old with new feelings and information. This process tends to take its own time and even seems to take on a life of its own. One of the classic approaches to the creative process involves four stages: preparation, incubation, illumination and verification. ECS theory fits it very well.

Preparation is the background information coupled with a conscious clarification and definition of the problem. This develops a specific new emotional nuance expressed as "that feels right". This is then sent to the unconscious processing system. Incubation involves processing going beyond conscious awareness where the new nuance is selecting and unifying relevant feeling tones and Emotional/Cognitive Structures. Once in a while an unconscious thought pattern will emerge into consciousness, possibly resulting in a new insight or it may just generate a feeling of satisfaction.

To profit the most from this process it is useful to assume "an aware, even spread attention" on the problem. Here, your unconscious and conscious minds are in an type of focused "window shopping" for relevant missing information. You keep this sort of awareness open for information even though you can't say what the exact nature of this information may be. You'll know it when it comes.

Illumination occurs when, at its own time, the unconscious "delivers" to consciousness the results of incubation. Sometimes you may be delayed in the "ah Ha!" but you'll have the feeling that you are "on the verge of discovering something." You unconsciously know something but don't know consciously what it is.

Verification brings you back full circle to a new base. Here you check out the emotional illumination against the logic of experience. If you're lucky you will find that your idea is right on the nose and your emotionally certain proof stands up under the most rigorous tests of logic and usefulness.

(3). Memory

There is such a thing as "State Specific Memory" and one key aspect of this is the emotional tone of the carrying wave. The mood in which you acquire information influences how you can best retrieve it. In general, try to match the learning and remembering states as much as possible, especially in mood. Most students don't do a good job of this. Their mood in studying may be frustration or boredom whereas their mood when recalling (exam time) will be fear and anxiety. Your recall mood doesn't distort the original encoding of the information but it does exercise a selective effect so that you recall things most similar to your current state. Thus, you may end up recalling information used in another exam situation in another course! The general principle can be stated as "Memories acquired in one state are accessible mainly in that state but are not available for recall in an alternate state."

(4). Explaining and Treating Criminal Behaviour

Gray developed his ECS theory to help explain his experiences, as director of the district court psychiatric clinic, in treating difficult adolescents and young adults who were repeat offenders. The fundamental cause of criminal activity he believes is the intense feelings of being "locked out of" or "locked in" family or other groups. These feelings can then form the mental structure for unlawful break-in and break-out behaviour. When these habitual offenders became aware of the feelings that motivated their crimes, they were able to turn to lawful alternatives for the fulfillment of their emotional needs. Understanding locked-out or locked-in feelings acts as a "vaccination" against repeating the unlawful behaviour.

He noticed that the offenders could almost never identify a motive for their actions since the motive came from a part of them that had no words to use. The behavioural patterns could not be extinguished (as in behaviour modification procedures) but could only be modified to more appropriate forms by the input of new information. This information, however, must be transmitted by an emotional carrier wave, not as abstract data.

The two emotional bases for unlawful behaviour are the "locked out" and "locked in" feelings. The behaviour is quite literal. Those who feel "locked out" commit break-and-enter and intrusion offenses like burglary and rape whereas "locked in" people react with dissenting acts such as

truancy, arson and prostitution. Gray feels the success of his approach is its simplicity. Too often helping efforts fail because the language used is not understood by the client. The language must fit the problem to be of help. The language of lock-out/lock-in is understood by clients, parents, school personnel, probation officers and therapists.

It is important to recognize that moderate degrees of locked out/locked in feelings are essential to the development of growth toward privacy and community and so neither is inherently criminal.

Lock-Out/Break-In. Gray noticed that repeat B&E offenders were distant people who would not let you get to know them. He then decided that people who B&E have been locked out by their families, peers, schools and by society in general. However, they can't tell you this. The stolen goods were less important to them than the symbolic act of refusing and denying their locked out state. The value of the B&E act was in the feeling of power and excitement gained by breaking and intruding into forbidden territory. Gray's approach is to have them break in using more acceptable methods such as interrupting conversations, approaching parents with the desire to talk about something, calling the therapist at an unscheduled time, knocking on doors or applying for jobs. These simple directions produce a rather profound insight and sense of understanding. They act as if something previously impossible to understand now had an explanation relevant to their everyday lives and feelings, and the promise of an alternative.

Lock-In/Break-Out. Locked in people are harder to treat because most attempts to deal with their rebellious behaviour increase their feeling of being locked in (grounded, chaperoned etc.). The treatment requires greater ingenuity and symbolic action substitutes that are meaningful to the person feeling locked in. For instance, he gave one chronic run away 12 year old dimes to operate the telephone to call the people he trusts. The feelings of locked-in-ness which were previously too much for him became manageable and the dimes were his means of distanced communication.

4. "Hemi-Synch" and Binaurally Phased Sound

a. HEMI-SYNC: Hemispheric Synchronization

(1). Introduction: Basic Concepts

Mentronics Systems Tapes, developed by the Monroe Institute of Applied Science, require the use of stereo player and phones. They have developed a special technique/sound to integrate the two halves of your brain so that they work in cooperation. They call it HEMI-SYNC (Hemispheric Synchronization). The technique uses pulses of sound to help create, at the same time, an identical wave form in both brain hemispheres. It uses the principle of Frequency Following Response (FF.) which means that when your ear hears a certain type of sound signal, it tends to respond or "resonate" with similar electrical signals in the frequency of brain nerve firings (the concept of "entrainment").

Since the various electrical brain waves are indicators of various states of consciousness, by listening to a similar sound pattern you will be helped to attain the desired state of consciousness. [Sutphen's, 1982, "Hypnogogic Sound Vibration Tape" seeks to do this by presenting beats directly at a specific frequency of 8 hz] HEMI-SYNC takes this an additional step. "Each ear sends its dominant nerve signal to the opposite brain hemisphere, following the [cross over] pattern...By sending separate sound pulses to each ear (using headphones to isolate one ear from the other) the halves of the brain must act in unison to 'hear' the third signal, which is the difference between the

two signals in each ear. For example, if you hear a sound measuring 100 in one ear and another signal of 125 in the other, the signal your whole brain will 'generate' will be 25. It is never an actual sound, but it is an electrical signal that only can be created by both brain hemispheres acting and working together. That's HEMI-SYNC. If the '25' signal (above) is one that produces a certain type of consciousness, then the whole brain--both hemispheres--is focused in an identical state of awareness at the same time. Most important, the condition can be changed at will by changing the sound pattern. It also can be learned and recreated from memory when the need arrives." (from their booklet Brain Power). [It should be noted that the evaluation done by the National Academy of Sciences for the U.S. Army (Druckman and Swets, 1988) concluded that the methodology of the research on "hemi-synch" was too weak to be able to make any firm claims of effectiveness at this time.]

Instructions for Using Mentronics System Tapes

For Best Results:

- ∞ Play in darkened room, dimly lit at most, for the training tapes.
- ∞ Be sure you will not be interrupted.
- ∞ Be sure you don't have to go to the bathroom during the listening for the training tapes
- ∞ Go before, even if you feel there may be no need to.
- ∞ Be comfortable. Lie down or sit in an easy chair with head supported for the training tapes.
- ∞ Loosen all tight clothing, belts, ties, bras, etc.
- ∞ Always start at the beginning of the cassette.
- ∞ Use stereo headphones and cassette player.
- ∞ Adjust volume so that outside sounds are masked or reduced considerably.
- ∞ Play through the training tapes once for familiarity. Then relax & let the system work for you. It is most effective after the third playing.

The Mentronics Tapes Available

- ∞ The Cat Napper (25 min) "Relax and recharge in thirty minutes of special sleep."
- ∞ Sound Sleeper (45 min) "If you have trouble sleeping, this is the non-drug answer."
- ∞ Super Senses--Touch (45 min) To increase or decrease your sense of touch sensitivity.
- ∞ Retain-Recall-Release (45 min) This tape trains you in a specific method of remembering ("Retain-Recall") or forgetting (Release") AT YOUR WILL.
- ∞ Concentration: Relax-Read-Remember (30 min) This tape is not a training tape but a facilitation tape. There are JUST the sounds with no instructions. You are to use it while doing some task which requires concentration such as studying or reading. [similar to MegaLearning's "Sound Support" system]
- ∞ Discovery: An Introduction to the Gateway Experience an extensive 6 cassette program described below.

(2). Discovery: An Introduction to the Gateway Experience

This program consists of a set of 6, 90 minute tapes and an instruction booklet. It is an at-home course to develop new forms of consciousness based on the Gateway Program given at the Monroe Institute. These tapes are not a series of lectures but comprise a sequentially organized program of methods and techniques for practice at home; they are training tapes. To quote from their literature:

"The DISCOVERY Program provides the serious explorer of human mind potentials with a variety of tools that can be used in his quest. When learned and applied these give the individual new awareness, knowledge, and understanding of his own self. They help one to perceive and control levels of his own consciousness here-to-fore unavailable and/or unknown to him. They may open other realities and energy systems where new information and experiences may be obtained. They can enhance measurably his creative processes and abilities.

"The DISCOVERY training series is the product of a twenty-year research effort by the staff of the Monroe Institute of Applied Sciences. Many of the techniques employed were originated by Robert Monroe, Founder and Executive Director of the Institute..." (from the cover form letter for the Discovery Program, 1982) "In 1974, in Whistlefield Research Laboratories, we were conducting research studies on the effect of environment on human consciousness. The Esalen organization at Big Sur, California, famous as the birth-place of many new trends in psychology and philosophy, heard of our work and invited us to conduct a week-end workshop at their facility. As a result, we had many requests to repeat the process elsewhere. Our Executive Committee approved this new activity as a means of broadening our research model--and indeed it did.

"Originally called the M-5000 Program, sessions were held on week-ends at various sites throughout the United States and Canada. Several thousand individuals from all walks of life participated in this constantly evolving series of training exercises. When we understood better the process taking place, we re-named it the Gateway Program--because what we were presenting was a gateway, a means by which the individual could move into the exploration, knowledge and understanding of his own self as well as the realities where he has existence.

"DISCOVERY is a special version of the Gateway Program designed and produced for in-home application. It incorporates the latest methods and techniques of the Gateway, adapted so that you can benefit from it wherever and whenever you so desire...it is a series of six exercises on tape cassettes. Each contains a specific pattern of training. It is very important that you work with them in the numbered sequence.

"With in-home training, you have a definite advantage. You can repeat each exercise until you have mastered it completely. Do this. Stay with each exercise until you are proficient. Then move to the next.

"The sound pattern you will hear on the tapes is a scientific process that helps you develop and absorb these new Gateway states of consciousness. It is not hypnosis, although some of the techniques seem similar. The Gateway forms of consciousness show significantly different EEG brain wave patterns from those of hypnotic subjects. At present, there is controversy as to what such patterns truly mean and how to categorize them.

"What can you expect from the DISCOVERY training? First--as much or as little as you put into it. The exercises provide you with a set of tools, as it were. How you use them, what you do with them is totally your responsibility.

"Some discover their own selves for the first time, and thus live more completely, more constructively. Others reach levels of awareness so profound that only one such experience is enough for a life-time. Still others become seekers-after-truth and add an on-going adventure to their daily activity.

"There is only one basic--that you seriously consider the Gateway Affirmation at the least a possibility: that you are more than your physical body, that you can and do exist in energy systems that are not limited to time-space, that you can and do communicate with intelligence beyond your physical consciousness--call it what you will." (Robert A. Monroe, from the Guidance Manual for Discovery: An Introduction to the Gateway Experience, 1981, pp. 3-4) [see the prior discussion "Is mind just a term describing what the brain does?"]

"The DISCOVERY training system employs a...means to synchronize the hemispheric activity of the human brain [described above]...Very little is known as to the occurrence of such synchronized states in typical human consciousness. A study at the Menninger Foundation indicated the ability of an experienced Zen Master to induce it at will, which may suggest it is more prevalent than considered originally...the Monroe Institute has developed and tested specific 'hemi-sync' applications with several thousand participants through its Gateway Program...The DISCOVERY Program utilizes fully this experience. It is in essence a modification of the basic Gateway techniques for in-home training, where the factor of repetition-until-result can be maximized. Rarely an 'instant' success, it is rarely a 'failure' when repeated consistently." (from the cover form letter for the Discovery Program, 1982)

The Gateway Affirmation

"I am more than my physical body. Because I am more than physical matter, I Can perceive that which is greater than the Physical world. Therefore, I deeply desire to Expand, to Experience; to Know, to Understand; to Control, to Use such greater energies and energy systems as may be beneficial and constructive to me and to those who follow me. Also, I deeply desire the help and cooperation, the assistance, the understanding of those individuals whose wisdom, development and experience are equal or greater than my own. I ask their guidance and protection form any influence or any source that might provide me with less than my stated desires." (from the 1981 Guidance Manual for Discovery: An Introduction to the Gateway Experience)

Discovering

"The Monroe Discovery tapes are a means to your self-discovery, a gateway to your choice of ideal or destination.

"The goal of the Discovery tapes is for you to no longer need them. They are like training wheels on a bicycle: wonderful for practice, but inhibiting as you learn to ride far and free.

"Words and theories are only secondhand knowledge, which has nothing to do with Discovery. As you do these exercises, your experiences will take you beyond what you think or have read to what you know.

"On each tape, a complex series of audio patterns is precisely synchronized with Bob Monroe's verbal instructions. Active concentration and clear intention are required as one moves, by carefully controlled steps, from deep physiological relaxation to those thresholds of consciousness that, when stabilized, become gateways into different forms of perception, or states of expanded consciousness and self-discovery.

"Bob Monroe beautifully fits Kahlil Gibran's concept of a teacher: 'If he is indeed wise, he does not bid you enter the house of his wisdom, but rather leads you the threshold of your own mind.'

"Most of us initially 'click-out' of tapes as we begin to move up to and beyond our level of adjustment. 'Clicking-out' is different from falling asleep. There is a sense of having dropped out of and back into a tape, with no apparent time interval. We have stored memory of such experience, but no immediate recall.

"As we learn to cooperate with our own inner direction, the paradoxical nature of the gateway itself emerges: our desire to explore intensifies as we become more willing to release any attachment to results. Expectations put demands on the undemandable, limiting the unknown by what we now know, and enclosing a system that must remain open in order to function.

"Paradoxes continually emerge as one senses how gentle power is, how intense the speed of absolute stillness is, how each unique fragment holographically contains the whole.

"Any conflict between 'doing something' and 'being there', or being active and passive states, is resolved paradoxically in Focus 10. 'Doing' and 'being' merge, triggering what we call synchronicity or a synergism between thought and action, between 'imagination' and 'reality', between self and universe.

"In Focus 10, the serious and playful aspects of self-discovery also merge, effort and fun are no longer in conflict. One enters 'a flow.' A growing sense of responsibility is balanced by corresponding confidence. Burdens become light. So seriously, have fun!

Gateway Entry

"'Begin now'. Begin where you are, with an easy acceptance of who you are. To explore is to observe by discerning differences rather than making judgments.

"Assume that the audio techniques patented by the Monroe Institute will create different HEMI-SYNC patterns, and there are various ways to access these differences within yourself.

"One access system is to feel differences **kinesthetically**. Reach into your body and feel subtle sensations. Sensations that may feel like motion: rising and falling, rocking, sliding and tipping. Or you may feel 'electric' sensations: tingling or vibrations. Or perhaps twitches, pulsing, pressure, or changes in temperature. Ask, 'How does my foot feel?' rather than, 'Is my foot relaxed?'. Observe and watch those feelings change and shift, come and go, creating subtle patterns which are beautiful in and of themselves. And like the surf, never assume that the frailty of its foam is a measure of the ocean's power.

"Linguistically, our concepts are deeply tied to the visual. We remote-view, honor men of vision and seers, value insight and perspectives. Do you 'see' what we mean? Consequently, **visual** access systems get a lot of press, and are often considered essential to the control and use of energy. It's not necessarily so. Meister Eckhart, 13th Century mystic, stated that the trouble with 'vision' was visions. One can get caught up in their entertainment value, and the endless fascination of unfolding visualization can trap us in what Chogyam Trungpa calls 'spiritual materialism.' Visualizations can be incredibly beautiful and meaningful. And attachment to them can become a major block to other perceptual cues.

A third or **auditory** access system manifests as voices, verbal messages and words, or as sounds: static, buzzing, pops and clicks, tones or even music. Jerry Jampolsky refers with great perception, in his experience with the Course in Miracles, to having 'heard an inner voice, or possibly it would be more accurate to say an impression of a voice.' Focus 10 perception has a delicacy, a quality difficult to convey in physical waking consciousness (consciousness one or C-1) terms, and too often we close such beautiful channels that were open to us by discounting our 'impressions' as unreal rather than allowing them to be of a different order of reality.

