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Inside Out

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inna beginning

***“DEWEY: Time is God’s way
of keeping everything from
happening at once.”
Inna Beginning.***

Corporate Dodge, CEO of Magnum Books dot Com, has a stiff neck. Dodge lives in real time, but he has no time to receive a Jin Shin treatment from Flo, a life energy worker. He keeps her waiting a day and a half; angered, she leaves his office, only to be confronted by Skella, a friend and client. Skella is in desperate need of Flo’s services but can only pay her in the powdered milk, bottled water, etc. that Skella has in plentiful supply in preparation for the coming Apocalypse. Meanwhile, in Boulder, CO, Dewey Headlong, Official Timekeeper of the atomic clock, is concerned with the slippage and hiccups his beloved clock is making. Back in New York, Dodge finally allows Flo to tend to his aching body. When she applies pressure in the area of the tailbone (the root Chakra), Dodge’s body releases a musical tone that rocks both parties. Dodge is overtaken by an emotional spasm. Flo realizes that she has done something that had only been done once before in Peru some 3000 years ago. In this funny but provocative play about the journey to healing, modern corporate culture clashes with metaphysics. West meets East with ancient beliefs from Ayurveda, Hinduism, Buddhism concerning alternative medicine; microtones, tritones, vibrations of atoms and the spirituality and harmony that modern society has lost or forgotten

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***“TSUBO: ----In the very beginning.
Was the big not bang. But
Boooiiinnnggg! A sound, a note that
before that note, was nothing.”
Inna Beginning.***

JIN SHIN AND CHAKRAS

Jin Shin is a form of acupressure that originated in Japan. The treatment has developed sequences of meridian point pressure applications that are specific to the ailment being addressed. "In Jin Shin acupressure, [the practitioner] uses a simple finger pressure technique for stimulating the flow of energy in the meridians. One hand holds a point in the problem area - a 'local' point. At the same time, the other hand holds a point at a distance from the local area - a 'distal' point, which encourages the Qi (energy in Japanese) to flow through the organs." 1 In the play, Flo works upon the Chakras, the centers of activity for the reception, assimilation and transmission of life energy, the Chi (energy in Chinese). Chakra is a Sanskrit word meaning "wheel or disk" and is part of ancient Ayurvedic Hindu medicine. Located along the spinal column on a physical level, Chakras correspond to nerve ganglia where there is a high degree of nervous activity and to glands in the endocrine system. "While Chakras are interdependent with the nervous and endocrine system, they are not to be thought of as synonymous with any portion of the physical body. They are superimposed upon various parts of the body..." 2

The first Chakra is called the Muladhara, Sanskrit for "root." It is located at the tailbone and includes the bladder, large intestines, and genitalia; it influences both the upper body and the legs. It is associated with the Earth. The root Chakra is the foundation of our most visceral drives such as hunger, sex and survival.

Chakra two is called the Svadhisthana, which means "sweetness." It is located between the navel and the pelvic bone and affects the kidneys, small intestines and in women, the uterus,

Fallopian tubes and ovaries. One practitioner believes the second Chakra "reveals the sweetness of a person's soul, the innocent self as it was before being hardened by life's tribulations." 3 It is the artistic, emotional Chakra.

The third Chakra is called Manipura, "lustrous gem." Its location is between the navel and the breastbone, below the diaphragm at

***"Round like a circle
in a spiral, like a
wheel within a
wheel. Never ending
or beginning on an
everspinning reel—"***

**"The Windmills of Your
Mind," Alan and
Marilyn Bergman.**

the solar plexus. It includes the liver, gallbladder, spleen, adrenal glands, diaphragm, stomach and pancreas. The Manipura is the force that maintains your individual identity, your personal ego and holds the power of discrimination and assertion.

Chakra four is called Anahata, "unstruck." It is the "heart" Chakra located at the chest and encompasses the pericardium, thymus and lungs. Anahata brings together the emotions, mind and spirit. As the central Chakra (three above, three below), it is the center of unconditional love and compassion through which we feel a sense of identification with other people, plants and animals.

Visuddha is the fifth Chakra and means "purification." Its center is the throat; thus, sound and expression are its products. Visuddha holds information from all the Chakras; energies move down from the sixth and seventh and move up from the first through the fourth on the way to the head. The thyroid gland sits within the throat Chakra; its secretions govern metabolism which determines how and at what rate the body absorbs and makes use of nutrients to give us energy.

