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1. DESIRABLE ELEMENTS IN WATER

HISTORICAL, THEORETICAL, AND SCIENTIFIC BASIS FOR SPECIFIC STRUCTURAL ELEMENTS DESIRABLE IN WATER

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1.1. INTRODUCTION

The foundation upon which all civilizations are built is tied to the presence of water. And so too, the foundations upon which our religions, stories and myths are founded, can be traced to the life giving and ever-mysterious water. The focus given to the role of water in living systems is receiving public attention like no other time in recent history. Symbolic water has given way to scrutiny of scientific investigation. It is not so long ago the Henry Cavendish (1731-1810) discovered hydrogen and showed that it burned in oxygen to form water, H₂O. Today we find water-related topics a top agenda item of concern and consideration in offices, boardrooms, classrooms, clinics, laboratories, kitchens, and living rooms alike. Today we find that understanding of the nature of water is paramount if we are to persevere as care-takers of this planet.

New methods of scientific investigation are opening up previously hidden doors of knowledge regarding the nature of water. In the scientific eye, water is no longer seen as the simple molecule H₂O, but as a varying cluster of molecules with organized relationships, both physically and energetically. It is in the latter realm, energy, that we have found water especially sensitive. The infant called quantum mechanics appears to have unlocked whole new worlds to explore. And as these ideas mature, so will the efficiency and sophistication develop to share them with others. In the present, we find this budding field of energy exploration spoken in many different tongues. To get an idea...

- ∞ physical chemical kinetic dynamic electrical bioelectric
- ∞ atomic nuclear mechanical electromagnetic paramagnetic diamagnetic
- ∞ sound microwave gravitation visible light/ color biomagnetic orgone
- ∞ reiki centrifugal centripetal audible sound vortex tachyon
- ∞ magnetic photon biophoton strong force weak force planetary
- ∞ scalar geometric thermal implicate order explicit order biomagnetic
- ∞ cosmic free tantric piezoelectric potential hydrogen Bovis units
- ∞ opalescent stellar crystal electrostatic electrodynamic zeta potential
- ∞ hydrogen covalent ionic hydrogen bond chromodynamic kirlian
- ∞ pulsar internal Doppler thermodynamic thermonuclear static
- ∞ potential plasma vibrational dielectric Coulomb force Feinberg field
- ∞ enthalpy chaos order psychometric radionics entropy
- ∞ geothermal wind particle rhythmic faith chi
- ∞ chakra pyramid etheric psi belt merkabah primal
- ∞ time space radiation and wavelength (gamma, x-ray, ultraviolet, infrared, radio)

One can see the breadth of language created to explain the workings of energy. When considered that water is the most sensitive and highly effected compound exposed to these fields, it is no wonder that the true nature of water has eluded science for so long.

Now this element of life is receiving some of the most advanced consideration that can be offered. As the results of investigations today are woven with the understanding passed down from our ancestors, the picture of water as the most important mediator and balance of life-processes, and the role it plays in the energetic and spiritual realms, becomes increasingly clear. Water as symbol and archetype has an unlimited capacity to generate and carry metaphor. Our long relationship and curiosity with water from prehistory has been retained in this historical mythos.

1. 2. Water Before Cartesius

Water was once considered the most sacred of elements. Most myths of creation have as one of their main tasks the creation or conjuring of water. The great Sumerian mother-goddess, Inanna, has a vase in place of a heart. From this vase flows water that promises eternal spring. Babylonian, and Mesopotamian legends have civilization starting with whales, for it was the whale that supposedly taught humans the concept of recurrent cycles as a fundamental law of nature.