"Gateway participants report an intuitive access system: the sudden awareness of a gestalt, a whole-knowing or 'thought-ball' as one man delightfully described it.

"Whatever your access system or systems, getting deeply into yourself will get you beyond and outside of yourself. Value and build on your uniqueness: it is wholeness and unity." (from the 1981 Guidance Manual for Discovery: An Introduction to the Gateway Experience, pp. 8-11)

Tape-Taking Tactics

- ∞ "Avoid being interrupted during a tape--absolutely! Discovery tapes are 42-44 minutes long. Darken your room, take your phone off the hook, close your door, and put out the cat.
- ∞ "Do NOT use tapes when driving.
- ∞ "Allow 're-entry' time after a tape. A sense of urgency is self-defeating.
- ∞ "Wait at least an hour after eating. Alcohol, drugs or excessive caffeine will limit a tape experience. Use the bathroom before each tape, even if it seems 'unnecessary.'
- ∞ "Lie down comfortable in the beginning. With familiarity, tapes may be used in reclining or sitting positions, keeping your back straight.
- ∞ Sit on the floor, or use an armchair or sofa in preference to a sidechair.
- ∞ "Be comfortable. Remove shoes, glasses and contact lenses. Loosen any tight clothing.
- ∞ "If you itch during a tape, scratch. You will move gently back into your pattern of relaxation.
- ∞ "There can be a metabolic drop as one enters a tape experience, producing a coolness or chill factor, which can quickly change to a perception of heat, motion or pressure. Have a loose blanket or cover handy, ready to pull up or throw off as needed.
- ∞ "Plan to use your tapes at the same time every day or every week, when possible. Creating this rhythm facilitates both your commitment and inner readiness to discover and explore.
- ∞ "Experiment also. Try a tape after physical exercise, or after several 90 minute sleep cycles.
- ∞ "Keep a journal of your experiences since details are apt to slip away. Include background factors of personal interest such as date, time of day, body position, medication or unusual diet, mood, energy level, moon phase, unusual circumstances or events, etc." (from the 1981 Guidance Manual for Discovery: An Introduction to the Gateway Experience, pp. 13-14)

Required Equipment: Good quality stereo cassette tape player and stereo headphones (with separate volume controls if you have a hearing differential).

General Instructions

Both the Discovery tapes and materials in the Guidance Manual "assume that any tools and techniques you develop are sequential and will have become like 'old friends' before you proceed. You are building a foundation for discovery--build it deeply within, and with clear intent. If you are curious, listen to each tape objectively, over speakers. In Discovery, repetition of tapes is

advancement. Return to basic tapes for reinforcement: it will deepen your experiences and is strongly recommended.

"Various tools are developed in Discovery to create bridging as one begins to detect and focus the strong energies we call 'non-physical', often perceived as electrical or vibratory sensations, as motion, heat or pressure. These energies can flow in Focus 10, and can, depending on your choice, influence physical reality."(from the 1981 Guidance Manual for Discovery: An Introduction to the Gateway Experience, p. 15)

Training Program Schedule

- ∞ Exercise Tape # 1: Orientation Repeat until competent. The tape has the following sections: Right Ear, Balance Tones, Surf, Hemi-Sync, Energy Conversion Box, Resonant Tuning (RT), Focus 3, Beta Signal.
- ∞ Exercise Tape # 2: Introduction Focus 10 This exercise must not be used until you are completely comfortable with Discovery Exercise Tape #1. Repeat until competent. The tape has the following sections: Focus 10, Encoding, Countdown, Beta Signal
- ∞ Exercise Tape # 3: Advanced Focus 10 This exercise must not be used until you are completely comfortable with Discovery Exercise Tapes 1 & 2. Repeat until competent. The tape has the following sections: Resonant Energy Balloon (REBAL), Return to Focus 10, Encoding, Beta Signal.
- ∞ Exercise Tape # 4: Release-Recharge Do not use this tape until you have become completely familiar and comfortable with tapes 1 through 3. Use once each day or as needed. The tape has the following sections: Preparatory Process, Energy Conversion, Beta Signal.
- ∞ Exercise Tape # 5: Explore-Sleep Do not use this tape until you have become completely familiar and comfortable with tapes 1 through 4. Use once each day or as needed. The tape has the following sections: Out of Body (OOB) Exercises During Sleep, Encoding, Fadeout, Beta Signal.
- ∞ Exercise Tape # 6: Free Flow 10 Do not use this tape until you have become completely familiar and comfortable with tapes 1 through 5. Use as desired. The tape has the following sections: Open Exploration, Guidance, Balance Tones, Fast Re-entry, Beta Signal.

Free-Flow Methods of Exploration

Once you have sufficiently mastered "Free Flow 10" state of consciousness you can use it for various purposes. These are discussed in pages 32-39 of the 1981 Guidance Manual for Discovery: An Introduction to the Gateway Experience. They probably do not make much sense without the requisite experience base provided by the Discovery Training Program. They include: "Answering questions and problem solving", "Patterning" (objectifying your thoughts), "Color breathing" (using breath and color visualization to improve your physical body), "Energy bar tool" (make your own "magic wand"), "Remote viewing" ("see" beyond your physical eyes), "Out of Body Exercises" ("be" at a different place than your physical body), "Landscaping" (creating an inner landscape imagery), "Energy walks" (creating inner sources of energy).

If you actually do the Discovery Program, you will be using the tapes and Guidance Manual in detail. There is another tape available, Astral Sounds, which allegedly simulates the aural experiences people have had in "Out of the Body States". You might explore your experiences with this also.

The Expanded Intuition Training program described earlier also gets into this area of skill, especially tape 6

b. Binaurally Phased Sound

(1). The Problem of INattention

Dr. Devon Edrington, who died in 1986, was an instructor at Tacoma Community College and Director of Western Educational Systems, in Washington state. His work is being continued by LaForest and "International Educational Systems, inc.". Edrington took the approach developed by the Monroe Institute of Applied Sciences and modified and extended it to group settings, developing and testing a most promising approach to enhance various types of learning. As above, the approach uses sound and music to entrain the optimum brain state rhythms to increase the efficiency of learning and remembering material during extended study periods as well as other intellectual tasks. At the same time the stress, boredom and fatigue usually experienced by learners in such situations is reduced. Dr. Edrington's approach can be used individually, using a stereo audio cassette player and head phones (the "Hemi-Synch" approach) or in class rooms, using the "Binaural Phasing" equipment he has designed.

"...the hypothesis which I began testing in 1978 is this: Many people attempt to learn while in a state of consciousness characterized by extremely fragmented attention. Their attention flits from one thing to another in an uncontrolled manner, only occasionally impinging upon that which they wish to learn. Self-awareness of their plight only adds another distraction, and (in extreme cases) may result in such frustration that they give up entirely. It is possible to learn to control one's attention...but the classical methods [of contemplation and meditation] are so demanding that few people have the motivation to pursue them. Therefore, an externally imposed non-demanding method which will relieve the learner of the state of fragmented attention and induce a state of focused attention should give him/her the first-hand experience of an optimal learning state, thereby providing the motivation to pursue attention control by whatever means s/he deems appropriate." (Edrington, paper # 1, pp. 10-11)

Inattention or wandering attention is a major block to efficient effortless learning. There is much complaining and gnashing of teeth about the problem but not much effective treatment. "Admonishing the learner to 'pay attention' works no better today than it did centuries ago, probably because the appeal attempts to bring about an attitude change... by cognitive means [which are largely ineffective]..." (Edrington, paper # 1, p. 11) The various disciplines of meditation and contemplation, in their initial phases, address the problem of wandering attention. However, North Americans, by and large, are either too impatient or too fearful of these approaches to consider them a general mass solution.

The average person approaches full attention only in some threat situation. This is what "old soldiers" (WW I & II) remember most vividly. In the life threatening situations they felt fully alive, many for the first and last time. The average human being is similar to the mule. In order to teach a

mule something you must first get its attention. This is done by whacking it on the head with a large club!

(2). Using Alternative States of Attention

Taking a historical view of the desirable types of awareness and the culture in which each was imbedded it is easy to see that the type of consciousness appropriate in feudal societies was totally inappropriate after the industrial revolution. The same can be said today. The type of consciousness which has served us for approximately 200 years is now a problem as we move into the post-industrial information processing age. I indicated in Schooling vs Learning, the "paradigm shift" which is now occurring in education. The "industrial schooling model" emphasized content, acquiring a body of correct information is seen as the product of schooling, learning is a lockstep process in an imposed and rigidly established structure, valuing conformity and acquiescence to a fixed body of truths.

We now need to move into a true educational (actualizing human potential) approach which emphasizes creativity and divergent/holistic thinking (not just novelty), learning how to learn, learning as a life long process, questioning the cultural beliefs, valuing autonomy and community, seeing yourself as an instrument of change (instead of as a victim), and appropriate reliance on intuition.

In all education (school/formal or life/informal) it is important to remember that a primary tool is emulation and modeling. People learn most by example. Teachers who act like they know all the answers (have THE map for "answer land") and so are not themselves learners, who insist that there is only one correct way (the teachers), who are unimaginative etc. are not going to create or facilitate learners, no matter what approaches they use from their "education methods courses". What desperately needs changing is the mass of teachers level of awareness. This is usually not too successful and so most effort goes into changing students. One of the most popular approaches is Sophrology (also known as SuperLearning, Optimallearning, Suggestopedia) based on the pioneering work of Georgi Lozanov. I will discuss these more in a later part of this unit). The problem with these approaches is the high level of dependence on teacher behaviour and activity. Thus they have not been as widely used as they could be; teachers/administrator/etc. resist change from the "tried and true", even if it is ineffective. There are pockets of use but not broad mass implementation (most formal research on the topic is carried on by the organization called SALT= Suggestive and Accelerative Learning and Teaching). Thus, the situation is that we lack the large number of teachers with the gifts necessary to transform the awareness of large masses of students. Something is needed since the times are unprecedented and the future of the human race is at stake.

The voluntary control of attention and consciousness is basic to optimum growth and adapting to rapid and often unpredictable changing environments. However, attending is a precondition for different cognitive activities and is closely allied with emotion since it is a matter of attitude. (see the discussion of "Emotional/Cognitive Structures" in the "Mutual inter-dependence of emotion and thinking" part of this unit). One style of consciousness is not going to fit every situation but, as Abe Maslow said, "If the only tool you have is a hammer, to treat everything like a nail!" Unfortunately, "average people" are having their consciousness manipulated without their awareness or consent. The unscrupulous are taking the new technologies of influence and using them to their own ends rather than to the benefit of "the masses". (see the Sutphen cassette The Battle for Your Mind for a discussion of this problem)

In addition, people in North America (including most teachers) are very reluctant to give up their normal state of consciousness for the sake of more effective learning. They do, however, actively use self-defeating and self-destructive ways for consciousness alternation in the name of fun, relaxation, letting off steam etc. Music is one of the most promising, least threatening but least understood methods for altering consciousness which this unit is exploring.

As indicated above, the time honoured and tested cure for this problem has been the meditation and contemplation traditions, usually associated with some religious philosophy. Again, for "average people" this has not been too popular, even when considering the MacDonaldis of Meditation (the "McMed" approach of TM. The CSM program mentioned in "Silent Music: The Sound Within" part of this unit gives the basic approach to TM without much philosophy). Most people are too lazy and/or distracted and/or undisciplined and/or afraid and/or ??? Since any large mass changes seem unlikely in the near future, you can help alleviate the symptoms of "lack of awareness of awareness lacks" by a palliative. Dr. Edrington proposes "Binaurally Phased Sound" as a useful approach in mass education. Using the special environmental sounds for entraining the appropriate brain wave states associated with a given style of awareness, we can "force" students to be in optimum states of awareness for given types of learning endeavors. Remember, you need more than a hammer to build a life, be educated or trained.

(3). Matching Cognitive States to Cognitive Tasks

In the U.S. Army Foreign Language Program at Fort Lewis Washington (see Pawelek and Larson, paper # 5) they use the binaural phaser system in a variety of ways, both in the language lab and in the classroom. "The Binaural Phaser is used environmentally to create an atmosphere conducive to study, as a relaxation technique to reduce stress associated with language acquisition, as a method for relieving or reducing text anxiety, to supplement guided imagery, and as a medium to augment taped cognitive information. The different settings and the features of the Binaural Phaser allow us the flexibility to utilize it in all these applications.

"The most important factor in obtaining optimal results is the selection of the appropriate pattern of frequencies. The Binaural Phaser allows the selection of six different beat frequencies, three pure and three combination settings. The choice will depend on the state of consciousness best suited to the intended classroom activity. A description of these settings will demonstrate this point. The six settings are: Delta, Theta, Alpha, Theta/Delta, Theta/Beta, and Theta/Delta/Beta.

"DELTA produces deep relaxation. It is well known fact that sustained concentration upon an intellectual task is difficult when a person is in an excited state. Students who have come from any activity involving considerable sensory stimulation have difficulty `settling down' to an intellectual task such as a foreign language lesson. Use of Delta for a few minutes (not more than five) greatly accelerates the calming process which enables the student to begin to focus concentration...prolonged exposure will induce sleep.

"Besides the Delta setting the combination settings are the ones most often used. The THETA setting and the THETA/DELTA setting are used for relaxation, imaging and affective learning. The use of guided imagery is rapidly gaining acceptance in education. Whether the teacher makes a conscious use of imaging techniques or not, there is no doubt about the, importance of imaging, particularly visual and auditory, for learning. These settings are appropriate for any period which students are listening to a story, watching a film, drawing, composing, dealing with spatial relationships, or engaging in any predominantly `right brain' activity...

"Optimal cognitive learning is achieved with a relaxed body and an alert mind. The setting THETA/ALPHA/BETA greatly assists attention focusing and cognitive learning by helping learners reach and maintain this state. This is the most frequently used setting since most classroom learning, particularly in secondary and post-secondary education, is cognitive.

"THETA/BETA may prove to be the most efficacious setting for those areas of cognitive learning in which visual and auditory imagery is central, as in geometries, music theory, and foreign languages. We find this setting particularly useful for creating an atmosphere conducive to concentration when students are studying independently or when the teacher is conducting a lesson." (Pawelek and Larson, paper # 5, pp. 9-11)

(4). Results of the Application of this Approach

Dr Edrington has used this approach in four major areas: (1) enhancement of cognitive learning, (2) enhancement of mental imagery, (3) promoting creativity and (4) alleviating anxiety. All the uses depend on focusing attention which is done by giving sounds to each ear at specific frequencies which induce the brain into an appropriate state while, at the same time, synchronizing the two hemispheres. Appropriate state means the brain state most appropriate for a given activity. That for cognitive learning is different from that for efficient passive intake of information (e.g. language learning) which in turn is different from that for creativity etc. The Tacoma Community College courses where this approach (using individual tapes) has been used include Introduction to Philosophy, Ethics, Philosophy of Religion, Death and Dying, Interpersonal Speech, Alternative States of Consciousness, Introduction to Psychology, Drawing (art), Creative Writing, Spanish and The Art of Being Human.

The results of a scientific study of achievement test scores for the Introduction to Psychology course were highly significant (statistically) in favor of the class which used the cognitive tapes. Other teachers informally report similar results. Informal anecdotal reports from students generally indicate that they feel much better after listening to a tape: "My whole day seems brighter"; "I feel good about myself and my studies"; "I get along better with people after listening to your tapes"; "For the first time in my life I really enjoy school"; "When I came to school this morning I was so tired and nervous, but after listening to tape number 3 I felt like a new person, and the whole day has been just great." A skeptical administrator, after listening to a tape, said: "I haven't felt so relaxed and good all over for many years. Even if those tapes didn't speed up learning at all, they are well worth all of your efforts for the way they make a person feel" (Edrington, paper #1, p. 8).

Subsequent to these early trials involving individual tapes, Dr. Edrington has expanded into the group use of the system. The first application occurred in a grade one class in the Tacoma Public schools with teacher JoDee Owens in 1983. It is not feasible to have two dozen six year olds with headphones running/wiggling around the room. Thus, they tried loudspeakers. Although the effect probably is less powerful than that using head phones, nevertheless it was dramatic. Everyone involved was amazed and Bruce Arneklev (Research and Evaluation Division of the schools) summed up his impression as follows:

"[The process used by JoDee] results in a great deal of independence and cooperation on the part of her first grade class. Each of the 22 students I observed made their own choices from exercises she had neatly printed on chalkboards on two sides of the room. They completed words (spelling), sentences (grammar), and wrote stories on their own while she worked with small reading groups.