The sixth Chakra is named Ajna, which means, "to know, to perceive, to command." Located between the eyebrows, it includes the eyes, ears, pituitary gland, hypothalamus and brain (except the very top of the brain.) This is the center of higher knowledge that enables one to have an intuitive grasp of various aspects of metaphysics tempered by a moderate amount of healthy scepticism. The sixth Chakra is sometimes called the "third eye" and is associated with psychic development and clairvoyance.

Chakra seven is Sahasrara "thousandfold," but is often referred to as the "crown" Chakra. Located at the top of the head, it includes the uppermost part of the brain and the pineal gland. Practitioners believe that through this Chakra we experience enlightenment and divine bliss.

The general theory of the Chakra system is that they need to be in balance with each other. Ideally, there should be an even flow of energy through all of the Chakras; any imbalance in one is likely to create an imbalance in the others.

"That within us which seeks to know and to progress is not the mind but something behind it which makes use of it." Sri Aurobindo.

The Atomic Clock

*“Time is forever dividing itself into
innumerable futures... .”*

Jorge Luis Borges.

Until the 20th century, pendulum clocks were adjusted to the rotation of Earth by taking astronomical measurements. But as clocks needed to be more precise, they could not depend upon our planetary rotations with its wobbles, oscillations and shifts in shape. As a standard of accuracy, the pendulum was replaced in the 1940s by quartz crystals with their electrically induced vibrations. In the 1950s, scientists began to look to the atom as a gauge of time. Instead of using a definition of the second based on Earth's rotation, scientists began to search for one based on frequencies generated by certain atoms, particularly cesium, as they changed from one atomic state to another. Atomic frequencies, unlike the frequency of a pendulum's swing, are constant anywhere in the world. For example, the frequency of the cesium atom is 9,192,631,770 oscillations per second. In 1967, the international definition of the second was changed to the duration of the above figure “corresponding to the transition between the two hyperfine levels of the ground state of the cesium 133 atom.”⁴

The atomic clock at the National Institute of Standards and Technology in Boulder looks nothing like a standard timepiece. Composed of a bench, pillar, lenses, mirrors, plastic, studs, etc., it more closely resembles a “model railroad” at the cost of \$650,000.⁵ It is accurate to 0.000000000000015 of a second; if it were to run for 20 million years, it would neither lose nor gain a second. Unlike the clock in the play, the cesium clock isn't a tool for measuring the flow of time as it ticks by, hour-by-hour, day-by-day, etc. Rather,

it's a device for measuring the length of a second and usually runs for only a few days at a time. Each time it runs is a test to see if the timekeepers can produce a little more accuracy from the instrument, the way race car mechanics try to nudge another mile per hour from their engines.

Why is it so necessary to have such accurate measurements of a second? Because we've spent the 20th century building increasingly complicated networks of machines and systems including: satellites, the Internet, electrical grids, cell-based phone communications, etc. For these systems to carry out coordinated activities, they need to agree on the time for communication with one another. In order to share and disseminate information, computers in a network need to know when to talk, when to respond, and at what rate to do them. “Time is now the beat that meters the electronic notions of money and information.”⁶ If these clocks were to fail, the stock market would cease trading; air traffic would come to a halt; scientific labs of every kind would be deprived of their basic measure, and the Internet would shut down. We would see in an instant how crucially our lives are shaped by the tiniest measurable part of a second.

How do scientists at the National Institute of Standards and Technology tell the time of day? They rely on a roomful of commercial cesium clocks, five hydrogen maser clocks plus a pendulum clock. The times of all the clocks are averaged together to give a very sophisticated, intelligent hour, minute and second.

*“Perfection in a clock does not consist in being fast,
but in being on time.”*

Vauvenargues: Reflexions.

A BRIEF HISTORY OF ATOMIC CLOCKS AT NIST (NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY)

1945: Dr. Isador Rabi, a physicist at Columbia University, suggests that a clock could be made using a method (developed by him in the 1930s) called atomic-beam magnet resonance.

1949: Using Rabi's technique, NBS [NATIONAL BUREAU OF STANDARDS] develops and announces the world's first atomic clock using the ammonia molecule.

1952: NBS announces NBS-1, its first atomic clock using cesium atoms.