From early antiquity we find existing the crystal sea, representing the Schamayim, or the living water which are above the heavens. Seen as the "The Ocean of Spirit" within which all created and uncreated things exist and by the life of which they are animated. In the lower worlds Schamayim becomes the astral light. Beyond the sphere of the stars is the sphere of Schamayim, which is the Divine Fiery water, the first outflow of the Word of God, the flaming river pouring from the presence of the Eternal. Schamayim, the fiery androgynous water, is the universal mercury -- sometimes called the Azoth -- the measureless spirit of life. These living waters are said to engulf a new entering soul with incomprehensible showering of light-water as they descend into earthy existence. The memories of the infinite before and after are concealed within the flux and flow of this organic energy stream of all being. Upon birth and death, memories were carried away in this mythic water. This well of remembrance the Greeks called "Mnemosyne."

Mnemosyne was the source of the flowing waters of remembrance (in the oral epics, remembrance is the echo of an inner voice). To drink of these sacred waters, as might occur when visiting the oracle at Trophonium, facilitated insights into the unseen, and created visions of understanding and wholeness that would have otherwise been beyond grasp. Those who partook of this water after experiencing the oracle were able to recall their extraordinary experience.

Mnemosyne began as one of the twelve Titans born of Uranus (the Heavens) and Gaea (the Earth). With father Zeus, she was the mother of the nine Muses, each of whom presided over a different art or science. Her appearance with the Titans is significant; it tells of water before there were gods. She is also to have given Hermes two gifts -- a lyre and a soul; which tells us that our rhythmic sense and cycles are born from water.

Looking back to the time before the new written language took a hold of consciousness, it seemed as though thought and idea existed in the stream of universal awareness and singularity. Language had existed in a spontaneous and synchronistic manner that is beyond the precepts of rational thought. Language was living, malleable, mutable, sensitive to any fluctuations in time and space. It existed in the infinite dynamic of the now. There was no way to imagine the difference between thought and speech. Memories were not always tied to personal experiences, but seemingly existed more in a dream state (such is the case still today with the aboriginals whom live in Australia--they have no reliance on written text; moreover they reject it saying it will make them stupid). Historically, we then see written language starting to have authority over the spoken verse.

Consciousness, adapting to the new metaphor of the alphabet letter, transforms Greek attitudes towards memory.

The classic poet of Greece has no longer need of recollections from a "beyond." His sources are frozen in text. Plato commented that his pupils reliance on text narrowed their streams of remembrance, making them shallow and dull. One surviving fable has the fate of the muses of Mnemosyne being locked up and bound within the written script, never to be free again (of course, things can change).

Now we are in the age of uniform, replaceable, physically secured words, where granite, marble, and papyrus become the anchor upon which language is grounded. And so did humankind strike a new path which has left us fogged in forgetfulness. We stepped out of the flow of natural life and order, the tether which connects us through the portal of birth and death, and into a systematic perception based on dis-ordering tendencies. These new beliefs inevitably gave birth to 'entropy', the modern concept that all energy and form are inevitably and irreversibly moving towards disorder and chaos.

Nowadays, such scientific-technological constructs such as entropy are frequently imposed on social structure, where every realm of life receives the imprint of the laws of breakdown. We see their life-destroying effects everywhere about us in the living environment. Life is a place where order and form are created, processed, evolved and stored. The living system is a reservoir or storage place for formative processes of negative entropy of wholly unimaginable proportions. Water is the lens for the formative process of life.

As the oral tradition of Mnemosyne vanished with the rise of the written language, her name becomes the technical term for "memory"; now imagined as a page. Mem becomes the 13th letter of the numerically significant Hebrew alphabet, signifying mayim, water, humidity, moreover the mother of water, i.e. 'Radical Humidity' or a particular kind of condensed air. Mythos has Aleph, the primal mother, gravid with Mem, the universal humid nature. The oldest form of the related Phoenician version of the letter was oriented in a standing position (a 90° rotation, with the top line sloping down to the left), looking like a symbol for lightning, and was composed of five lines instead of four.

The subconscious cultural awareness of water has been stored in our language; the subtle understandings and beliefs are kept alive, resonating with the past while surviving as structural building blocks in today's languages. Mem and Mnemosyne, as linguistic roots, are under continual focus today from the human consciousness, receiving heavy use in our modern tongue; e.g. memory, mnemonics--the art of improving or developing memory, membrane, member, memoir, memorial, amnesty, amnesia.