Then they read their stories, gave one minute 'talks' and answered questions which were raised by other members of the class. (FIRST GRADERS!)" (Edrington, paper # 1, p. 9)

Using speakers have advantages beyond the low cost and ease of usage. (1) the teacher benefits from hearing the music-masked sound patterns; (2) the use of Binaural Phasing does not use up time needed for regular classroom activities but is simply a background for those activities; (3) the Binaural Phasing/music environment for normal classroom activities encourages cooperation, mutual trust and social harmony.

(5). Masking the Entraining Sound with Music

One interesting result of Dr. Edrington's research is that masking the binaurally phased sound with music or other sound (e.g. ocean surf) increases the effectiveness over the un-masked sound which many people find clinical and boring. (Allen and Edrington, paper # 3) Thus, there is considerable use of music of a very specific type. The general guide lines for selecting music to use with binaural phased sound are as follows:

1. Avoid familiar music.
2. Avoid music with a distinct beat; it can interfere with the binaurally phased sound pattern.
3. Avoid music with lyrics.
4. Avoid music that compels people to move.
5. Avoid music with large, sudden changes in volume.
6. Avoid music that demands the listener's attention.
7. Avoid music that shocks or irritates the listener.
8. Use music with sustained tones and subtle variations.
9. Use music that is melodious and harmonious.
10. Use music that is systematically ambiguous, i.e., that allows the greatest possible range of interpretation.

In "A palliative for wandering attention" (Edrington, paper # 1, p. 13) there is a list of musical selections that Edrington finds most appropriate for his purposes. Most of it is called "new age" and there are many such compositions available now.

(6). Summary

In summary, Edrington (paper # 2) has this to say about his system: "Binaurally phased sound patterns masked by music help to bring about... subtle attitude change. Combining recent findings from neuropsychology with advances in electronics, the sound provides an environmental factor that enhances both cognitive and affective learning. Unlike many techniques for facilitating learning, this method is non-intrusive. The only noticeable environmental difference is the presence of pleasant, non-frantic music at a low level.

"The Principle. Extensive research conducted by psychologists and neurophysiologists during the past few decades confirms what the sages of antiquity knew: The human brain resonates with sound patterns in a frequency range of approximately 0.5 to 40 Hz. Research also provides strong evidence to the effect that the brain wave frequency range of normal waking consciousness (the beta range, from 13 to 25 Hz) is not the range for optimal learning. Optimal learning occurs between 3.5 and 7 Hz (the theta range). However, human beings are capable of different kinds of learning. Research and experimentation conducted at Tacoma Community College since 1978 have

established particular sound patterns that enhance specific types of learning. [The six patterns of frequencies are: Delta, Theta, Alpha, Theta/Delta, Theta/Beta, and Theta/Delta/Beta]

"The Effects. Since 1978 several thousand students, from elementary grades through graduate school, have utilized this method for cognitive and affective learning enhancement. There is no known instance of negative or undesirable effects. Desirable effects noted by teachers and evaluators include the following:

- "1. Students exhibit markedly improved attention to the task before them.
- "2. There is much less unproductive and disruptive behavior.
- "3. A feeling of calmness, trust, cooperation, and self-confidence pervades the classroom.
- "4. The teacher has very effective control of the classroom mood.
- "5. Imaging ability is greatly enhanced.
- "6. Students and teacher are much more in touch with their emotions.
- "7. Self-confidence and being in touch with emotions enables development of self-regulation.
- "8. Students quickly learn to regulate their behavior, relieving the teacher of 'warden' duties so that more time can be devoted to teaching.
- "9. As shown by test scores and other student accomplishments, cognitive and affective learning are enhanced.
10. Students and teachers like it.

"The 'Acid' Test. While there is little doubt about the value of research for providing initial indications of promising routes, traveling the route remains the only reliable assessment. Binaurally phased sound has been used at Tacoma Community College since 1978 in art, philosophy, psychology, speech, creative writing, and foreign languages with great success. Since 1983 it has been used in numerous schools in the United States [see Heinzerling, paper # 4] and Canada with equal success. The U.S. Army is currently using it in a foreign language program and is conducting a year-long evaluation before adopting it on a wide-spread basis [see Pawelek and Larson, paper # 5 and Edrington paper # 2]

It should be noted that the evaluation done by the National Academy of Sciences for the U.S. Army (Druckman and Swets, 1988) concluded that the methodology of "binaural phasing" and the "hemi-synch" research was too weak to be able to make any firm claims of effectiveness at this time.

"Cost of Equipping a Classroom. The sound patterns are produced by a specially designed 'Binaural Phaser' (patent applied for). Its cost is \$450 [US], the proper kind of music is vital, and although such music is available through some retail outlets, the tapes are usually twenty to thirty minutes per side, requiring frequent changing by the teacher. Tapes with forty-five minutes per side of specially composed music are available...If the school already has a good stereo tape deck and speakers, nothing more is needed...

"Teacher Training. To ensure proper use of this learning enhancement method, Western Educational Systems will not sell Binaural Phasers to any school until the teachers who will use them have received training in their proper use. This is accomplished in a one-day work-shop consisting of thorough explanations of the theory, operation of the Binaural Phaser, and how to apply the method effectively to a variety of commonly encountered classroom situations. Workshops are led by two representatives of Western Educational Systems, both of whom are expert at using the method and at presenting it to others." (Edrington, paper # 2)

Annotations of the source papers:

1. Edrington, D. "A palliative for wandering attention" (18pp) describes the theory, rationale and history of the use of his system.
2. Edrington, D. "Binaurally phased sound in the classroom" (2pp) briefly summarizes: (1) the problem of inefficient learning in schools, (2) the basic principle of the brain wave frequency for optimal learning (the theta range of 3.5-7 Hz) and how the process of entrainment to music/sound can produce this optimal brain state, (3) the beneficial effects observed in field trials since 1978 and recent use of the system for foreign language learning by the US Army, (4) a description and cost of the equipment for a classroom and (5) training in the use of the system.
3. Allen, C. & D. Edrington, "Initial Precip of 1984-85 EEG experiments with binaurally phased audio stimuli" describes the initial results of the just completed research demonstrating the brain entrainment effects.
4. Heinzerling, H. "Student comments from class using Hemi-Synch" and letter from Heinzerling (3pp) describes the students' and teacher's reactions to a summer workshop format (all day for 5 days) course in classroom management.
5. Pawelek, Y.M. & J. Larson (14pp) untitled presentation to the Teachers of Foreign Languages conference in Nov. 1985 about their experiences using the system to teach foreign languages in the U.S. Army program at Fort Lewis, WA.
6. Morris, S.E. "The facilitation of learning" (20pp) describes the use of the system to conduct therapy with physically and mentally developmentally disabled children.

The critique is contained in Druckman and Swets, eds. (1988) Enhancing Human Performance, pp. 110-114.

5. MegaLearning Institute Programs

Garrison K. Krause and Michael McCarthy co-developers of the "Megalearning Technology", through the institute offer a series of tapes and courses incorporating many new approaches to learning and excellence.

It must be pointed out that this and the other commercially available programs and systems, such as Sybervision, the programs of the John-David Learning Institute, the programs of the Monroe Institute of Applied Sciences and much of the SALT programs, have not been tested in a truly rigorous manner and so the claims made have not been independently verified. When they have been so evaluated (see Druckman and Swets, 1988) many confounding factors have made the results difficult to interpret.

From the Megalearning Institute advertising I quote the following: [all emphasis etc. retained from the original ads]

"The Megalearning Technology is a grouping of essential thinking skills that, when mastered, produce measurable increases of performance in sports, business, and communication. [It claims to incorporate techniques and ideas from Dennis Waitley's Quantum Fitness, Timothy Gallwey's Inner Game of Tennis, Michael Hutchison's Megabrain, Genie Laborde's Influencing with Integrity, Richard Bandler's Using Your Brain for a Change, Tony Buzan's Use Both Sides of Your Brain, Ostrander and Schroeder's SuperLearning, Katsch and Merle-Fishman's The Music Within You, and Shakti Gawain's Creative Visualization]

"In addition, working with these skills provides a healthy stretching, toning and strengthening of both brain hemispheres, and an integration of logical and creative functions.

"For practical purposes, working with the **Megalearning Technology** allows and individual more freedom and energy and encourages a steady flow of fresh ideas and solutions. Communication accuracy increases, as does retention, recall, concentration and results.

"Specific skills for increasing personal productivity include:

- ∞ **Alpha State:** The state of high productivity...of concentration and intuition. The optimal creative state, characterized by ease, clarity and focus.
- ∞ **Music:** The use of specific music to help produce and maintain alpha state, to help with problem solving, to maintain a relaxed attitude and mind.
- ∞ **Enriched Environment:** An enhanced physical setting for the rapid understanding and integration of new skills and ideas.
- ∞ **Note-Mind Mapping:** A more visual, brain integration process of handling written information and generating ideas. Also used for more complete recall of concepts and visions.
- ∞ **Information Processing:** Techniques for absorbing written information faster and more completely...also for more efficient listening and remembering.
- ∞ **Memory:** Employs visual, auditory, kinesthetic factors to aid in the natural memory process. Setting hooks, finding what you are looking for.
- ∞ **Accurate Communication:** Understand the variety of ways individuals receive communications and how to use the brain to provide accurate information that is easily grasped and remembered by others.
- ∞ **Intuition:** The opening of the sixth sense. The awareness of the gut feeling. How to follow the impulse of inner 'knowing'.
- ∞ **Clear Outcomes:** Exercises and processes for updated goals and creating vision. Guidelines for maintaining direction and focus, concentration of energy on priority issues...a reduction of energy dissipation.
- ∞ **Integration of Brain Hemispheres:** Synchronizing the left and right sides of the brain to think and feel, to see the big picture and the details, to calculate and risk.

- ∞ **Visualization-Mental Rehearsal:** Using the imagination to create a model of the finished product. Practicing and testing methods and ideas in the 'mind's eye' to avoid costly (and time consuming) trial and error.
- ∞ **Neuro-Sensory Reprogramming:** Specific methods to change limiting belief systems, habits and patterns. To alter direction and facilitate positive change at a conscious and subconscious level. These methods are self-practiced and produce immediate results."

Products Descriptions

(from their ads, all emphasis retained from the original ad)

AUDIO TAPES

**** SOUND SUPPORT: Music That Works!** :You wouldn't go up a steep hill in 5th or drive the freeways in 1st...the right gear is essential for performance! Your brain functions the same way...the right mental state for reading and studying is different than the best state for productivity. And, if you're all wound up, how can you concentrate?

"SOUND SUPPORT is the right background for excellence. Your brain will love the support and your ears will love the scientifically designed (Neurophonic) music and sound patterns. You will enjoy these tapes for years as you synchronize your brain to the task at hand. The proper mental state is the difference between ordinary and superlative performance...these state of the art tapes help you to perform consistently at your highest levels. Simply play while you write, read, work & think.

"Titles: Concentration, Reading/Study, Creativity, Problem Solving, Deep Sleep, Productivity, and Action.

Sound Support 1 contains the above titles except Deep Sleep. With **Positive Subliminal System.** 6 C60 tapes

Sound Support 2 Recorded with Neurophonic Sound. 6 C90 tapes

"NEUROPHONIC" RELATIONSHIPS
Optimal Brain Wave

Task to Perform	Beta	Hi Alpha	Mid Alpha	Lo Alpha	Theta	Delta
Working	X	X	X			
Exercise	X					
Computer		X	X	X		
Writing		X		X		
Reading			X			
Learning			X	X		
Drawing			X			
Thinking			X	X	X	
Relaxation			X	X	X	X
Mediation				X	X	X

**** "BALANCED BRAIN TAPES: You Can Expand Your Mind!:** by G.K. Krause. Most of us use only a small portion of our brain. Our ability to balance and integrate our creative and logical sides are at the root of our **PRODUCTIVITY, FULFILLMENT AND SUCCESS**. Great leaders demonstrate the qualities of the left (analytical, logical, mathematical) **AND** the right (creative, intuitive, artistic) to see the big picture as well as the details...to be highly organized **AND** flexible. These state of the art tapes were recorded by G.K. Krause with special music and effects. These powerful Mental Aerobic exercises will do for your mind what NAUTILUS does for your body. You will benefit from ***BETTER CONCENTRATION, *EXPANDED INTUITION, *CREATIVE PROBLEM SOLVING, *VISIONARY THINKING, *SHARPER MEMORY AND IMAGINATION, *AND MORE!** by listening only a few minutes a day! 6 continuous play cassettes"

**** "WHOLE BRAIN SUCCESS: Release Your Power to Be More, Give More and Have More!!** by G.K. Krause with Carol Phillips ...You will learn...***THE RIGHT WAY TO START THE DAY *WHY COMPETITION ISN'T PRODUCTIVE *HOW TO CLEARLY COMMUNICATE WITH ANYBODY *HOW TO CLEAR SUCCESS BLOCKS *HOW TO ACCESS HIGH PERFORMANCE STATES *AND MORE!!** 13 visualization exercises insure internalization for fast and effortless learning. 6 tapes

**** "BREAKTHROUGH:** by G.K. Krause. **Achieve new levels of learning excellence and put knowledge into action with this Personal Learning System.** Learning is effortless and easy according to the latest research. It is not the struggle many of us have long believed. Recent breakthroughs in Neuroscience and Accelerated Learning are altering the course of education at many levels. **DON'T BE LEFT BEHIND! PUT THESE NEW DISCOVERIES TO WORK FOR YOU NOW WITH BREAKTHROUGH!**

"This course is presented in an Accelerated Learning format using the MEGALEARNING TECHNOLOGY including music and guided visualizations to insure internalization and utilization of the new concepts.

"YOU WILL LEARN: *TO OVERCOME PERSONAL LEARNING LIMITATIONS *TO INITIATE CHANGE WITHOUT RESISTANCE *TO LEARN ANYTHING FASTER AND MORE COMPLETELY *TO REMEMBER IMPORTANT IDEAS AND DATA *TO EXPAND YOUR CREATIVITY *TO PROCESS INFORMATION FASTER

"This state of the art course is backed by two years of practical experience with thousands of students through the Megalearning Institute. **NOTE: This program is based on recent discoveries in neuroscience and may be counter to traditionally held belief systems.** Three tapes and worksheets.

VIDEO TAPES

**** "MEGALEARNING VIDEO SEMINAR** with G.K. Krause **Our most popular seminar is finally available for private viewing.** Learn to use the highly acclaimed Megalearning Technology to learn anything faster and easier and put knowledge into action.

"LEARN: *TO EFFORTLESSLY INTEGRATE YOUR LOGICAL AND CREATIVE SIDES *GRAPHIC NOTE TAKING (MIND-MAPPING) *HOW TO ELIMINATE 'LEARNING BLOCKS' *TO OVERCOME RESISTANCE TO CHANGE *THE PERSONAL LEARNING SYSTEM (KNOWLEDGE INTO ACTION) *HOW TO 'TURN UP' YOUR INTELLIGENCE *THE SECRETES OF ENRICHED ENVIRONMENT *AND MORE!! 2 hour double tape.

**** "BRAIN TUNE-UP VIDEO** by Robert Fulton for Megalearning. Your VCR takes on a new dimension with this incredible audio/visual experience painstakingly produced (10 years in production) by internationally acclaimed educator and film maker, Robert Fulton.

"This masterpiece clears the cobwebs and sharpens perception and mental acuity and is deeply calming and satisfying. In addition, you will feel the 'shift' as your brain hemispheres integrate for expanded performance. You will enjoy this tape over and over... particularly at the end of the day or as a 'break' during mental activity. 37 minutes

**** "MEMORY EXPANSION VIDEO SEMINAR: Learning Should be a Memorable Experience! This phenomenal video seminar is recommended only for those prepared to explore and re-invent the way they remember and recall facts, concepts and images.** David Taylor, a well known computer programmer and inventor has created this powerful and practical 4-program course for Megalearning.

"You will learn: ***TO RELEASE 'PHOTOGRAPHIC' MEMORY *HOW TO 'RE-INVENT' YOUR MEMORY *HOW TO STRENGTHEN LONG AND SHORT TERM RECALL *HOW TO ENCODE INFORMATION VISUALLY FOR INSTANT RECALL *A 'WORKOUT ROUTINE' FOR SUSTAINED MEMORY EXPANSION * AND MORE!** one hour

SMELL TECHNOLOGY !!