1954: NBS-1 is moved to NBS's new laboratories in Boulder, Colorado.

1958: Commercial cesium clocks become available at a cost \$20,000 each.

1960: NBS-2 is brought into operation in Boulder; it can run for long periods unattended and is used to calibrate secondary standards.

1953: The search for a clock with improved accuracy and stability results in NBS-3

1967: The 13th General Conference on Weights and Measures defined the second on the basis of a transition in the cesium atom; the world's timekeeping system no longer uses an astronomically determined unit as its basis.

1968: NBS-4, the world's most stable cesium clock, is completed.

1972: NBS-5, an advanced cesium beam device, is completed and serves as the primary standard.

1975: NBS-6, a major modification of NBS-5, begins operation. It is one of the world's most accurate standards with an accuracy of 10 to the minus 13th.

1989: The Nobel Prize in Physics is awarded to three researchers Norman Ramsey of Harvard University, Hans Dehmelt of the University of Washington and Wolfgang Paul of the University of Bonn for their work on the development of atomic clocks, NIST's work is cited prominently in the announcement.

1993: NIST-7 comes on line at an accuracy of 4X10 to the minus 14th, but is later improved to 5X10 to the minus 15th.

From:
www.boulder.nist.gov/timefreq/general/museum/timeline.htm

Dreams

***“I dream in my dream all the dreams of other dreamers.
And I become the other dreamers.”***
Walt Whitman, *The Sleepers*, I.

In the play, Dodge and Flo experience a similar dream. This dream includes: a book, riding on a subway, a heart in a chest, etc. Patricia Garfield in her book, *The Healing Power of Dreams*, states “dream images are metaphors for our emotions.”⁷ They are a kind of picture language for how we feel. Thus, dreaming of a glowing book might mean a search for knowledge and understanding; a subway may mean a journey to the unknown, and a heart in a chest may be a metaphor for a person lacking love and compassion. These are personal interpretations, but as Aristotle stated over 2000 years ago: “The most skillful interpreter of dreams is he who has the faculty of observing resemblances.”⁸

In his book, *Reinventing Medicine*, Larry Dossey uses the phrase “nonlocal mind.” By this term, he refers to a kind of cosmic consciousness that has the potential to act on distant things, events and people. It is an unlimited mind that is not restricted to our waking existence, but also to sleep and dreams. He recounts an episode of a writer having difficulty composing an article about Latin music. When he had dinner with a friend and told her of his problem, she responded by telling him about a dream she had that was full of musical notes. In describing her dream, the writer recognized it was the material he was writing about.

In the 1960s, researchers Stanley Krippner and Montague Ullman at Maimonides Hospital in Brooklyn performed experiments on “shared dreams.” Their goal was to determine whether an individual, while dreaming, could receive information from someone else. Volunteers were selected for a sleep laboratory and

asked to dream about a picture that was going to be randomly selected after they had gone to bed. The dreamers were awakened when their brain waves and eye movements indicated they were dreaming. In recounting their dreams, independent judges reported on stunning similarities in the dreams. “The Maimonides studies are classics in dream research, and they strongly suggest that dreams are an avenue of nonlocal communication between separate, distant persons.”⁹

From this research, Dr. Robert L. Van de Castle and Dr. Henry Reed devised “the dream helper ceremony.”¹⁰ In these ceremonies, participants focus on one individual who admits being troubled but does not divulge the nature of the problem. Before retiring, the dream helpers gather around the designated individual and engage in some activities to create closeness and bonding. The “dreamers” devote the total activity of their unconscious dream life to the individual in need. In the morning their dreams were discussed. Both Doctors Reed and Van de Castle observed the accuracy of the dream helpers in identifying the person’s problem and often coming up with potential solutions.

Dream helper ceremonies have demonstrated that individuals can bond together in helping someone in need. A feeling of love, care and empathy seems to envelop everyone concerned - a connection all the characters of the play are seeking.

***“FLO: We had the same dream, Ramona.
His frozen heart is in my lap. The ice chest is mine.”***
Inna Beginning.

the march of medicine

In the early days of medicine, people believed that evil spirits and angry gods caused diseases. They turned to tribal witch doctors to cure them. These early physicians discovered many of the drugs and treatments that we still use today. For example, they found that chewing the leaves of the foxglove plant (digitalis) could slow a rapid heartbeat, while the bark of certain trees (quinine) helped lower fever.