The fourth century Latin grammarian, Macrobius, in discussion of Pythagorean concepts, notes the planets sound a certain tone caused by the continuous displacement of the ethereal diffusion. "The sound of the seven planets, and the sphere of the fixed stars, together with that above us [the eighth sphere, the Antichthon], are the nine Muses, and their joint symphony is called Mnemosyne".

As mankind's senses numb from continual exposure to the city, so did his desire inflate to conquer and control water. Water started to lose its grand omnipotence that it always had within the human sphere of perceptions. In 312 BC, the Aqua Appia was built -- the first of eleven aqueduct built by

the Romans. It was built by and named after the censor, Appius Claudius. From this point on our civilization loses interest in the past perceived spiritual nature of water, as now water was to do the bidding of our desires. Huge fountains were created throughout Rome in statement of the might of its leaders. They were used as television is today, as an attraction center drawing in relatively large numbers of people in order to spread political discourse.

The next major shift in the human treatment of water occurs as a result of discoveries in the 16th century. Being the first to employ experimental observation and physiological measurements, Dr. William Harvey popularized the concept of circulation (originally ascribed as the path of blood by Ibn al-Nafiz. Born in Baghdad, he died in Cairo in 1288 a famous teacher and polymath). The concept of circulation had not yet been conceived and shared to a wide audience. Until then, water transport had always been one way, depositing the waters into the earth at the end destination. It wasn't long thereafter, with the concept of circulation making its way around, that the modern human decided to subject water to a circulation system specifically designed to carry away our waste. The modern concept of indoor plumbing was born. This concept is truly so new that most cities and towns had railroad service and were lighted by gas before sewer systems were installed. In the nineteenth century water is adopted for the toilet. In the twenty-first century the oceans become our toilet.

1.3. Frontiersman Of A Lost Science - John Ernst Worrell Keely - Harmonics And Vibratory Physics

John Keely, born in Philadelphia on September 3, 1837, achieved some notoriety prior to a "Scientific American" article supposedly debunking him along with his experiments. Printed January 28, 1899 and then again on February 4, 1899, the articles claimed that his scientific career had been nothing but a series of frauds perpetrated on gullible, unthinking people who were incapable of understanding enough science to disprove his wild claims. This in spite of the fact that many noted men of science of the time, after scrutiny, found no fraud of any kind.

After Keely's death a cast iron sphere of four feet diameter, protruding pieces of a broken pipe, was found under the floor boards in his house. The sphere was estimated to weigh 6,625 pounds and have a bursting strength of 28,000 pounds per square inch. Some used this fact to debunk him while other claimed it was obsolete equipment efficiently stored away.

One of Keely's inventions was called a water "Dissociator". He claimed that 42,800 vibrations per second would vaporize water instantly to energy. He named this energy "Ethereic Force". He named the process of changing the substance of water into etheric force "Dissociation". By using said harmonics and sympathetic streams of energy his devices were reported to levitate and attain high speeds quickly; all while under the control of Keely. He thought there were three modes of vibration, or currents of force and six + one aggregates of energy. He saw matter as chordal relationships of energy, or the "chord of the mass."

1.4. Living water enters the modern psyche

1.4.1. Schauberger and the centripetal force

Victor Schauberger, born in 1885, set a modern precedence in the understanding of the nature of water. His insights came from observing natural phenomena such as the undulation of the water snake and the meandering nature of water. Some saw applications of his insights, hiring him to construct means of timber transportation. His understanding of cycloid spiral motion allowed him to build chutes and flumes (up to 50 kilometers in length) to float the logs off the mountain. Others tried and failed to duplicate this work. The log flumes were considered technological mysteries. He was officially appointed the Austrian State Consultant for Timber Flotation.

With access to new trees and no restrictions, large timber companies sprang up everywhere. The dangers of technological misuse became apparent. By the end of the 1920's he was promoting sustainable methods that were in harmony with Nature's motion. He realized the creative centripetal force, versus the destructive centrifugal force. In his time he became known as the water magician.