**** "AROMATECH: SCENTS YOU CAN FEEL!** We all know that certain smells have an effect on our brain. Perfume, hot dogs, gasoline, apple pie... they all trigger thought, memories and feelings. AROMATECH stimulates your mind to a new level of excellence. Our scientifically designed blends were developed by aroma therapy innovator, Kathryn McCarthy, and are totally natural and completely safe. Each is a harmony of six or more rare and exotic plant and flower essences known for centuries to stimulate the mind and senses (In fact, our blends have caught the attention of several major research and medical institutions throughout the country). AROMATECH enters your olfactory system and is transferred directly to the brain. There, the molecules stimulate and activate specific thought centers and brain circuitry. These scents can be inhaled directly from the bottle or used with a Sent Support System Diffuser for an enriched environment.

"The available scents are ***RELAXATION TO SOOTHE THE NERVES *PRODUCTIVITY TO TRIGGER CLEAR THINKING *CREATIVITY TO OPEN THE RIGHT BRAIN *LEARNING FOR STIMULATION AND HEMISPHERIC INTEGRATION *ANTI-FATIGUE *DEEP SLEEP FOR USE AT BEDTIME *DEEP BREATHING TO INCREASE OXYGEN UPTAKE, AND *COMFORT TO PUT PEOPLE AT EASE...**Now you can feel the full impact of your most neglected-and perhaps most powerful-sense. 1/2 oz bottles, Scent ring (for room diffusion), Electric diffusion system."

COURSE OF STUDY

**** "MASTERS COURSE: An extraordinary invitation to activate your full mind power and experience limitless possibility.**

"Quality Statement: Each MASTERS COURSE is a unique event. We have carefully chosen the locations to provide you with a complete sensory experience of unmatched quality. The accommodations are first rate...your highest levels of comfort are assured. Our logistics team visits a variety of facilities before choosing. We look for cleanliness, professionalism, natural beauty, and quality. We meet with the chef to plan healthy menus with gourmet quality fresh foods. We choose rooms with the best views. We let the hotel know that our people are special. If they can comply with our quality standards, then and only then do we say yes. Our attention to detail allows you to arrive and relax...and to immerse yourself into the pure enjoyment and benefit of the Masters Course.

"Who Participates?"

- ∞ Anyone who has ever sensed that their overall performance in life can be enhanced.
- ∞ Anyone who has ever been frustrated by information overload.
- ∞ Anyone in business needing to share visions and communicate accurately.
- ∞ Students preparing for advanced exams.
- ∞ Writers, artists, and designers who rely on a steady flow of creative ideas and a practical plan for activating them.
- ∞ Anyone desiring to actually feel what limitless possibility is.
- ∞ Anyone facing a career decision who is confused by the choices.
- ∞ Sales professionals willing to understand what truly motivates people to yes.

- ∞ Anyone who wants to learn to use their brain to its full potential.
- ∞ Educators desiring to experience an extraordinary learning environment.
- ∞ Anyone desiring to move beyond the ordinary.
- ∞ Open minded medical professionals comfortable with the cutting edge.
- ∞ You, if something inside is already responding to the possibilities.

MASTERS COURSE INTENTIONS

1. To master effective new thinking skills that will actualize your highest intelligence, expand your awareness and integrate your left and right hemispheres.
2. To master the skills of 'free reading' enabling you to read selected material at 10,000+ words per minute with recall and to dramatically increase your information processing capacity.
3. To master a set of procedures to pinpoint your true desires and activate them into reality, leading to increased prosperity, happiness and vitality.
4. To master powerful imagery techniques to instantly identify, eliminate and move through limiting beliefs, leaving you in charge to create your intended future.
5. To make actual contact with an inner knowing of expanded possibility.

MASTERS COURSE TOPICS

- ∞ Accepting change without resistance
- ∞ Communicating your intentions for results
- ∞ Identifying and harmonizing your 6 'selves'
- ∞ Accessing your intuition at will
- ∞ Procedures for originating and executing plans more creatively
- ∞ Megawareness: Activating ideas and visions
- ∞ Focusing on solutions, not problems
- ∞ Fine-tuning your 6 senses for crystal-clear thinking
- ∞ Overcoming fatigue and burnout habits
- ∞ Doing less and accomplishing more-Working Effectively
- ∞ Free-reading selected information at 10,000+ words per minute
- ∞ Actualizing and blending your analytical and creative potentials
- ∞ Speed processing for overcoming 'information overload'
- ∞ How scents and sounds can increase your productivity and alleviate stress."

6. The John-David Learning Institute Programs

The Brain/Mind Expansion tapes of this organization were described in the section on subliminals. However, the institute offers a wide variety of programs and the tape series described previously was their first offering and is now referred to as Brain/Mind Expansion-Level One. They use the "Holophonic" (3 D super-real) audio technology in their productions. I quote from their advertising describing the various aspects of their offerings (all emphasis etc. retained from original ads):

"Holophonic + John-David = Sound/Brain Expansion

"A very recent invention from two sound scientists, one from Argentina, one from Italy, could have a very major impact on how the brain perceives sound while listening to pre-recorded music, words...sounds in general. That invention is called Holophonic or Holophonia. It is a microphone that computer analyzes sound in milliseconds, then re-arranges it so the sound is perceived as coming into your brain, as your ears normally would when listening to non-recorded sound. John-David has taken this rare microphone, further experimented with its engineering capabilities, with the result being the brain not only perceives the sound as coming from outside the head, *but also inside the brain*. The brain can now hear sounds inside the brain."

Brain/Mind Expansion Intensive

"Your powers of memory as well as your powers of concentration, even your IQ...can be raised to heights exceeding your wildest dreams. Perhaps the most amazing of all is that this can be accomplished with so much ease.

- ∞ **"Long-Term Memory:** For increased retention/recall of books, magazines, meetings, long-term facts and figures. Items you want easily accessible but not actively 'cluttering' the mind.
- ∞ **"Short-Term Memory:** Much misunderstood, short-term memory is vital for organizing your daily schedule, remembering names, associational links, phone numbers, directions, etc.
- ∞ **"Concentration:** For studying, researching projects, 'paying attention'. Students, professionals, business people are 'awash' without ultimate concentration. Can be used on the spot, when needed, to heighten your concentration--at the office, school, or home. A vital tool for success.
- ∞ **"Eliminating Self-Sabotage:** Our subconscious 'old tapes' and patterns can deal death blows to all your planning and studying.
- ∞ **"While Driving:** Specifically designed for those times to and from the office or errands. One tape on Memory (both Short and Long Term). One tape on Peak Performance. Remember, these are not mere motivation tapes, but neuroscience breakthroughs. 2 tapes.
- ∞ **"Office & Studying:** Reap the benefits of these discoveries without letting others know you are advancing your Memory and Peak Performance. Pleasant, up-beat new age sounds and music, no audible voice, while underneath the subconscious mind is being activated for increased memory and peak performance. 2 tapes.
- ∞ **"Video:** Relaxing, brain/mind clarity. There are 7 levels or layers to this pleasant yet cutting-edge video experience.

"*Brain/Mind Expansion* was the first tape series ever released to the general public by the John-David Learning Institute. Up to... [1985] only those who worked intensively with John-David, Ph.D., were able to listen to his tapes. Only...[since 1985] have they been modified and made available to the public.

"The *Brain/Mind Expansion* series of tapes have met with much success. They have been purchased by 9 medical hospitals, 18 universities, 46 corporations (for their senior executives), and 220 health professionals. This is in addition to the over 800 citizens...not having brain-damage, but just wanting the easiest and most effective method available for expanding their memory, enhancing their concentration, and eliminating a few of those disabling sabotage habits.

"*Brain/Mind Expansion Intensive* is just that, an intensive, yet pleasant, yet demanding commitment to increase your memory, your concentration, your peak performance. You need NOT use the Beginners version first, however one is advised that *Brain/Mind Expansion Intensive* is result oriented, about getting and experiencing results, not just feeling good. Be prepared to experience dramatic changes in studying, at the office and in your private life. 8 tapes plus video."

Eliminate Self-Sabotage Relationships. Self-Esteem. Sex & Inner-Self. Money & Career

"Going even further than the *Brain/Mind Expansion* series on the subject of eliminating self-sabotage, we have designed an intensive, very comprehensive, no-holds-barred series dealing solely with getting your life to effortlessly work, to enjoy your self-worth and to have the world acknowledge that achievement.

"This special tape series is divided into two parts. One part is for 'active-listening' where we recommend you sit actively listening to the tape you have chosen. Then, while at the office, school or around the house, listen to the 'passive-listening' tapes. You will now hear only ocean waves mixed with pleasant music of a relaxing, supportive nature. (No one need know you are literally eliminating self-sabotage.) Then, again in the evening, sit down, relax and 'actively-listen' to John-David's voice guide you through releasing, learning, brain-aerobic exercises, both on a conscious as well as subconscious level.

"The *Eliminate Self-Sabotage* intensive series utilizes all seven tracks (3 hearable and 4 unhearable), going to pre-designated areas of conscious and subconscious, as [previously described in the subliminal section of this unit]. An 8-tape series including 50 page binder for you to document your successes from using this *Eliminate Self-Sabotage* series."

Environmental Learning

"Designed to allow you maximum support while you study or work. Most of our tapes are so powerful that you must stop everything you are doing and listen to them with undivided attention. However, we modified these tapes to allow for listening to them around the house, while intently studying, casual reading, at the office, or teaching classes, seminars. You and others only hear pleasant music or environmental sounds, yet your subconscious is being coaxed into enhancing your memory, your concentration, and eliminating some of your belief systems that prevent you from effectively receiving, retaining and recalling information. 4 tapes."

Maximum-Immunity: Psychoneurology of Self-Healing

"As we move into the 21st Century, the leading-edge technology that merges the mind and brain for developing ultra-intelligence (neuroscience), is blending with centuries of Eastern wisdom and practice in creating a new, powerful orientation for self-healing.

"John-David was given the opportunity to conduct research at martial arts academies and monasteries in Tibet and China Proper where he observed monks utilizing various forms of sounds to induce rapid and successful healing. John-David viewed advanced forms of cancer, severe lacerations, bacterial infections and brain damage victims cured within weeks by just the use of unique tones and special sounds. The sounds were created from the mouths of chanting monks, from drums and swirling objects, from chiming Tibetan bells. [see the discussion of Toning earlier]

"The wonderful monks and martial arts practitioners were able to heal individuals by directing specific sounds to pre designated areas of the body and mind which induced rapid healing. They knew which tones were received by the body and how they affected the emotions and other bodily functions.

"Their challenge was to create the sounds accurately each and every time. But, they had many, many years of experience and training--skills that John-David learned to master.

"John-David began re-creating some of those chants, drum beats, musical instruments, tongue-mouth-sounds which were documented at different frequencies which allowed his tapes to 'speak' to pre designated areas of the brain/mind, expanding a person's ability for effortless learning/healing. [listen to the tape Cho-ca for examples]

"The John-David Learning institute releases to you, the public, our very special new series of tapes related to Psychoneurology and Self-Healing. The tapes represent the latest, state-of-the-art technology that mixes tones, sounds, and his own voice at different frequencies to allow you to maximize your own immune system for greater health and self-healing, i.e., Alzheimer's, AIDS, cancer, herpes, chronic skin disorders.

- ∞ **"Imaging Health:** The NEW Imaging Health tape is a wonderful sojourn into the realm of inner consciousness. You will travel with John-David into the world of Maximum Immunity. You will have the OPPORTUNITY to play with HEALING tones, music, and fortify your own natural immune system. The tape provides a unique mix of music, tones and sounds at different frequencies coupled with John-David's guiding voice to assist your body and mind in creating maximum health.
- ∞ **"Immunity Tune-Up:** This special Immunity Tune-Up tape permits you to actually heighten your immune system. By mixing various HEALING tones, sounds and music, you have the OPPORTUNITY to inventory all parts of your body and explore the emotional belief systems associated with those parts. Achieving balance between these important inner forces allows you to achieve maximum health and a new level of maximum immunity.
- ∞ **"Healing Surf:** This unique environmental tape allows you maximum support while at home, office, work, or even while driving. It is comprised of sounds, tones and music immersed in ocean waves designed to cleanse, wash away past negative images of your HEALTH and provides a SELF-HEALING environment in order to experience your natural abilities (psycho physiological) within the brain for self-healing. You will begin to experience yourself as a healthy, whole person.

- ∞ **"Activating Your Resources:** John-David is joined by Irv Katz, Ph.D. Dr. Katz allows you to access your subconscious mind, to tap your resources for stimulating psycho immunology. 4 audio tapes & video for General or AIDS applications."

Passing Professional Exams

"Are you about to take a major examination, a bar, a professional board? Frankly, has studying been a pain in the rear? Do you have a tendency to freeze up during exams, either written or oral? Is your recall limited, the linking of the information poor when taken out of context? Do you sabotage yourself around studying, learning habits? This series is just for you. Utilizing all our techniques from positive affirmations to brain aerobics; from supportive music to tones and sounds that stimulate your mind's ability to absorb, retain and recall at will. Without a doubt a remarkable contribution to anyone about to take an important examination, from high school level to medical boards.

"Peak Performance/Exams allows you to 'peak' yourself to operate at a high state of receptivity, creativity and performance. Kept very short, only 8 minutes. This allows you to use it frequently during the actual times when you need it: morning start, 10AM, 2PM, late evening.

"Concentration is similar to Peak Performance Exams except more geared to singular tasks, of 'paying attention' to that which is directly in front of you, singular purpose oriented. Again, 8 minutes.

"Brain Tune-Up/Exams. No voice, no subliminals. This montage of... 'sound patterns'... is out there on the edge of the Psychoneurology of Learning. If you can imagine your brain being a Ferrari, being tuned and stimulated by one of the world's finest mechanics, that is Brain Tune-Up/Exams.

"Accessing Subconscious Resources. John-David, Ph.D. and Irv Katz, Ph.D. join together for a unique journey into the subconscious mind. Dr. Katz allows you to access your subconscious mind, to tap your resources for preparing for and taking professional examinations.

"Sounds of Success # 1,2,3,4. These tapes were specifically designed for listening to without headphones. Listen to them while studying--preparing for your exams--or while driving... Peak yourself, heighten your retention, recall, allow your subconscious belief system to support your success. No audible voice. No headphones required. John-David's remarkable discoveries will enable you to enhance your memory (both recall & retention) and attain a calm, relaxed state based upon these neuroscience breakthroughs in order to assure quantum success." 8 audio cassettes.

Ultra-Intelligence (USA/Limited Edition of 1000)

"Can you increase your intelligence? Is it scientifically possible to expand one's memory and concentration? Can sound patterns be used to stimulate the brain's neurons, increase the synapse, thus achieving ultra-intelligence?"

"A growing new field of brain/mind scientists, neuroscientists, believe that such quantum breakthroughs in accelerated learning are attainable...

"Among those on the forefront of this cutting edge technology is John-David, creator of *Whole-Brain Learning*. His discoveries of sound patterns (certain tones and sounds played at different frequencies) when sent to pre-designated areas of the brain/mind can achieve quantum breakthroughs in accelerated learning.

"You can experience these 'sound patterns' in tapes that have already been released to the public over the past two years. *Brain/Mind Expansion, Eliminate Self-Sabotage, Maximum Immunity, and Environmental Learning*. These tapes are being used by medical doctors, high-powered entrepreneurs, superintendents of schools, seminar leaders, computer engineers, etc.

"Now with recent discoveries in neuroscience, you can go beyond just improving your memory, your concentration or eliminating self-sabotage.

"If you choose...you can be among the 1,000 people...who take a chance on using the latest state-of-the-art technology to achieve ultra-intelligence.

"*Ultra-Intelligence (USA/Limited Edition)* has just been released [1987] to the public by John-David Learning Institute and Ultra-Intelligence Research...

"*Ultra-Intelligence* is not just about memory, or concentration or making money or even about being happy. *Ultra-Intelligence* is about being a genius, about being ultra-intelligent. Through these tapes, it could be possible to achieve your maximum, your fullest potential...

"Though these tapes cannot guarantee your becoming a genius, they are backed by John-David's 20 years of research in brain/mind expansion. Twelve years of self-taught break-throughs studying under the great minds in Bulgaria, the Soviet Union, Tibet, China and Africa/Middle East. Couple that with eight years of research and experience in the United States at the John-David Learning Institute.

"Those who have recognized his discoveries and studied under him have ranged from doctors, nurses, school teachers, lawyers, Fortune 500-type entrepreneurs, the great and the to-be-great.