As early as 2500 BC, Egyptian physicians were famous for their diagnosis and treatment of hundreds of diseases. They were especially adept at surgery, particularly neurosurgery. The physicians of ancient

Greece also made outstanding contributions; they recognized the importance of reasoning, observation and research in medical practice. They believed that human beings could not be understood unless nature as a whole was understood. Hippocrates, a Greek who lived in the 400s BC, was skilled in diagnosis as well as conceiving a concept of man integral to his environment. He wrote: "Health depends upon a state of

equilibrium among the various internal factors which govern the operations of the body and the mind; this equilibrium in turn is reached only when man lives in harmony with his external environment." 11 The Romans received their knowledge of medicine from the Greeks. The Greeks had established the importance of personal hygiene and the Romans developed public health. In their quest for sanitation, they drained swamps, built sewers to carry off wastes and constructed aqueducts to carry fresh water from the mountains to their cities. They altered their environment in a positive manner. In the Middle Ages, medicine made little progress. Great epidemics such as bubonic plague, syphilis and smallpox killed thousands of people and doctors had no defense. During this period, medicine was practiced largely in monasteries where the monks grew herbs for medicinal purposes and collected and studied the manuscripts that described the work of

Greek and Roman doctors.

The rise of modern medicine began in the 1400s continuing to the 1700s. Andreas Vesalius made extreme studies of anatomy and physiology. Philippus Paracelsus, a Swiss physician, streamlined the number of ingredients in medicines to find the drug that was most effective against the disease being treated. William Harvey proved in 1600 that blood circulated through the body instead of just flowing back and forth. Through his experiments, he proved that the heart pumps blood into the arteries and that the veins return it to

the heart. Finally, Anton van Leeuwenhoek, invented the microscope so physicians could study germs.

By the close of the 16th century, medical science had advanced but a new philosophy emerged that would influence medical practice. The central figure who set in motion the changing mood and thought of the Western world was Rene Descartes (1596-1650). "Descartes was determined to do away with all the teaching of the ancient world, to doubt everything

"FLO: Thank you, Descartes, for severing our minds from our bodies. Thank you, Louie Pasteur, for placing the source of disease outside the body. And thank you, Western Medicine, for making us spectators of our own health and well-being—."

Inna Beginning.

and to begin anew in his attempt to explain all aspects of nature according to a single system of principles." 12 When he considered man, he created a dual system; "mind" and "matter" were noted to be two fundamentally distinct "substances." Scientists who followed Descartes would carry this approach even further and conclude that man was a machine that could be explained by physical laws. Thus, by 1700, the sciences of matter, life, and mind were separated from each other.

The 19th century saw man's traditional place in the universe usurped. Charles Darwin and his *On the Origin of Species* had a profound impact on scientific thought. Just as the Industrial Revolution was seen as "progress," so too, the theory of evolution appeared to provide a way of conceiving man's potential for advancement. About the same time that Darwin's work was changing the thinking of Europe and America, an obscure Austrian

monk, Gregor Mendel (1822-1884) was studying the transmission of hereditary traits by means of experimentation with sweet peas. Mendel laid the foundation for the growing field of genetics that was a further argument for viewing man as a machine shaped by heredity. In addition, Louis Pasteur (1822-1895) and Robert Koch (1843-1910) demonstrated the bacterial origin of many diseases. Disease was seen as something caused by an outside force. By the end of the 19th century, "the study of man and his world underwent growing segmentation. Biological man, physical man, psychological man, social man, spiritual man, as well as other types, were each subjected to independent scrutiny and research. Man as a unified phenomenon - was generally ignored if not denied." 13

The 20th century led to further documentation of the germ theory and a search for a single cause for each disease. New branches of physical, biological and social sciences emerged, and specialization became the word of the day. Biological processes emphasized systems, organs and cells rather than organization. The cell came to be viewed as the basic unit of life. Later, the electrical field as the fundamental unit of biological systems replaced this theory. Only Sigmund Freud's exploration of the human psyche (1895) intimated that mind and body were connected.