WW II arrived. Resisting the political pressures of the time in a semi-coerced atmosphere, Viktor refrained from disclosing vital aspects of his research. The Russians burned down his lab and house before the Americans got a chance to investigate. He spent his remaining years working with the ancient highland farmers of Austria, uncovering mysteries of magnetism, soil, and water in relation to crop growth, vitality, and strength.

Viktor Schauberger's central theme was: 'Prevailing technology uses the wrong forms of motion. Our machines and processes channel such agents as air, water and other liquids and gases into the type of motion which Nature only uses to decompose and dissolve matter. Nature uses another form of motion for rebuilding. When our technology only uses the decomposing motion, it becomes a dead technology, a destructive one, dangerously affecting all of Nature.'

1.4.2. Theodore Schwenk *Drop Picture Photography: The Sensitive Chaos*

Theodore Schwenk was the neighboring co-authority on water in Germany. Schwenk's Institute for Flow Science, founded over 60 years ago, developed the drop picture photographic technique. This technique allows one to see the internal structure of water unfolded as form. The drop picture reveals a more chaotic structure in damaged water (deconstructing, inhibiting, annihilating--the area is void of form), while displaying the harmonics of coherent nesting waveforms found in spring water (the rosetta patterning--the display of form present).

The drop picture technique allows the observer a naturalistic view of water's internal physical and energetic relationships. The rosette waveform patterns in water represent what is considered to be water that is in a healthful state (based on comparison to Drop shots of pure spring water). On the other hand, the picture of municipal water suggests by the lack of any visible waveform that the oscillations interfere, reducing or even canceling the ability of a longer standing wave to cohere and exist...

Figures and pictures not available

Spring water has been shown to have a very low occurrence of hydrogen bonds, while tap water, on the other hand, has been found to have extensive hydrogen bonding, sometimes occupying 20 and 30 water monomers. The added ingredients to make municipal tap water (pollution and energetically dead transport) take these small little water monomers by surprise.

Extensive unnatural clustering is happening as a result of the introduction of foreign substances, both physical and energetic.

Some authorities state that there is over 200 million times as much radio frequency spectrum interference as there was fifty years ago. It becomes pretty hard for a rain drop to make it to the ground without being fully violated; literally having its memory erased.

Schwenk also became quite well known from his 1963 book *Sensitive Chaos*. He explores natural patterns and rhythms that envelope all aspects of life. Jacques Y. Cousteau, whom wrote the preface, states that this book is the first phenomenological study of water.

1.4.3. John Wilkes *Flowforms*

The Flowform was discovered in 1970 by the founder of the Flow Design Research Institute, John Wilkes. These cascading waterfalls were empirically created by emulating the meandering vortexing of water through form. Theories now can explain the flow patterning through geometric ratios and molecular structure. The Flowform basins are shaped in such a way to cause a double vortex in a figure eight, creating lemniscatory oscillation to occur in the movement of the water. Water streams down a set gradient while at the same time developing and maintaining the rhythmically pulsing figure-of-eight flow pattern. This he called the Virbela Flowform principle of water movement. Many different designs under patent and copyright are in use in both hemispheres, with new ones being developed all the time.

Flowforms have application in three main functions: oxygenation, thorough mixing, and vortex rhythmicising. They have been set up for the stirring of biodynamic preparations, for dairy shed effluent breakdown and liquid fertilizer production, as well as for water treatment in irrigation and fish ponds, greenhouses and algae production tanks. While oxygenation is universally recognized as a vital function in water quality improvement, rhythm has been almost completely overlooked as an equally vital function. Rhythm is of vital importance to the capacity of watery fluids to maintain life.

The flow rate through the different Flowforms ranges from 5 to 500 liters per minute, with designs planned up to 2000 liters per minute throughput. There seems to be no theoretical upper limit, providing a streaming flow of water with a gradient from 1:25 to a vertical fall is available.