"Only 1,000 tape sets will be released to the public. USA/Limited Edition. Each tape set will be number registered and guaranteed for life...Four audio tapes plus a video tape, including detailed instructions in a 3-ring binder.

"20 prototype sets were tested by research associates in many different professions and lifestyles. The following 'Behavioral Indicators' were reported most frequently:

- ∞ An ability to think faster.
- ∞ Simultaneously handling 2 to 4 times the amount of items as before using the tapes.
- ∞ An increase in the amount of 'inner reserve' (physical and mental).
- ∞ Calm inner core, while the 'brain feels like it's going a trillion miles an hour.'
- ∞ A comfortable relationship between short and long term memory.
- ∞ Cognitive awareness quantum.
- ∞ Creativity quantum.

- ∞ Confidence, self-esteem.
- ∞ Dreams in full-color, tasting, smelling, feeling dreams."

THE 5-DAY TOTAL IMMERSION INTENSIVE

"For neither the meek nor the hesitant, the *5-DAY TOTAL IMMERSION INTENSIVE* is an embarkment on the great adventure in an adventurous way, with 24-hour immersion in the Whole-Brain Learning process for 5 straight days, including subliminal video and audio tapes even while sleeping, and total environmental control covering diet, color, smell and every sensory awareness.

"Says John-David of this dramatically new program: 'I now have an opportunity to take my clients to levels never before created. What we have achieved in neuroscience and specifically in accelerated learning within the last 3 years, is equal to the combined total of all that has been learned about learning throughout history. 10,000 years of learning has been equaled in just the last 3 years. These 5 days are about gleaning the essence, the fulfillment of those discoveries. I know it takes special people to participate in this experience...I am looking for 36 special people who dare to seek, to explore, to uncover, to probe and to become aware; who wish to turn their highest potential into their highest reality.'

"The very clear intentions of this unique event...

- ∞ **Left-Right Brain Integration.** You will literally experience the shift, knowing that it is happening, from one hemisphere to the other. You will learn techniques allowing you to shift into either hemisphere of your brain, on command.
- ∞ **Your Life Organized.** Practical, day-to-day techniques to effortlessly organize your personal and professional life.
- ∞ **Reading and Memorizing Effortlessly.** Most educated people read between 200 and 400 words per minute. Many graduates of the *5-Day Total Immersion Intensive* read between 20,000 and 30,000 a minute. During the workshop, we guarantee to show you how to at least read 800 to 1,200 wpm while doubling or tripling your recall/retention. This ability increases rather than decreases with time.
- ∞ **90% Memory.** Again, the average educated person has a 13% recall of a speech, event or something they read after 36 hours. John-David will teach you how to literally experience 90% recall of any event, book or lecture/meeting.
- ∞ **Eliminate Self-Sabotage.** Elaborate process combining play, gestalt, re birthing, music, acupressure, psychodrama, body work, humanistic psychology, spiritual awareness, and neuro-linguistic programming. Identify, eliminate or move through every block, every subconscious habit or belief system that prevents you from experiencing the pinnacle of your power and self-worth. John-David says, 'For me to teach you every revolutionary technique for accelerated learning known to neuroscience without simultaneously moving you through your sabotage techniques would be a great injustice, just another motivation training. This is not just another motivation training.'
- ∞ **Learning Effortlessly.** In spite years of pain, struggle and effort around learning, you will once again learn the childhood spirit of effortless learning, the joy of learning

coupled with cutting edge techniques to apply that re-found spirit for a successful personal and professional life.

- ∞ **Career Direction.**
- ∞ **Ways to Expand or Find Prosperity in Your Life.**
- ∞ **Total Concentration.** Never again surrender to losing your place, your mind wandering (without giving yourself permission). Experience the joy of total concentration.
- ∞ **Loss of Memory Due to Age.** Restore your memory--Age, an illness, an accident, can be placed aside as you experience the re-education of your brain and mind. Students very in age from 16 to 75.
- ∞ **Creativity.** Relish in the joy of natural, yet constructive creativity. Allow your right brain to come forth and speak through your left hemisphere.
- ∞ **Reduce Stress.** Learn to experience life free of struggle, effort and self-doubt. Allow yourself to begin with this *5-Day Total Immersion Intensive* surrounded by lush hills, swimming pools (3 of them), jacuzzi, mineral baths, wraps, body work and more."

Weekend Seminars

"Now we provide you with the unique opportunity to explore one particular area of interest, rather than the entire spectrum of items covered in the 5-Day Seminar. With our new **Weekend Seminar** (2 1/4 days) program, this may be accomplished. Non-residential, it is a full weekend long, beginning Friday evening dealing ONLY with one special subject. The specialized subject areas included: *Whole-Brain Reading, Eliminate Self-Sabotage, Communication for Success/Peak Performance and Maximum Immunity.*

"...these condensed seminars do not provide you with the entire 5-day intensive training. Weekends are 19 hours compared to the *Total Immersion Intensive (Whole-Brain Learning)* which is 120 hours.

- ∞ **"Whole-Brain Reading.** You will learn to bypass your left hemisphere and literally begin to photograph the pages in your mind. High retention and high recall results absolutely guaranteed. Reading will become fun and rewarding
- ∞ **"Eliminate Self-Sabotage.** Advanced neuroscience approaches enable you to identify, eliminate or neutralize your old negative habits and belief systems. Procrastination, low self-esteem, isolation, fear and other self-destructing barriers will be eliminated for all time. This is not a motivation workshop.
- ∞ **"Communication for Success/Peak Performance.** Utilizing the combination of accelerated learning and Neurolinguistic Programming, you will experience how the effective application of communication can increase your peak performance, get your life and career effortlessly back on track. Using the latest techniques in organization, setting priorities and achieving positive results.

- ∞ **"Maximum Immunity. The Healing Brain/Mind.** This workshop focuses on the latest technology in the neuro-psychology of self-healing. Imaging, subconscious re-programming, sound patterns (tones and sounds at different frequencies) are employed to enable you to use your brain, your mind, to activate your own self-healing."

Brain/Mind Salons: Your Brain's Fitness Center

"Individuals can now take advantage of the Institute's latest discoveries in neuroscience...Previously these discoveries were limited to 36 people in a seminar setting or those with acute brain injury...Now...individuals can relatively inexpensively walk in for 30 minutes to an hour sessions in brain/mind expansion.

"Here, at J.D.L.I...the world's first Brain/Mind Salon...Here individuals daring enough to experiment with 21 Century technology...can do just that.

"...[there are] individual rooms with chairs that have sound engulfing the entire body, sending sound back on to the body, feeling sound, not just hearing it. Accompanying this are special videos hooked up to these alpha chambers. Other rooms are available for counseling or sound technician work. Then there are sensory deprivation tanks or flotation tanks where one floats effortlessly with underwater speakers carrying sound directly into the body and subconscious mind.

"Then, for the even more daring...are the Brain/Mind Intensive chambers, where one slowly revolves inside a geodesic dome with 32 specially designed sound speakers which caress the brain/mind while a sound technician mixes John-David's sound patterns specifically for you."

7. Escape Time Corporation's Environmental Relaxation System: ERS

The brain/mind salon concept is used in "Escape Time Corporation's" Environmental Relaxation System: ERS. "Christopher Schmitz, president of Escape Time Corp., has created an invention to enhance relaxation, ease stress, curb overeating, and help deal with the problems of 'run-of-the-mill neurotics such as myself.'

"...the Environmental Relaxation System [is] the next generation of the 'wet tank'...Unlike its predecessor, ERS is a dry flotation system. Instead of floating in a saline solution in a coffin-size 'tank', the ERS subject lies on an octagonal water mattress while the body's alpha waves get in sync with gentle vibrations generated from below.

"The dry flotation device was developed in 1980 by...psychologist Lloyd Glauberman [#230 Central Park West, N.Y.C 10024]. Schmitz and electronic 'choreographer' Ron Dozier, augmented Glauberman's dry tank by enclosing it in a high-tech room that ritualizes the relaxation program, and produces a smoother segue from real world to Escape Time and back again.

"As the subject enters the prefabricated room, 17th century music welcomes him or her into Escape Time. A feminine voice that Schmitz describes as 'sensuous, nurturing, and professional' encourages the subject to get comfortable with the surroundings before heading into the black, igloo-shaped chamber. Once inside the plush chamber, the subject enters the desired program on a keypad, and lies back on the mattress, which is heated to a cozy 88 degrees. The lights dim and Escape Time begins.

"Donning headphones in the pitch-black environment, the subject listens to synthesized music or the sounds of an evening in the forest or on the beach. As two male voices begin telling two fairy tales simultaneously [see the "Changeworks" Multi Evocation process or Pulos' Double Induction procedure], the mind first attempts to track with one or another, then gives up. At this point...the subconscious is brought to the fore and is influenced by the metaphors in the story. [This is called "Hypno-Peripheral Processing" by Glauberman]...Unlike subliminal suggestion, the subconscious mind 'hears' the suggestion, but is not constrained by the noise of the conscious, which ERS sends on 'a short vacation.'

"Forty-five minutes later, the subject climbs out of the chamber and walks out of ERS, ready to face the challenges of the world, revived and recharged." (Papatola, 1987) From the ad description: "You direct the ERS suite in the direction you desire. Listen, really listen, to self improvement tapes. When your body is deeply relaxed and your mind quieted you are able to totally focus all of your attention. If you listen to a relaxation tape while you are in the total state of relaxation, your experience is magnified...ERS is designed to gently direct your mood. The ERS is in sync with you and it will automatically guide your relaxation. Just as the ERS brings you into the deeply relaxed state it will also end your reverie slowly, a step at a time, so the benefits of your rest stay with you long after you leave."

E. Music, Movement and Sound in Learning and Education

1. Introduction

Back-to-basics and budget cutters in education love to hack away at the "frills" in schools. Inevitably, art, music and physical education are the favorite victims. However, the study of art, music and movement, properly done, are important and vital for the learning of the "Core Curriculum" (math, reading, writing, science and technology). As the quote in the beginning of this unit indicated, the arts, especially music, ARE the core of our being.

This is why Don Campbell has labeled his approach to education Music/ MOVEMENT/Brain (see his book Introduction to the Musical Brain for examples of exercises which integrate music/sound with movement to further cognitive development). Also listen to the audio cassettes by Dee J. Coulter Teaching the Inner Child: Awakening vs Stimulating, In Defense of Music: A Vision for Education, The Inner Gesture of Music and General Remarks to Music Educators and Unfolding Through Music and read her article "The brain's timetable for developing musical skills" (1982)

There is a necessary link between the arts and sciences. The article by Masters (1979) "Creative arts and academic performance" argues that "Both hemispheres of the brain need to be more equally used if they are to be mutually supportive in their inter-dependence...[T]his evidence [from educational experiments and 'arts-centered' schools] tells us that 'righting the balance,' in the brain's terms, does in fact yield beneficial results in the mental-emotional-behaviorial spheres, as may be objectively measured in such areas as learning, creativity, motivation and self-discipline...[M]any teachers, parents, students, and others...have expressed...their belief...that those processes involved in the arts...must be used and valued in education and otherwise...[A] government-sponsored project -- IMPACT (Interdisciplinary Model Program in the Arts for Children and Teachers) -- demonstrated that an increase in arts education using the arts 'as a discipline in themselves but mostly as a vehicle to teach other disciplines' can result in dramatic improvements in academic performance as measured by Standard Achievement Test [sic] (S.A.T.) scores. In the opinion of the teachers involved, the program also resulted in better attendance and some other indicators of

possible beneficial effects on physical and mental health." (pp. 3-4) (see also the section "Mutual inter-dependence of emotion and thinking" which discusses the "Emotional/Cognitive Structures" (ECS) theory and practice)

To focus on science/technology and exclude the arts/humanities in curriculum is self-defeating. But this is main trust of the "*technotraining/back-to-basics will-save-us-all*" bunch. You don't have to argue that arts/humanities are of intrinsic worth (which they are). They are also necessary for technology and science to remain in touch with the bigger picture.

The problem is that in their present manner of instruction both areas are inadequate at all levels. I dare say that "Music and Art Appreciation" in schools has managed to turn off more people than turn on; the same can be said of most science instruction. I still remember how poetry appreciation was almost destroyed for me by the manner in which it was done in grade 12 English.

What passes for physical education is a joke and hasn't much changed since I was in high school in the late '40s. It should move in the direction of training coordination, balance and mind/body integration (after the Scandinavian physical training programs) rather than just "running around and playing games". For specific programs and exercises see R. Masters & J. Houston (1978) Listening to the Body; R. Masters (1979) "Sonic vibrations and the body: Psycho physical re-education exercises". M. Feldenkrais (1972) Awareness Through Movement. There is also an audio-cassette program by B.T. Holmes The Feldenkrais Lessons: Awareness Through Movement. To facilitate the whole process the music of Steve Halpern or Don Campbell and others would be an excellent addition.

My point is that ALL the broad subject matter areas must be retained in curriculum but not in their present manner--as separate discrete units. Arts/humanities and science/technology must be integrated to give a total educational experience. Presently, there is too much "half-brained" 1890's level of instruction going on and the solution is not to let "the arts" or "phy ed" just happen under the assumption that students will pick it up on their own. The level of music, for instance, in the general pop culture is appalling and anti-educational/anti-human. Unfortunately, much of the current arts, humanities and movement instruction is isolated and ineffective in counteracting this trend. The integration of art/music/ movement into the other aspects of the curriculum stimulates natural curiosity and literally expands the cognitive capacities of the mind. The present over emphasis on the systematic, rational, sequential approach to the world is creating half-minded people.

There is no systematic step by step sequence to the future simply because our future is unprecedented. This assumes we actually have a future, given the single/tunnel-vision of our "down-to-earth practical" politicians/technologists leaving us with world wide disasters. We are currently in the intellectual trap of thinking that technology will save us from our technologically produced problems. The problems have no solution on the level they were created. We need to transcend them and seek approaches at a higher level of wholistic thinking. The source of this approach is in the kinds of thinking and problem solving skills developed in the "frill" subjects. For examples of practical suggestions for this approach see Samples, Hamond and McCarthy (1985) 4MAT and Science: Toward Wholeness in Science Education. For a general discussion of the whole concept, see Williams (1983) Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education.

"Ideally, sound and music should be used educationally through out the curriculum. Music...may be used in a much broader, more integrated way: as a tool to promote physical and psychological health; as a tool to combat stress and produce relaxation; as a setting for deeper concentration during study; as an accelerator for learning language and other skills; as a means to exercise all parts of the brain; and as a source of physical and mental energy." (Halpern & Savary, 1985) p. 114, italics in original)

Again, contrary to the "back to basics" bunch, relaxation is especially important in the classroom. When you are stressed you function with half a mind. You can't study or comprehend well. "Perhaps if students were more relaxed, they could learn better. If they learned better, they would enjoy school more. If they enjoyed learning, they would tend to become more fully involved in and excited about the learning process. If they became fully involved, learning would become a vital and holistic. And if learning became vital for students, they would then enjoy receiving and sharing the energy that comes from all the learners in the classroom." (Halpern & Savary, 1985, p. 115)

The integrated use of music/art/movement as an enriched learning environment for all subjects is the educational model for the future. It acts as a carrier for large amounts of information to all aspects of your mind. Specially designed music helps calm the body/mind enabling you to be a more effective learner. The special music helps balance, harmonize and synchronize your brain and allows your body to have its energy flow in harmony with its own rhythms. Halpern's Study and Learning is adagio style music at about 60 beats per minute. It is specifically composed to foster learning and studying. It includes a subtle, simulated heartbeat to further entrain the listener's body/mind into appropriate breathing and brain-wave patterns. In addition, it features specific positive subliminal suggestions interwoven into the music. These "Harmonic Affirmation" suggestions are played in harmony with the structure of the music, so the words become a part of the whole composition. [see the description of his music under subliminals].

Learning Breakthrough Program

One a very exciting and promising approach to fine tuning the "squishware" of our Central Processing Unit (more commonly known as the nervous system) is that of Frank A. and Beverley V. Belgau's Learning Breakthrough Program. The exercises "fine tune" and integrate the brain/mind/body and are especially appropriate for various cognitive tasks. The more the brain is fine tuned, the more efficiently it can process information taken in through the various senses. The more efficiently the information is processed, the better organized the brain functions will be and the better thinking will be. A positive feedback loop develops where better processing systems in turn make it possible to move on to higher levels of functioning. This does not occur with a "giant leap" but with many small steps of increasing skill.