In her book, *An Introduction to the Theoretical Basis of Nursing*, Martha E. Rogers says that nursing's main concern is with man in his entirety. "Human behavior reflects the merging of physical, biological, psychological, social, cultural and spiritual attributes into an indivisible whole" 14 She argues that looking at the systems and subsystems of a person does not give us a picture of the man as a whole. Moreover, one must examine what surrounds man - the environment and the range of influences and experiences that affect him and the world around him. "The constant interchange of matter and energy between man and environment is at the basis of man's becoming." 15

"As the boundaries between medicine, healing, artistic expression and teaching break down, new forms and institutions begin to emerge to replace old ones that have failed us. At a time like this, healing and medicine become the forerunners of other changes, for they call our attention to the flesh and spirit we are living out. They give us the simultaneous cue of 'cure' and 'change.'" 19

In his book, *Planet Medicine*, Richard Grossinger states there have been two separate traditions of the practice of medicine. One is the art of healing which is performed through sympathy and intuition but has to be achieved through training, techniques, skills and education. The other tradition he calls the

"technological-scientific medicine" which uses the skills of surgery and pharmaceuticals. 16 He continues to elaborate that Western medicine has gradually removed the art of healing and the literature and methodology they developed, replacing them with the skills of surgery and/or pharmacy. Healing happens because there is unity between doctor and patient, because a message is sent to the wholeness of the body, not to its fragments or parts

Grossinger says the alternative medicine movement in the United States arose in the 1960s, though there have

always been "other" medicines around. Because North America is a country of immigrants, sectarian medicines have flourished, some regionally, some nationally. The terminology of "holistic medicine" is "a synthesis by which many individual medicines have been made more similar and integrated into a loose system of methodologies and ethics." 17 Thus, we have an alliance between Native American medicine, Christian faith healers, homeopaths, ta'i chi masters, Jin Shin, vegetarians and masters of yoga and breathing.

The most dominant nonmedical forces in alternative medicine are the Oriental disciplines. The key point of Oriental medicine is the requirement of working on one's exact mind and body impulses, "of dealing with resistances, distortions, and distractions exactly and only as they come up in a lifestyle They are situational - and as circumstances occur, they suggest their own solutions." 18 Manipulation and stimulation are part of the process. Even the gentlest pressure can make the subtle changes necessary to make a patient feel better.

Entertainment

“SKELLA: (Entrainment) is how separate vibrations synchronize. They sympathize. They resonate. They come together bee cum one uh huh.” Inna Beginning.

Definition: Etymology: Middle French entrainer, from en- + trainer to draw, drag Date: 1568.

- 1 : to draw along with or after oneself
2 : to draw in and transport (as solid particles or gas) by the flow of a fluid
3 : to incorporate (air bubbles) into concrete
4 : to determine or modify the phase or period of
- en.train.er noun
-en.train.ment /-ˈtrAn-m& nt/ noun
Merriam-Webster’s Collegiate Dictionary online

In 1665 the Dutch scientist Christian Huygens discovered that moving bodies tend to entrain. Since that time, entrainment has become a well-accepted concept in the physical and natural sciences. But before then, early religious leaders and shamans knew the power of rhythm and sound to transform a society; ceremonies and religious rituals always relied on a drumbeat or choral chant to induce a state that brings the group into a slower rhythmic frequency, thus allowing for a more profound spiritual experience. In ancient Greece, Homer sang his stories rather than reciting them, and in the Middle Ages each German workers’ guild had its own song to unify its members, not unlike our national anthems of today. In the early Western United States, societies used rhythm and song to reflect and determine the tempo of life. “Farmers sang in the fields; guests danced at a wedding; bells tolled the hours; rowers chanted as they pulled their boats through the waters.”²²

Great speakers are aware of the power of rhythm and tone of their speech to convince and persuade their audiences. The late Martin Luther King, Jr., John F. Kennedy and Adolf Hitler made a person feel like part of a human wave, writes Stephan Rechtschaffen, M.D. in his book, *Time Shifting*. Whether they used their

power for good or ill has nothing to do with entrainment; it simply exists as a force in nature.

“E” everywhere music—not solid sound, but sound and pause, with the rhythm of silence as well as sound—has always been and still is the most effective entrainer.”²³ However, today’s popular music of rock and rap, says Rechtschaffen, reflects our raucous, speeded-up society. Young people, especially, are entrained by it because the rhythm of life for them is fast and faster, there is no variance. Computers, fax machines, voice mail, E-mail, the Internet, cell phones are useful and convenient for business but they all add to the speed of the rhythm and increase the pressure. We have no time for reflection and ‘to hear our notes’ or those of others; instead we hear the whine, buzz, rings or signals of the machines.