Tests have been conducted in Sweden, Holland, Germany, England, Australia, and New Zealand which indicate there is a positive influence on water. However, because of the new and sensitive uses of the Flowforms, experimentation continues around the world on the various functions which Flowforms fulfill. Such work has firm theoretical and experimental foundation. Flowforms are being manufactured here in the United States by the Water Research Institute in Blue Hill, Maine.

In New Zealand this work is carried out by the Ecological Design and Research Institute amidst growing interest in the Virbela Flowform principles as an efficient nature-friendly technology. New

Flowforms are designed in New Zealand and applications tested experimentally in research stations and also in situations on farms and market gardens.

The applications for Flowforms range from uses in agriculture and aquaculture to community and industrial effluent treatment, to drinking water preparation and various chemical and mixing processes. Some of these blending processes include: mixing liquids of varying viscosity; dispersing solids within liquids; dissolving gases within liquids.

Creative landscaping with Flowforms for private and public situations, including sites like schools, parks and building foyers, have brought a sense of enlivened well being through the sculpture and its humidifying rhythmic water phenomena combined with the release of negative ions into the surrounding atmosphere.

1.5. Science In Search Of Structure -- A Modern Synthesis Unfolds

1.5.1. Giorgio Piccardi *The Chemical Basis of Medical Climatology* Activated Water

Giorgio Piccardi was the director of Physical Chemistry at the University of Florence in Italy. It was quite possibly here that the term "water activation" was first used in a scientific setting. Studies conducted in the 1950's are the focus of Piccardi's only work to be translated into English (1962). This work is called, *The Chemical Basis of Medical Climatology*.

The beginning of this work spends much time outlining the basic structure of water and its thermodynamic properties and constants as was known in science at the time. "But beyond the easily-definable properties, water displays a quantity of other properties not so easily-defined and hardly predictable that evade all attempts at documentation or thorough study. Chemists and, to even lesser degree, physicists never consider the possibility that water could display such subtle and evasive properties. But biologist, hydrologists, hydrobiologists and balneologists are quite aware of the existence of these properties and know that they are highly important despite the difficulty of coming to grips with them."

Why is it that natural water drunk at a spring is more effective from a medical point of view than the same water bottled and aged? Why is natural water so different from a medical point of view in spite of the fact that the difference in chemical composition reveals nothing in particular? Today we are beginning to speak of changes in the biological properties of water due to the heating and subsequent cooling of the water, which does not return to its previous state from a biological standpoint, even if we replace the gases it had lost during the heating and return it to exactly the same conditions in which it was found previously. This is what is known as fervourisation of water (Vale Vouk); an operation that bestows different characteristics upon water in spite of the fact that nothing different has definitely taken place from a chemical or physical standpoint.

The existence of a structure so delicate and sensitive permits the assumption that appropriate actions are capable of modifying the structure itself in an infinite number of ways, and thus we may assume that water is sensitive to extremely delicate influences and is capable of adapting itself to the most varying circumstances to a degree attained by no other liquid. It may be that it is this infinity of possibilities that makes the existence of life possible. Perhaps it is even by means of water and the aqueous system that external forces are able to react on living organisms.

How did Piccardi come to these conclusions? When a chemical operation is performed and repeated several times, one will observe differences in the results obtained over a period. The variations in

the results are normally attributed to experimental errors; that is, to chance. But the variations may be due, at least in part, to external causes, to conditions which have not been controlled and which exist and fluctuate independently of our wishes and about which we are generally unaware. This variation is what he was testing for.

Piccardi started his chemical tests by placing a metal plate (specifically copper) over the specific selected system to be tested. This was the polymerization of acrylonitrile. It was found over 108 experiments over a period of three years that the copper plate significantly affected the statistical results by yielding a greater weight of polymer.