The wide range and variety of activities done on the basic equipment (the Belgau Calibrated Variable-Difficulty Balance Platform), are performed at increasing levels of balance difficulty. This demands and develops ever more precise and refined sensory integration together with more elaborate brain processing structures. These more efficient and faster fundamental sensory motor brain structures, in turn, make higher level cognitive functions more efficient.

One of the main positive aspects is that *using the program for a very short time (possibly as little as 10 minutes) results in demonstrable/measurable improvements* in reading, speaking and visual acuity as well as memory and other cognitive functions. Continued use of the program results in continued improvement in a number of cognitive/intellectual functions: more efficient reading and

studying, more original and creative thinking and problem solving, and more accurate and complete memory. The program includes self-tests for demonstrating improvement in basic areas.

The equipment (described below) is simple (appropriate tech, not high tech) although the program is very thorough and sophisticated. This means that the cost/benefit ratio is very small: large benefits for very little cost, especially when you consider the very rapid improvements that occur with very little time.

In addition, this program is also associated with applications of Guilford's Structure of Intellect (SOI) theory through work by Drs. Robert and Mary Meeker. Significant improvements in specific cells of the Structure of Intellect Abilities Test have been gained after a short period of activity with the Learning Breakthrough Program. Mary Meeker, a long time researcher with the SOI theory, has identified 26 abilities most critical for traditional school learning (the real "basics" in education). Without these basic abilities, which can be improved through training, students will have difficulty mastering skills of reading, writing or arithmetic. Meeker and associates have developed testing instruments to determine performance in these target areas as well as instructional materials to remediate areas of weakness. The testing program has been expanded and ability profiles for various careers identified and this has all been put on computer. Other computer programs analyze the test data and generate precisely tailored remedial and enhancement activities.

Materials for the Learning Breakthrough Program

1. The Belgau Calibrated Variable-Difficulty Balance Platform is what it says; a platform developed by Dr. Belgau, on which you stand with an adjustable rocker base to change the balancing and counter balancing levels from very easy to very difficult. It allows for precisely aligning the body relative to the balance forces through the calibrated grid on the platform. Nearly all of the activities are done while standing on this platform.
2. Pendulum Ball is a simple and very effective feedback tool for visual motor skill development. The different patterns of motion of the ball through space reflects exactly the body and brain action on the ball and this stimulates precise visual motor integration.
3. Visual Motor Control Stick is usually used in conjunction with the pendulum ball and provide added challenge and interest to the tasks to develop temporal and spatial integration between the brain hemispheres.
4. Bean Bags of three different weights are used and thrown and caught in various patterns. This again integrates visual and motor processes while also developing an understanding of trajectories, timing, inertia, gravity and, of course, balance.
5. Target Stand and Target Pins provide a vital and necessary dimension to the bean bag and pendulum ball activities. Targets provide a natural drive and feedback for developing precise timing, control and space concepts.
6. Super Ball Toss Back/Slant Desk Combination provides a great many fun activities that develop visual motor integration, visual tracking skills and peripheral visual awareness.

7. The Learning Breakthrough Program Handbook (99 pp.) provides an introduction to the theory and history with detailed instructions on how to set up and perform the various activities. The number and type of activities are given below (total of 310 activities!):

Sample Sequences I & II: 54
Pendulum Ball: 27
Pendulum Ball with Target Stand and Target Pins I & II: 23
Visual Motor Control Stick: 106
Bean Bag I & II: 38
Visual Training:
Saccadic Eye Movements: 20
Pursuit Eye Movements: 16
Super Ball Toss Back Board:
One Ball: 16
Two Balls: 10

8. The Learning Breakthrough Program Test Booklet (20 pp.) gives you instructions on how to do the pre-post testing to demonstrate change. It includes the data record sheets. Also included in the package are the playing cards, level and eye chart used in testing.

9. Four Cassette Tapes of Instructions are eight 15 minute programs of activities (one on each side of 4 C30 cassettes). The spoken instructions have slow movement classical music background. Don Campbell has developed more integrated rhythmic instructions and music audio cassettes to be used with the equipment. The titles are:

"Sensory Integration Activities/Alignment of the Triad"
- "Pendulum Ball-Visual Motor/Pendulum Ball-Visual Pursuit"
- "Pendulum Ball & Targets I/Pendulum Ball and Targets II"
- "Visual Motor Control Stick/VMCS-Saccadic Eye Movements"

10. Belgau Balance Beam is a balance beam on rockers that can be adjusted for various levels of difficulty.

11. The Brain-Breakthrough to Learning is a two hour video which will help you understand the whole program by demonstrating the simple, practical and inexpensive devices described above. It includes an unrehearsed demonstration using a 3rd grade boy who demonstrates great reading improvement after just 10 minutes of activities.

The Learning Breakthrough Program materials are available from:
Perception Development Research Associates
P.O. Box 837
Port Angeles, WA 98362

The Structure of Intellect (SOI) materials and information are available from:

M & M Systems
45755 Goodpasture Road
Vida, OR 97488

Educational Kinesthetics: Edu-K

Another promising approach to nervous system tuning and alignment developed by Paul E. Dennison, is Edu-K. Although I am not aware of this approach being systematically used with special music, I feel it could benefit from such a meld, just as the "Learning Breakthrough" system has. Edu-K uses simple precise body movements and manipulations to integrate the functions of the brain. It is a more specialized use of the general "Touch for Health" system (Thie, 1979) which, in turn, is partly based on accupressure massage and manipulation approach. While researching in 1981 ways to help dyslexic individuals, Dennison began to create new tools for every aspect of learning by integrating techniques and information from many different fields including yoga, acupuncture, applied kinesiology, optometry, psychology, linguistics, child growth and development, Structural Integration and brain sciences.

The idea is that when the brain, our "central processing unit", is balanced and working smoothly, the body's natural healing mechanisms are revitalized, restoring health and harmony to mind and body. This state of brain functioning is called "switched on". Because of stress (both physical and psychological) our typical brain state is "switched off". This makes for inefficient learning as well as problems of life in general. To obtain the most of any situation, all functions of the brain need to be processing simultaneously.

Dennison uses Behavioral Kinesology's Deltoid Muscle test (Diamond, 1979) to implement his "Laterality Repatterning" procedure, a system of specific movements for integrating the brain to function as a unit. Using this test, you can determine whether the brain is switched on-- functioning in an integrated or *bilateral* manner or is switched off-- using only one of the functions in a *homolateral* manner. If the brain tests as switched off, then a series of corrections (physical movements and manipulations) are performed to switch on the brain. The purpose of the exercises is, of course, to educate the body/mind to function naturally in an integrated (switched on) mode. The system trains you to be able to determine if you are switched off and, if so, to teach you specific corrections to switch you back on.

2. Suggestopedia, SuperLearning, Optimalearning and Accelerated Learning

This section reviews the various systems for accelerating learning which developed out of the original Suggestology/Suggestopedia approach of Lozanov begun in the mid-1960's

a. Suggestopedia of Georgi Lozanov

The founder of Suggestopedia, Dr. Lozanov, is a Bulgarian psychiatrist and educator. The primary focus of Suggestopedia and Suggestology is to release human capacities, providing a method and environment for their accelerated and harmonious development (these are discussed in Lozanov Suggestologia and Outlines of Suggestopedia, 1978, Gordon & Breach) Suggestologia is a holistic "ology" that weaves together a dizzying bundle of techniques and approaches to help people reach the tremendous potential of their learning and creative capacities. It aims to get the body and left and right brain abilities working together as an orchestrated whole so that people will be more capable of doing whatever they're trying to do. In line with Lozanov's clinical practice, he used suggestology to heal disease, control pain and develop intuitive abilities.

Lozanov and his co-workers drew from mental yoga, music, sleep learning, physiology, hypnosis, autogenics, parapsychology, drama to name some of them. The deepest roots lie in the system of

Raja Yoga- the discipline which deals with the governing of the mind. Its practitioners consider it to be the "science of concentration" involving techniques for alternative states of consciousness, methods of training in visualization, concentration practice and special breathing exercises. The Raja Yoga system also claims techniques for developing special powers (siddhis) which include the various supernormal abilities supposedly latent within us all: e.g., super-memory, instant calculating, extra-ordinary mental abilities, pain control and a range of psychic abilities.

Lozanov was led to concentrate on the Suggestopedia area of Suggestology as a result of his clinical practice. He noticed that several clients were suffering from illnesses caused by poor teaching methods; pedagogic illnesses. Over pressed students were collapsing under the stress and developing a variety of tension and stress related disorders. Lozanov speculated that if you could have painless surgery and childbirth then why isn't it possible to have painless schooling? If the techniques derived from Raja Yoga took the pain out of surgery and childbirth then they should be able to take the pain out of learning. The approach adds by taking away blocks to natural potential and is similar to the "Inner game" approach discussed earlier in this unit.

The various components are geared to help dissolve fear, self-blame, cramped self-images and negative suggestions about limited abilities. They "Brain Wash" away the many blocks people handicap themselves with and release the authentic personality under the junk. The computer phrase "Garbage In-Garbage Out" expresses this problem succinctly. We are conditioned to believe that we can only learn so much so fast, that we are bound to be sick, that there are certain rigid limits to what we can do and achieve. We're bombarded constantly, from the day we're born, with limiting suggestions. The first step is to get over these limitations in thinking. This clears the way for accelerated learning, rapid personal change and development. In a sense, the approach does not give you something new; it gives you back your true authentic self. This is quite different from the fearful, shriveled egoistic self we call "me". The authentic self seems to be plugged into a wider consciousness that knows how to accomplish almost anything. Thus, this approach has been used in a wide variety of settings, both formal and informal.

Lozanov and his staff of teachers have achieved more than 500% acceleration of the learning process in an extremely joyful and relaxed atmosphere. The first principles of suggestopedia are joy, concentrative psychological relaxation (relaxed alertness) and absence of tension and fear ("Fear inter-fears"). Mistakes are corrected in a special, unusually supportive way focusing on a mutual concern between teachers and students. In order to achieve this situation of multi-dimensional feedback, the conscious thinking process of the students is integrated with paraconscious processes in specially designed activities. For example, consider the "opera-performance" technique used in suggestopedic elementary schools in Bulgaria. Instead of dry rules on arithmetic, first graders are shown a special TV performance, an operetta adaptation of a Grimms' fairy tale. At a certain moment when as part of the highly entertaining plot, a group of seven children performers is increased in number by another four children, an equation is flashed unobtrusively, but clearly enough on the lower part of the screen: $7+4=11$. Thus, while the spectators-students are deeply involved in the action and music of the operetta their peripheral perception records all of the equations included in the performance and stores them in long term memory.

In the more didactic teaching, the units taught are always presented in a global manner; in larger themes rather than small sections. By doing this, the students are provided with the "big picture" rather than fragments. This also overcomes the limits of short-term rote memory. The generalization and interconnecting of the parts makes even the smallest units meaningful and integrates the

paraconscious with the conscious processes. In teaching reading, for instance, the suggestopedic instruction does not lead students to separate letters first, but from the very beginning, they are encouraged to learn meaningful units, short sentences and words. Separate letters are learned through specially designed pictures on a higher level together with words, as though the students are doing a picture puzzle.

This atmosphere produces a strong revitalizing effect on the individual learner, stimulating whole brain learning. Remedial reading students have attained better results in two months than comparable students have in a year. Adult students have learned to speak a foreign language in less than a month and first graders have completed a two year curriculum in sixty school days. What is more, homework is only given as a reward.

Suggestopedia is also remarkable for its full integration of art-- music, literature, visual design, theatre, etc.--into the process of instruction. This unique use of art serves as (1) a carrier of large amounts of information through the integration of both hemispheres of the brain, and (2) a means of stimulating the creativity and personal growth of both students and teachers. Teachers find that after a full day of classes they feel relaxed and more energized than at the beginning of the day.

The most widely known application of Lozonov's system in North America is called "SuperLearning", made popular by Sheila Ostrander and Lynn Schroeder with their 1979 book of that title.

It must be noted, again, that the evaluation done for the U.S. Army (Druckman and Swets, 1988, pp.48-60) on SALT approaches concluded "There is little evidence that the modest empirical benefits of SALT instruction are derived from the nontraditional elements. Accelerated learning approaches deal with multiple aspects of instruction, including teacher motivation, student motivation, material presentation, elaboration, and assessment." (Druckman and Swets, 1988, p. 59. italics added)

b. The SuperLearning Approach of Ostrander and Schroeder

The first part of each Scholastic Aptitude Test Preparation booklet (pp. 2-4) published by SuperLearning Inc. consists of "Lean Back and Learn", an introduction by Sheila Ostrander and Lynn Schroeder, to the unique approach called SuperLearning. This section is a reprint of their introduction. It is a good, quick introduction to the approach.

"'Lean back, close your eyes, relax. Don't try to concentrate; just let your mind move between the lesson and the music.' When students at the State University of Iowa heard their professor's instructions, they thought it was a rather odd way to really learn something. So did students in Tokyo when they got the same instructions studying for their college entrance exams. And so did business executives in Ottawa, grammar school kids in Atlanta and diplomats-in-training in Moscow. After a few sessions, they all discovered something. Not only were they getting down the facts of their courses; they were also, for the first times in their lives, learning how to learn.

"In the last decade [from about 1980], more than 300,000 people have used Super-learning techniques. The young, the old, the bright, and the supposedly not so bright, found that they could learn two to four times faster than before--and without stress.

"What's The Secret?". The 'secret' has become a cliché and a fact--among brain/mind researchers around the world. 'We are only using about ten percent of our mental capabilities,' they report. That should make any of us feel better about our possibilities. But then comes the hitch. How can we reach into and begin using that waiting ninety percent of ourselves? Starting in the late sixties, that question led us [Ostrander and Schroeder] to many countries to look into some unusual research. We found a whole new approach to learning was beginning to emerge, an intriguing one, both very old and very modern, one that combined techniques from such ancient disciplines as Raja Yoga (mental yoga) with the latest insights of brain/mind research. SuperLearning is drawn from the best of these new systems and uses methods that have been shown to work repeatedly in schools, labs and business training.

"All of You. SuperLearning methods are holistic. They aim to harmonize and make use of all of your abilities whether you are learning anatomy or history, tennis or public speaking. You have left brain abilities--a logical, analytical mode of thinking. You have right brain abilities--a creative, intuitive, synthesizing mode of thinking. You have emotions and imagination, and, of course, you have a body.

"Even though you're learning facts, a generally left brain ability, holistic techniques also call on the other facets of you to play a synchronized, supporting role to help you learn faster and remember better.

"Two Keys. There are two main keys to rapid stress free learning. First, you are in the right body/mind state--body relaxed, mind calm. It's easier to maintain this state, if you realize that all of us have imbibed negative suggestions about our limits. Yet, with holistic learning, thousands of people have proved the limits aren't really there. They're just mental fences we've built around ourselves.

"The second key to rapid learning is hearing the lesson in a highly specific way, involving rhythms of voice and breathing backed by special music to harmonize body and mind. At it's most streamlined, that's it: being in the proper state while information cycles into you in a rhythmic way.

"A Funny Thing. People sometimes find that a funny thing happens on the way to learning statistics or French vocabulary. They feel better. At the University of Toronto, for example, Dr. Jane Bancroft, a SuperLearning pioneer, uses the methods in her French courses. At the end of the semester she now and then hears this sort of remark: 'I've gotten rid of my tension headaches.' 'My allergies are better.' 'Now that I know how to relax, my relationships have improved.' Others report that after using the methods for some months, their memories have improved across the board. It's not magical or mystical. It's simply that the holistic approach reduces stress and stress related problems, while at the same time allowing more of the strengths of the whole person to be expressed.

"You Have It. Remember, SuperLearning isn't the old sausage stuffing approach that strains to cram facts into students. It's the opposite. It tries to help you draw out what you already possess--like a great memory. Numerous scientific probes have revealed that everything we've ever experienced is recorded in us somewhere, though under normal circumstances we don't recall it. How can we retrieve what we perceive? The rhythmic, holistic way of learning helps. You learn faster because you remember better.

"If you are interested in becoming an expert in fast factual learning, or if you want to use accelerating techniques to improve physical performance, or right brain creative abilities, read the book, SuperLearning (Dell, 1979, paperback); then follow up the references to the accumulating research reports on how to tap your reserve abilities, mental and physical.

"Philosophers, and now scientists, are saying we are unfolding into a new age, verging toward a quantum leap in consciousness. Moving into that unused ninety percent of human potential would seem to be part of that evolutionary wave. SuperLearning is just a beginning, a first step. If you take that first step into that waiting domain of wider ability, maybe you will be among those who discover how to take the next step, and the next..."