“Our modern rhythm is distinctly unnatural, mirroring society’s pull, not the magnetism of the earth.”²⁴ Rechtschaffen suggests we must be aware of sounds and rhythms, our own and the people around us. “Let go of ego,” says Ramona in the play; by this she means to put aside that part of oneself that is distinct from others. But to do this, we must slow down to listen and feel. Understanding is impossible without serenity and serenity only exists when we adjust our lives to move more slowly.

“When I hear music I fear no danger, I am invulnerable, I see no foe. I am related to the earliest times and to the latest.”
Henry David Thoreau.

MUSICAL HEALING

***“Music has charms to soothe a savage breast
To soften rocks, or bond a knotted oak.” William Congreve. The
Mourning Bride (1697). (I,i).***

The use of sound for healing was known to virtually every ancient culture, including the Egyptians, Greeks, Chinese, Hindus, Buddhists, Muslims, Africans and American Indians. Pythagoras, the Greek mathematician of the 6th century BCE, tried to use the sound relationships of chords for communicating spiritual and healing energies. This power of harmonization in the Greek sense was “to deal with the unceasing power of change that is life itself, to make this change resonate with the rhythmic flow of universal change.”²⁵ For Pythagoras, healing was the harmonizing of discords in the isolated and psychically disturbed person.

In Native American culture, song is used as a set of physical vibrations moving outward with the power to operate within the worlds of matter and spirit. “Songs connect us to the world of dreams and to the visions in which healing can take place.”²⁶ The vibrational process that results does the healing.

Tones have been created by means of sustained chanting, both in the East and West. For example, Indian mantras involve the repetition of sacred names or certain tones that set forth highly specific vibrations that act within the mind-body to bring about changes. Other manifestations range from the powerful chants of Tibetan monks to the beautiful Gregorian chants of Christian

monks. Certain tones are felt in the body and invoke the energy centers (chakras) in the body. (see Jin Shin article)

Presently, Dr. Deepak Chopra, author of *Perfect Health*, the *Complete Mind/Body Guide* is reviving the ancient Hindu practice of Ayurvedic medicine. The sages of Ayurveda teach that the body is held together by sound, and the presence of disease indicates that some sounds have gone out of tune. Further studies have shown that sound affects the health of the body. Dr. Peter Guy Manners works with sound in his medical practice at Bretforton Hall Clinic in Worcester, England; his experiments indicate that all human beings, as all objects, radiate sound waves and every part of the body has its own vibration. He elaborates: “Each individual has his own different pattern, or collection of tones just as each individual has a unique shape. We can see from this that harmony is the secret of perfect health. Within the human body any deviation from this harmony would result in ill health”²⁷ These words echo those of the characters, Tsubo and Skella.

In her book, *The Healing Voice*, Joy Gardner-Gordon writes that: “Toning is utilizing the vibratory power of the voice by making long, sustained sounds without the use of melody, beat or rhythm.”²⁸ When these tones are made, they cause

vibrations that reverberate in a way that is incredibly penetrating. Supported by proper deep breathing, certain tones can be sung to relieve pain or pressure in the areas of the seven chakras.

Gardner-Gordon’s book is directed toward self-healing; she gives instructions on how to relieve pain. One should stand with legs about shoulder-width apart and employ the deep breathing techniques. If the pain is in the first chakra (tailbone area), it should respond to the tone E as in “red.” The second chakra (between the navel and pubic bone) will be energized by the tone O as in “home.” The third chakra (between the navel and breast bone) is associated with the color yellow and the tone “A-OM.” Ah as in “hah” is the tone for the fourth chakra (located at the chest), while the fifth chakra (throat, vocal cords) responds to the tone UU as in “blue.” The sixth chakra between the eyebrows includes the brain and pituitary gland and it hears the tone M as in “mom.” Finally, the seventh chakra at the top of the head will resonate to the tone EE as in “glee.”

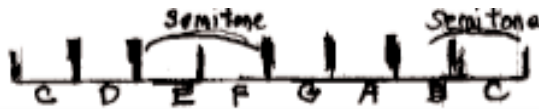
Gardner-Gordon emphasizes that one does not have to be a singer to use tonal healing. The objective is to make a tone that, for you, vibrates the chakras and causes the energy to flow.

***“Music heard so deeply
That it is not heard at all, but you are the music
While the music lasts.”***

T. S. Eliot. *The Dry Salvages*, V.

Microtones, Tritones & Other Musical Theory

Z Musical intervals are the distances between pitches (relative frequencies). One half of a whole tone, in traditional Western music, is called a semitone, the smallest interval. In the C Major scale there is a semitone between e and f and b and c. (figure 1.)



Microtones are intervals smaller than a semitone and are played by Tsubo on his instrument. Indian music has 22 microtones. They have long been a structural feature of Asian music, but in the West they are used far less extensively.

A raga (played by Tsubo) is the single most important element of Indian classical music. It is loosely defined as the melody, but also refers to the system that encompasses the given elements of a melodic nature. Containing musical and extramusical ideas, there are ragas for certain times of the day, seasons of the year and emotional states of mind.

A tritone in Western music is defined as an interval of an augmented 4th or diminished 5th. In medieval times it was known as the "diabolus en musica" (devil in music), perhaps because it was heard as the sound of the wolf in the 9th and 10th centuries. At any rate, it is an out-of-tune, dissonant sound. Camille Saint-Saens made use of the tritone in the opening chords of his *Danse Macabre*; Aaron Copland used descending tritones in his *Fanfare for the Common Man*, and the opening notes of Leonard Bernstein's "Cool" from *West Side Story* are C-F#, the tritone used in this play. The C-F# tritone is notated (Figure 2.) and shown on piano keys in Figure 3.

The C-E-G triad is known as the Great Triadic chord and considered the most harmonious of all chords. It is formed from a Major third and a minor third intervals to form a Perfect Fifth (figures 4 and 5).



In the 17th and 18th centuries in Europe, a strongly centralized state developed in politics and the tonality system developed in music. This tonality produced order, direction and the resolution of tension to the "perfect chord," the major triad C-E-G, representing "the Father, Holy Spirit, and Son." 29 Formed from two intervals of a third, "this natural third relationship generates the energy of love. It developed in Southern France during the Crusades as an idealization of womanhood and the spiritualization of love." 30 In his book, *The Magic of Tone and the Art of Music*, Dane Rudhyar says the Perfect Fifth "represents —the power to make what is potential actual, what is implicit, explicit - thus the cosmogenic, creative mind." 31

At the end of the play, when Skella is injured by the "devil's tritone," she recovers and becomes whole when the group sings "the perfect chord" - the actualization of love and the healing spirit.

AFFIRMATIONS AND GROUNDINGS

At the beginning of the play, the clock (Flo's voice) recites: "I am well. I am peaceful and at ease. ..." 20 These words of affirmation put one in a positive framework, boost self-esteem and create a new attitude. Repeating an affirmation can turn negative thoughts around; people can reprogram themselves in a positive way and possibly create an opportunity for better circumstances.

When Flo is about to perform Jin Shin on Dodge, she takes a stance and speaks: "Hollow ball, seared, feel heat, drop a laser line of light through concrete floorboards ..." 21 These are words of grounding, a process of dynamic contact with the Earth. In her practice of this Oriental methodology, Flo must gain her concentration and energy through her legs and lower body. The ground is her root, and through these roots, she gains nourishment, power and stability to manipulate herself and her patients.

NOTES

1. Teegarden, p. 23.
2. Judith, p. 18.
3. Eden, p. 149.
4. Klinkenborg, 52.
5. Klinkenborg, 52.
6. Klinkenborg, 54.
7. Garfield, p. 28.
8. Garfield, p. 28.
9. Dossey, p. 98.
10. Dossey, p. 99.
11. Rogers, p. 13.
12. Rogers, p. 18.
13. Rogers, p. 26.
14. Rogers, p. 41.
15. Rogers, p. 54.
16. Grossinger, p. 8.
17. Grossinger, p. 326.
18. Grossinger, p. 334.
19. Grossinger, p. 357.
20. Inna Beginning, p. 1.
21. Inna Beginning, p. 43
22. Rechtschaffen, p. 25.
23. Rechtschaffen, p. 25.
24. Rechtschaffen, p. 29.
25. Rudhyar, p. 37.
26. Peat, p. 144.
27. Keyes, p. 99-100.
28. Gardner-Gordon, p. 61.
29. Rudhyar, p. 98.
30. Rudhyar, p. 98.
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