The process of learning to learn improves with practice and becomes easier and faster. As you practice relaxation and as you become accustomed to studying in harmony with SuperLearning's unique methods, you will find that learning becomes a joy, a pleasant experience to which you actually look forward, stress free time different from any learning situation you may have previously experienced.

If you have a history of exam anxiety, train to overcome it by listening to and practicing the methods given in Part 1 of the tapes. This "Overcoming Exam Anxiety" program is available also on a separate tape and lasts about 15 minutes. Although it refers to the S.A.T. exam by name, you can mentally substitute and imagine any exam that you desire. It's your anxiety! In any case, what you are aiming for is the ability to relax at will.

To help you in taping extra material on your own, there is, in addition to the book SuperLearning, the cassette tapes SuperLearning Music and SuperLearning: How to Create and Use a SuperLearning Program, plus a Demonstration Lesson. Timer Tape for Correct Pacing of your SuperLearning Programs.

S.A.T. Vocabulary: Tape Side A is about 41 minutes; part 1 is the Overcoming Exam Anxiety program and part 2 begins the S.A.T. Vocabulary of 33 words. Side B is about 44 minutes and contains parts 3 (33 words) and 4 (34 words) of S.A.T. Vocabulary. The instruction booklet is titled SuperLearning Scholastic Aptitude Test Preparation: Verbal Sub test The first part contains an introduction to the SuperLearning approach plus instructions on how to do the program. The remainder of the booklet contains the words defined plus a self-test for each lesson.

S.A.T. Math: Tape Side A is about 34 minutes; part 1 is the Overcoming Exam Anxiety program and part 2 is Geometry Review. Side B is about 47 minutes and contains part 3 which continues Geometry Review and part 4, the Trigonometry Review. The instruction booklet is titled SuperLearning Scholastic Aptitude Test Preparation: Mathematics Sub test: Geometry and Trigonometry Review. The first part contains an introduction to the SuperLearning approach plus instructions on how to do the program. The remainder of the booklet contains a transcript and diagrams of the material on the tape plus a set of sample S.A.T math problems for each lesson.

Instructions for Using SuperLearning S.A.T. Vocabulary and Math Tapes

(taken from the booklets, pp. 4-5)

1. Know how to relax. If you have your own way of relaxing, fine. Several are available in the Learning/Life Skills Enhancement Programsm. If not, practice the methods given in Part 1 of the tapes. This "Overcoming Exam Anxiety" program is available also on a separate tape and

lasts about 15 minutes. Although it refers to the S.A.T. exam by name, you can mentally substitute and imagine any exam that you desire. It's your anxiety! In any case, what you are aiming for is the ability to relax at will.

2. Before listening to your tape, read over the lesson. Familiarize yourself with it. The Overcoming Exam Anxiety part is not included in the booklets. For that session, just close your eyes and begin your mental training.
3. Get settled in a comfortable, quiet spot. Have your booklet within reach and turn on the tape.
4. When the tape says to, read the mathematics material or the vocabulary words in the booklet, line by line, as it is being spoken to you. Repeat the data silently to yourself during the pauses.
5. In SuperLearning, information is given in a four second frame, then there is a four second pause. To aid the memorizing process, the material on the tape is spoken in a special cycle of three intonations: normal, confidential, commanding.
6. If possible, inhale just before the four seconds of data. Then, breath out during the pause and in again before the next information bit--i.e. try to hold your breath when something is being said. This breathing rhythm quickly becomes easy and automatic. If for some reason, it distracts you, don't worry about it. Just breath slowly and rhythmically.
7. When the music begins, the same lesson will repeat. Close your eyes, lean back and relax. Listen to what is being said. If you can create any images in your mind related to the information, it will help, but don't strain. Just listen and breath.
8. It will be helpful to repeat each lesson for a couple of days. Don't try to do too much. One twenty minute session at a sitting is enough.
9. After a session, read over the lesson. Work and rework the math test items or try to use your vocabulary. Know that some people experience a time lag between the taped lesson and the moment the material pops into their memories.

c. Optimalearning of Ivan Barzakov

The Optimalearning approach of Ivan Barzakov is similar to the SuperLearning approach but involves more of the senses and generally involves more of the learner. Dr. Barzakov was a master teacher in his native Bulgaria under Dr. Georgi Lozanov, the originator of this approach to learning. Thus, the "Optimalearning" method has a more direct and intimate relationship to the original concept. While clearly maintaining the purity of Dr. Lozanov's ideas in their most updated form, Optimalearning develops and synthesizes new concepts and techniques for optimal learning, teaching, work and life-style. It expands suggestology to the areas of self-study, teaching all subjects, parenting, counseling and therapy, problem solving, business performance, accelerated business and management training, stress reduction and relaxation, communication skills, imagination and creativity and personal development.

According to their 1986 brochure Mastering the Optimalearning Skills: 10-day Intensive Training, "OPTIMALEARNING is a system which dramatically accelerates the teaching/learning process, maximizes performance, and brings out creativity to all areas of your work and life. Moreover,

while large quantities of material are absorbed and comprehension skills are strengthened, stress is eliminated and personal talents and creativity are brought forth in teachers and students alike. OPTIMALEARNING incorporates the work of the world famous Bulgarian psychiatrist and educator, Dr. Georgi Lozanov, and represents 30 years of research and experimentation in several countries. UNESCO documented that Lozanov teachers in Bulgaria have accelerated the learning process more than 5 times the normal rate."

The objectives of the training program are:

"I. Development of Instructional and Self-instructional Skills.(This will also involve sufficient modeling by the instructors.)

(Throughout the program, there will be ongoing supervised practice with specific techniques for self-expression and self-development which include work with music, mime, movement, masks, improvisation, storytelling, metaphors and humor.)

"By the end of the course, participants will be able to:

- A. Demonstrate knowledge of the concepts and techniques of Optimallearning.
- B. Identify Optimallearning principles relevant to given teaching, learning or counseling situations and to communication in general.
- C. Demonstrate basic mastery of specific Optimallearning techniques and skills for significantly accelerated learning and multi-level communication (conscious-unconscious, analytical-intuitive, verbal-nonverbal):
 1. in selected sample situations;
 2. in the participants' own teaching procedures, styles and subject areas;
 3. in participants' areas of 'self-study' (learning without a teacher);
 4. in exam-taking;
 5. in the performing professions.
- D. Reorganize their teaching curricula according to Optimallearning principles and the Optimallearning General Teaching Model so as to markedly accelerate the learning process with high retention.
- E. Assess benefits of the method in situations of choice.

II. Development of self-expression and creativity, and life improvement in general.

By the end of the course, participants will be able to:

- A. Demonstrate knowledge of how to orchestrate the suggestive impact of environmental stimuli (both external and internal) in any work or life situation.
- B. Apply the principles of the method to any such situation.
- C. Demonstrate basic mastery in integrating various art forms in work and life style."

The general objectives from the 1986 training program brochure are to:

- ∞ communicate at least twice as effectively
- ∞ help your students learn more, faster
- ∞ activate your and your students' 'mind's reserves' by using specialized rhythms and intonations

- ∞ master the technique of integration of speech and music for assimilation of large amounts of material with high retention
- ∞ increase long-term memory and maximize on-task time by creating special visual environments
- ∞ use special models to maximize curriculum organization for dramatically accelerated learning
- ∞ weave metaphors and stories to motivate, expand perception and heighten comprehension
- ∞ transform games and skits into motivating instruments and compose a parallel-line story
- ∞ gain conscious command of your expressive self
- ∞ release giftedness and creativity in you and your students
- ∞ and more..."

THE OPTIMALEARNING PRINCIPLES FOR LEARNING AND WORK

The philosophical assumptions of Optimal learning which lead to constant discovery and continual life long learning are:

1. Life is a miracle. Learning and work should be equally miraculous.
2. Learning and work should be a continuous flow of joy, without stress stemming from fear or anxiety. There should be no psychic violence of any kind or feelings of guilt. Practice infinite gentleness.
3. Learning and work should encompass both conscious and unconscious thinking processes in their indivisible unity. The brain/mind should be activated globally.
4. Learning and work are optimal only when the functional reserve capacities of the personality are released.
5. The teacher should be a master, whose art is transferable to the students; for "No one can teach you anything but you yourself."
6. The teacher practices "educative feedback" involving group student-teacher mutual support and continuous feedback. Mistakes are not dwelt on but gentle correction is used with the focus on continual gentle improvement and the process of self-education and self-improvement.

GUIDELINES FOR THE OPTIMALEARNING MODEL OF SELF-INSTRUCTION

The self-instructional or self-developmental model of Optimal learning consists of three phases: The setting, The central process and The final summary.

- A. The Setting. This phase deals with creating the necessary psychological environment, both external and internal, for optimal receptivity and mind/brain functioning in learning.
 1. External Setting. The physical environment should be pleasant, comfortable and intimate. The external environment should be physiologically healthy and supportive (proper posture, lighting, brain integrative music, proper diet and breathing etc.) and psychologically meaningful; a special place with pleasant associations built in. Remember: the subconscious can not be fooled so "to thine own self be gentle".

2. Internal Setting. This involves mental relaxation along with integrated suggestions for optimizing the learning process.

a. Suggestive Relaxation. This involves a number of techniques such as: reactivating an early pleasant learning experience, bringing into present time a favorite landscape, place or space, creating mentally an ideal place, using a cherished image.

b. Best Performance Image. In regard to the task before you, gently invite, don't force, an image of your best performance.

c. The general procedure for this is as follows:

Suggestive Relaxation- with eyes closed and in a calm soothing manner, quietly invite yourself to experience the imagery with an attitude of natural curiosity of learning. Bring the imagery and mental experience up to present time/space with an attitude of peace and excitement for learning. This may take about 5 minutes. Then Best Performance Image-- within your inner experience bring into the present your image of your best performance in the task at hand.

B. The Central Process. This phase represents the most active and creative interaction between the learner and the learning task. Especially during this phase, bear in mind the principles of Optimal learning. If at any time you feel that the flow of the acceleration of your learning process is somehow hindered, re-examine your feelings and thoughts in order to understand what is missing.

1. Overview-Survey. This is a first exposure to the material and is light, quick and exploratory. This should be carried out without any purposeful memorization or elaboration in a light, curious and joyful manner.

2. Comprehensive Interaction. At this stage assume the imaginary role of an Optimal learning teacher. Focus all your attention on how you would like to teach this material in a joyful and creative way, both for your imaginary students and yourself. This way the creative stimulus in your mind becomes heightened to allow the optimal creative process to take place. You will soon find also that the constant discovery process is being naturally stimulated and growing.

3. As phases 1 and 2 develop, build expectancy of an enthusiastic approach of constant betterment and improvement. Expectancy as an optimal learning factor is both an effect and a cause in the complexity of interactions between the learner's mind and the process of instruction.

C. The Final Summary. This phase represents the last exposure of certain parts of the material which you would especially like to go over to make sure you will retain it. These parts could be: the synopsis of narrative subject matter, new terminology, formulas, new vocabulary, factual material in general, or sets of ideas. While the first two phases of this process should be implemented one right after the other, this third phase should be carried out at a later time, ideally, just before you go to sleep and after you wake up. As time goes on and your self-development as a learner grows, this phase will become less

imperative. However, if time allows, on the following day, you may wish to mentally reactivate certain parts of already learned material. Assume, once again, the role of the Optimal learning teacher who activates the material for their students. This serves the purpose of an additional reinforcement and association of major ideas or new terminology in order to reach long-term memory.

OPTIMALEARNING MUSIC LIBRARY

(description from the 1986 brochure)

"The OPTIMALEARNING CLASSICS are for everyone. You don't have to be musically inclined; just try the suggested music. Make it part of your life. You will feel the difference! These cassettes are to be used widely at home (especially with children), school, hospitals, senior centers, medical offices, business settings -- for success, health and general well-being.

"Through the ages, philosophers and sages have realized the supreme importance of sound and music on mind, body and soul. According to legend, when Orpheus sang, trees, stones and animals joined together in joyous harmony. Ancient Greeks believed that music came from the gods concerned with general wisdom and enlightenment. Yet only in the last decades have researchers begun to explore its effects in depth...

"In addition to the work of Lozanov and Barzakov, these music selections are based on recent brain studies by American, Soviet and Austrian researchers. The Optimal learning Classics are specially designed by Dr. Barzakov to produce a state of 'concentrative relaxation' and increase your productivity and energy. The sequence of the compositions is carefully researched to give you optimal results and fulfill a wide range of needs. Our cassettes are not limited to Baroque composers, or to the largo movements only. They include a large spectrum of composers and a variety of movements which were found to produce the optimum effect."

Music Selected for Super Memory. This is a "set of two 60 minute cassettes of specially researched selections of Baroque composers. Baroque music with its stable composition and unique rhythmical structure is particularly conducive with both fast and slow movements for super memory, productivity and health." Cassette number 1, side 1 is a "selection of slow movements tailored for learning terminology, facts and figures, technical data and language vocabulary, with high retention. Also very good for: relaxation, massage, therapy, preparation for business performance, problem solving." Side 2 includes "exerpts from Vivaldi concerti with a delightful diversity of movements and marked contrapuntal style. Excellent for reading with music to invest narrative texts, concepts and professional materials in long term memory. Cassette number 2, side 1 is "especially recommended for problem-solving, meditation, prayer, affirmations; absorbing information; presentations; relaxation." Side 2 includes "Corelli's characteristic alternation of slow-fast-slow-fast movements [which] creates the rhythmical pattern highly conducive for absorption of all sorts of material in the long term memory, storytelling, presentations, child rearing.

Music Selected for Imagination and Creativity. "The music in these two 60 minute cassettes fosters development of visualization ability and creativity. In work settings, classrooms, at home or in various artistic endeavors, the carefully researched selections induce contemplation and multi-sensory creative imagery. Many of the selections have been proven to uplift one's mood as well as facilitate problem solving. Cassette number 1, side 1 "is beneficial for guided visualizations, relaxation and reverie, storytelling, presentations." Side 2 "is recommended for vivid storytelling, background for presentations and dramatic renderings, creative inspirations." Cassette number 2

"Both sides of this unique tape are particularly useful for stimulating creativity, artistic inspiration, picturesque storytelling, contemplation, problem solving and developing the imaging faculties."

There is also "Optimalearning Music for Driving, Dining or Doing". "Two 60 minute cassettes very beneficial for long distance driving or in congested traffic. The chosen pieces contain biologically supportive rhythm and are relaxing and energizing at the same time. The music is also very useful as general change of rhythm or pleasing background during business meetings, household activities or in your writing." Cassette number 1 is "Driving with Vivaldi & Mozart" and cassette number 2 is "Riding with Bach & Rossini".

d. SALT (Society for Accelerative Learning and Teaching, inc.) of Donald Schuster

Organization. SALT: The Society for Accelerative Learning and Teaching is the major North American research and information dissemination and coordination center for this general approach. They publish a Newsletter and SALT Journal as well as conduct work shops and organize annual International SALT Conferences. The SALT Journal has been published since 1976 and the first International Conference was held in 1975

Method. "SALT: Suggestive-Accelerative Learning Techniques is a [North] American adaptation of the accelerated method of learning of Lozanov's Suggestopedia. Dr. Schuster of Iowa State University has verified Lozanov's original research and broadened many of the concepts. The SALT method has been researched and evaluated at all public school levels and in such subjects as reading, writing and arithmetic, as well as spelling, foreign languages, literature and art. At the college level the SALT method has been evaluated with foreign languages, naval science, statistics, communications and computer programming. The resulting evaluation is that the SALT method a generally superior teaching method capable of enabling even the beginning teacher to accelerate teaching and learning.

"The method is an holistic approach to learning. Music is used to break through the learning barriers; relaxation exercises for both the mind and the body increase concentration. Reviewing the material with baroque music funnels the material directly into the learning centers of the brain. Retention is increased with enjoyable exercises of practical application. A rise of consciousness for both the teacher and student is accomplished with the aid of the arts. An orchestrated sequence of these learning techniques increases the total well-being of the student as well as increasing his or her ability to learn and create.

Workshop. "The SALT class is a 40 hour workshop limited to 20 participants. Attendees experience briefly for themselves how to learn a subject such as a foreign language with the new method. The background, history, theory and applications are presented along with involving the participants frequently in the workshop process.

"Selected video tapes on SALT concepts, foreign language teaching, and nonverbal communication are made available for optional evening viewing. Participants will receive the basic knowledge necessary to be able to teach with the SALT method, plus the new 1985 revised and expanded SALT textbook, plus 2 cassette tapes of SALT recommended music for classroom." (1986 Brochure on SALT Workshops). (see the critique in Druckman and Swets, 1988, pp. 48-60)

e. Accelerating Learning Potential of Roy Applegate

Dr. Applegate is director of the ESEA Title IV-C Research Project "Accelerating Learning Potential" conducted in the Paradise Unified School District in California. It began in 1981. The following is taken from the June 16, 1983 Project Description.

"I. Summary

Accelerating Learning Potential is an ESEA Title IV-C Project in its second year of state administered funding. Accelerated learning techniques, inspired by the 'Superlearning' experience, have been shown in this project to dramatically increase student learning rates in reading, math, spelling and writing. These same strategies have improved student behavior time on task while they increased teacher confidence and stress regulation in the classroom.

"This project has synthesized recent research discoveries about the human mind in order to develop an instructional methodology maximally applicable to the public schools and similar private school settings. A criterion-referenced in service program and classroom implementation strategy has evolved from the application of this research.

"II. Student Objectives"

Students in this project are defined as regular and special education classroom members, grades 2-6, who represent the range of ability and achievement from learning disabled to gifted and talented. This project has intended that:

1. Students will significantly improve their academic performance in mathematics computation, mathematics application, reading vocabulary, reading comprehension, spelling, and written expression.
2. Students will develop voluntary controls of specific learning behaviors, including attention span, concentration and memory.
3. Students will significantly improve their self-concept.
4. Students will increase the frequency of their adaptive and appropriate behavior, both in the classroom and the school campus.

"III. Teacher Objectives

Teachers in this project are defined as instructors in regular and special education classroom, grades 2-6. This project has intended that:

1. Project teachers will demonstrate increased self-confidence, regulation of stress levels, and positive attitude toward the teaching profession.
2. Project teachers will demonstrate their knowledge of specified accelerated learning methodology.

IV. Methodology

The Following strategies are sequenced and systematized for application in the classroom:

1. Arousal Level- creating the optimal physiological arousal level for learning through relaxation, physical exercise, and teacher behavior.
2. Imagery- utilizing mental representations to insure initial learning, promote retention, and increase positive behavior.
3. Teacher Language- conveying high expectations for student achievement through positive suggestions, both in verbal and nonverbal teacher language.
4. Music- adjusting classroom atmosphere through the systematic use of varied musical styles.
5. Complete Instructional Format- teaching material to be retained through a modification of the concert instruction originated by Dr. Lozanov at the Institute of Suggestology.
6. Consolidation Time- guiding the absorption of new concepts and understandings.

"V. Project Statistics

1981-1982

Students involved: 312 experimental, 156 control

Teachers involved: 13 experimental, 6 control

1982-1983

Students involved: 538 experimental, 517 control

Teachers involved: 20 experimental, 12 control

Total involved in experimental classrooms:

850 students, 33 teachers (2 Resource Specialist classrooms,

3 Special Day Classes for Learning Handicapped, 1 Speech and Language therapy program)

"VI. Project Evaluation- Objective

"Summary of First-Year Results:

"On standardized testing with the California Achievement Test, project students averaged a much higher gain (mean = 46.88) than did control students (mean = 33.42). This is a high significant effect ($p < .01$). Excepting one, project teachers all showed gains exceeding those of the corresponding control group, gaining over 1.5 times as much as control classes.

"Behavioral data indicated a significant reduction in behavioral referrals for the project teachers compared to an increase in behavioral referrals for control teachers. This was coupled with a significantly greater increase in positive ratings of student behavior by project teachers than control teachers. Further, project teachers increased in their ability to self-regulate their stress and control classroom problems while control teachers decreased.

"Summary of Second Year Results

"California Achievement Test administered in reading and math demonstrated again significant increases in academic learning for project classrooms (mean = 43.22). These gains were idiosyncratic to each teacher, and in some cases, students gained up to nearly twice as much in accelerated learning classrooms. In addition, holistically scored composition tests demonstrated significant improvement in writing and composition for students in project classes.

"Behavioral data again showed accelerated learning methods significantly reduced behavioral problems, decreased the incidence of maladaptive behaviors and effectively improved time on task in the classroom. Finally, project teachers continued to demonstrate high levels of confidence, self-regulation and classroom control.

"All project data was analyzed and interpreted by Grant Evaluation and Research, an independent grant evaluation firm in Chico, California. Their final comment, based on the two-year evaluation, was: 'Given the alternative of standard classroom teaching, accelerated learning techniques have the potential for dramatically improving the quality of education of regular students in our classrooms.'

"VII. Subjective Project Evaluation

"Teacher, student and parent response to the implementation of this project has been positive. Among the teacher comments:

1. 'This project gives me an opportunity to change and learn new skills so that I may continue longer and more effectively in my teaching profession.'
2. 'Just like the students, I'm improving myself as a learner and thinker and person. I intend this year to release myself from some of the limitations I've placed on my own potential.'
3. 'My students are gaining basic skills more quickly than ever. They're also improving their personally responsible behavior.'
4. 'I was ready for a turning point in my teaching career, and I feel that this has been it.'
5. 'I have been teaching for over 15 years. I believe that the system brings together that which we know works in a classroom.'

"Student comments include:

1. 'I'm learning how to learn. That's important.' (Age 10)
2. 'Accelerated Learning helps me control myself, helps me understand things better.' (Age 9)
3. 'The Accelerated Learning Program helps me do better in my work. Before I begin, I concentrate on what I am going to do.' (Age 9)
4. 'Accelerated Learning has given me faith in myself.'(Age 10)
5. 'I like to do Accelerated Learning because when I feel that I can't do something I find out I can do it. My brain thinks I can and it relaxes and I learn that I can learn.' (Age 10)

"The objective as well as subjective evaluations of this project clearly indicated the positive impact of this project on teachers and students."

ACCELERATED LEARNING MATERIALS

Accelerating Learning Potential (A.L.P.) has made available their most successful classroom materials based on the two years of research. A brief description of the AV content and its suggested use (up to 1984 with more written and AV materials being developed):

Audio

Progressive Relax- A relaxation training tape designed to teach the beginning student through tensing and relaxing various muscle groups. Separate tapes available for grades K-3 and 4-8

Quick Relax- This tape leads the student through a more rapid, brief relaxation and is useful in teaching students to fully relax in a shorter time period. Most effective when used following through training with the Progressive Relax tape. Separate tapes available for grades K-3 and grades 4-8.

Imagery for Creative Writing- A sample script demonstrating how to use imagery to promote creative writing with students grades 3-6. Teachers can generalize from this example, learning a basic format for improving academic skills through imagery.

Imagery for Improving Behavior- Illustrates how a teacher might utilize imagery to improve student behavior. Again, the teacher can generalize from this model, substituting a variety of student behaviors he/she wishes to improve.

Progressive Relax for Adults- A basic relaxation training tape for adults using the tense/relax method. The teacher's personal stress management is a vital part of this program.

Music for Relaxation- A musical piece performed by Dr. Robert Bowman for A.L.P., especially designed to help establish a calm and soothing environment.

Video

All combine teacher dialogue with actual classroom scenes of students doing the techniques.

Introducing Accelerated Learning to Your Class- Provides an example of how best to introduce the new and exciting concepts of accelerated learning to your class.

Quick Relax- A teacher shows how she implements quick relaxation in her class. Class demonstrations and explanations provide the viewer a clear model of when and how to use this powerful method.

Imagery in the Classroom- A teacher discusses and shows the many ways in which she uses imagery in the classroom. Designed as an overview tape for the beginning teachers.

f. Center for Accelerated Learning of David Meier

David Meier has aimed his program at the business community. The center conducts workshops, training in-house trainers and curriculum developers and provides net-working in the form of an information exchange bulletin for members of ALLIES: Accelerated Learning Laboratory, Information Exchange, and Skillshop- A.L.Network News plus Resources and Reviews. As well they provide curriculum development services: "The Center for Accelerated Learning specializes in applying accelerated learning techniques to both new and existing courses for clients to enable clients to do more training in less time and at lower cost. For most existing courses, we guarantee a minimum savings of 25% and a comparable improvement in measurable learning...We can provide you with an audit of your existing and planned courses to help you determine the best and most cost-effective candidates for an accelerated learning format."

The above as well as the following is taken from Meier's brochure for his 1987 Accelerated Training Workshops:

BENEFITS

How This Course Will Help You and Your Organization

"This course will equip you with strategies and techniques to significantly improve both the speed and the quality of learning in your organization. The methods you will learn in this workshop have repeatedly demonstrated the ability to improve learning effectiveness (and cost performance) by 25-50% and more. As a result of this workshop, you should be able to begin bringing the same kind of benefit to your organization.

"In addition, you will become a member of the Accelerated Learning Network, an association of professionals interested in applying accelerated learning methods to both technical and non-technical training in their organizations. The Network provides continuing education and support through a newsletter, an annual conference, and personal and phone contact among its members throughout the year.

This Course is for You If...

"You are an experienced trainer who wants to explore the latest proven methods for helping people learn with significantly greater speed and effectiveness.

"You are a new trainer who wants to get off to a good start with accelerated learning techniques.

"You are a course developer who wants to begin using accelerated learning methods in your course designs.

"You are a training executive who wants to improve the cost effectiveness of training in your organization.

"You are a training executive who wants to train your in-house training staff in accelerated learning technology after checking it out for yourself first.

"You are a training professional or educator who wants time for professional renewal and for gaining a fresh vision of the possibilities for optimizing human learning in your organization.

A Practical, Results-Based Course

"This course will give you practical first-hand experience with accelerated learning and will enable you to begin using the techniques yourself. The workshop will provide you with a wealth of accelerated learning models, strategies, and methods. And you will be shown how you can apply these methods to existing and planned courses in your organization. The down-to-earth goal of this workshop is to help you and your organization improve the speed, results, and cost effectiveness of training by 25-50% and more.

CURRICULUM

Information Age Learning

- ∞ Understanding the new learner and the new learning environment.
- ∞ The vital importance of accelerated learning today.
- ∞ From pedagogy to andragogy to hologogy.
- ∞ Learning HOW to learn: Today's top priority.
- ∞ The shift from linear to geodesic thinking and learning.
- ∞ The key to training success in the Information Age.

Designing Winning Training Courses

- ∞ Major ingredients of accelerated learning course design.
- ∞ The new geodesic, multi-pathed approach to learning.
- ∞ How to identify and accommodate different learning styles.
- ∞ Developing instructional materials for the whole person.
- ∞ Applying accelerated learning principles to technical, management, and clerical training courses.

- ∞ How to incorporate accelerated learning methods into competency-based training designs.
- ∞ Using the Accelerated Learning Curriculum Planning Guide for designing effective courses.
- ∞ Generating fresh, creative ideas for specific course designs in your organization.

Preparing the Learner to Learn

- ∞ Identifying and overcoming learning barriers.
- ∞ How to condition the mind for accelerated learning.
- ∞ Learning how to learn: the basic components.
- ∞ The role of positive suggestion in learning.
- ∞ Mind/body relaxation and learning.
- ∞ Models and case studies of learner prep in action.
- ∞ Generating creative ideas for learner prep in your organization.

How to Make Learning Stick

- ∞ Easy, sure-fire methods for memory improvement.
- ∞ The power of mental imagery in learning.
- ∞ How to greatly enhance the integration of new knowledge and skill.
- ∞ How to enlist the powers of the full mind in learning.
- ∞ How to make sure that learning transfers to the job.

Mastering Some Potent New Teaching Tools

- ∞ How to use mental imagery to significantly improve knowledge and skill acquisition.
- ∞ Using the power of suggestion in the classroom.
- ∞ How to use music as an aid to optimal learning.
- ∞ The many uses of mind maps in the learning environment.
- ∞ Using mind writing as an aid to learning, recall, discovery, idea generation, and decision making.
- ∞ How to incorporate learning accelerators into existing curriculum in your organization.
- ∞ Ways of uncorking your creativity as a learning facilitator.

Creating an Optimal Learning Environment

- ∞ How to orchestrate the total environment for accelerated learning.
- ∞ The effects of music, lighting, color, room decor, and room arrangement on people's learning ability.
- ∞ How to build positive suggestion into the learning place.
- ∞ How to invoke the power of the whole person in the learning environment.
- ∞ Generating creative ideas for improving the learning environments in your organization.

Mastering the Teaching Skills of the Pros

- ∞ How to bring out the accelerated learner in everyone.
- ∞ Humor, metaphor, and analogy as aids to learning.
- ∞ The secrets of effective presentations (it's really easier than you think).
- ∞ Ways of making even dry subjects more interesting and easy to learn.
- ∞ Helping learners take full responsibility for their own learning.

- ∞ How to magnify your effectiveness as an instructor many times over.
- ∞ How to create a truly collaborative learning environment.
- ∞ Ways of accelerating the learning of any subject.
- ∞ How to get the fun (and success) back into learning.

Getting Started With Accelerated Learning

- ∞ Helping your organization realize the rich potential for accelerated learning today.
- ∞ Preparing the groundwork for accelerated learning.
- ∞ The do's and don'ts of implementing accelerated learning in your organization.
- ∞ Mapping your accelerated learning implementation plan.

On-Going Support

In terms of your continuing development in accelerated learning know-how, this workshop is not the end, just the beginning. As a workshop participant you will be entitled to a year of free telephone consulting and a membership in the Accelerated Learning Network. As such, you will receive a free subscription to The A.L. Network News, which will keep you posted on the latest developments in accelerated learning and on what others are doing to implement accelerated learning in their organizations. And you will benefit from additional support through contact with other Network members by mail, phone, and in person throughout the year."

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- 3: Imagery for Creative Writing, Imagery for Improving Behavior (for grades 3-6)
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Commentary by: Abramson, R. M., O. Laske, D. Martino, Denis Vaughan

Session 2:

Minsky, M. "Different kinds of differences"

Repp, B. H. " Analysis, perception, and evaluation of performance micro-structure"

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Clynes, M. Advanced Sentic Cycle audio cassette, 32 mins, with only positive emotions-sequence: No Emotion, Love, Reverence, Bliss, Compassion and Give Blessing with illustrated Instruction booklet. No finger rest is used

Clynes, M. Video of Advanced Sentic Cycle VHS 70 mins, as above except you can do the Advanced Cycle together with Dr. Clynes and then by yourself. Two complete cycles, the first with verbal instructions, the second without instructions.

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Centro Escucha Mexico, Calle de Fresno no 52, Col. Palo Alto, Mexico

Center For Communication and Learning Skills, 2204 E. Fort Lowell Road, Tuscon, AZ, 85719

and 14674 Rainbow Drive, Lake Oswego, OR, 97035

See also :Robert T. Roy, Coordinator of Professional Services, Tomatis Listening Program, Bosco Homes, Box 1755, Regina, Sask. S4P 3C6

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- Automated Learning, inc., 336 Old Hook Road, Westwood, NJ 07675
- Behavioral Medicine Associates, 5600 S. Quebec St., Suite 144B, Englewood, CO 80111 (Thomas Budzynski tapes)
- Effective Learning Systems, inc., 5221 Edina Ind. Blvd., Edina, MN, 55435
- Futurehealth, 795A Bristol Pike, Dept. AP86, Bensalem, PA 19020 (Thomas Budzynski's organization)
- Gateways Institute, P.O. Box 1778, Ojai, CA 93023, (Jonathan Parker)
- Life Dynamics fellowship, 2118 S. Grand, Santa Ana, CA 92705
- The Megalearning Institute, P.O.Box 9000, Rancho La Costa, CA 92009
- Midwest Research, inc., 6515 Highland Rd, Suite 203-76A, Pontiac, Michigan, 48054 (the SCWL tapes)
- Mind Communication Inc, P.O. Box 904, 1844 Porter, S.W., Grand Rapids, MI 49509-0429
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- Nightingale-Conant Corp., 7300 N. Lghigh Ave., Chicago, Ill 60648
- Potentials Unlimited, inc. 4808-H Broadmoor S.E., Grand Rapids, Mich, 49508
- Psychodynamics Research Institute, P.O.Box 875, Zephyr Cove, NV, 98448
- Second Nature Subliminals, Distributed by Superlearning, inc., 450 7th Ave., N.Y., N.Y., 10123
- Sound Rx TM Productions, P.O.Box 2644, San Anselmo, CA 94960 (Steve Halpern's tapes)
- Success Education Institute, P.O. Box 90608, 2108 Garnet Ave., San Diego, CA 92109-3602. (Betty Lee Randolph tapes)
- Syber Vision, 6066 Civic Terrace Ave., Newark, CA 94560-3747
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