After proposing a solar hypothesis for the changes observed, Piccardi closes stating that "certain phenomena which take place in geophysical space and all of the phenomena which take place in solar space and astrophysical space act at a distance. No matter what the nature of far-off spatial phenomena, their action is exercised by means of radiation of an electromagnetic or corpuscular nature, or by means of variations in the general field, electrical, magnetic, electromagnetic or gravitational. All of this may today be listed as being distant actions."

1.5.2. Willard Water *Catalyst Altered Water*

Willard Water, also known as Catalyst Altered (CAW), was developed by Dr. John Wesley Willard, Professor Emeritus of Chemistry at the South Dakota School of Mines and Technology. CAW is best described as water in which the molecular structure has been altered by Fossilized Organics from Refined Lignite, or Soluble Refined Lignite. Dr. Willard theorizes that the lignite, which is high in carbon, trace minerals and various nutrients and amino acids, affects the micelles of the water. The micelles consist of sodium meta silicate, sulfated castor oil, calcium chloride and magnesium sulfate. By mixing these ingredients using a method he devised, Dr. Willard creates a colloidal suspension of these extremely tiny particles (a sort of alchemical brew).

A micelle is defined as "a particle in a colloidal dispersion consisting of a charged nucleus surrounded by ions." In water, micelles are the agents which allow molecules to form extended hydrogen bonds and thus create chains of water molecules. This differs sharply with the disorganized structure typically found in liquid water. Dr. Willard asserts that "Properties are determined by Structure, and Structure is deducible by Properties."

The effects of this altered structure can be seen in a number of the physical properties. There is a considerable increase in surface tension, as much as 10%. The surface tension is an indicator of the strength of the hydrogen bonds, or the attraction of one water molecule to another. Another, effect, less measurable than the change in surface tension, is the change in what Dr. Willard calls the Magneto-electrical properties.

The transmission of information through our nerves is conducted with micro-electrical impulses, in the range of 0.0000000001 to 0.00000000001 of an amp. The current the body uses for this must be drawn from free electrons available to the body. Because of its unique ability to surrender free electrons, or to gather them from the air or water and temporarily hold them, CAW is a superior anti-oxidant.

In the course of his investigations Dr. Willard unveiled applications of the catalysts that extended far beyond that of its original purpose as an industrial solvent. Seemingly miraculous results as a

topical or ingested medicinal prompted a 60 Minutes special on its ability as an effective treatment for burns (aired on November 23, 1980). Unfortunately medicinal, agricultural and veterinary uses are on hold until it receives FDA approval. It is currently being marketed by Dr. Willard as a cleanser and disinfectant.

1.5.3. Patrick and Gael Flanagan *Microcluster*® colloids

Pat and his wife Gael have been prominent researchers of water since at least the early 70's. Pat originally journeyed the world questing the renowned points of longevity and pure water. Year's of work gave him insights regarding the mechanism of the famous Hunza waters. Today he manufactures a seed water to add to drinking water.

In water, minute cluster colloids exhibit a property known as "hydrophobic hydration". This occurs as water molecules form cage-like structures around suspended particles. They resemble various polyhedra, the smallest being the dodecahedron. Interestingly, the tetrahedron, of which structure the single water molecule has, is a root shape of which all the other symmetrical solids can be unfolded out of. These cage structures contain the hydrophobic particles within, thereby ordering water so much that Gibbs Free Energy, $(\Delta)G$, is increased significantly. Free energy represents the amount of energy available in a system to do work. J. Willard Gibbs developed the formula for free energy, used extensively in Chemistry: $G = U - TS + pV$, where U represents internal energy of heat content, S is entropy, T is time, p is pressure and V is volume.

As long as TS is lower than U, we have "free energy" in a system. A system with low entropy is more organized. At maximum entropy we have chaos or random motion. Increasing the water's structural organization, while maintaining uniform temperature, augments free energy.

By adding *Microcluster*® colloids to water, hydrophobic hydration causes the water molecules to form geodesic dome-like water molecular cages around the *Microcluster*® particles. These cages are composed of liquid crystals that surround the particles. As a result of this process, the organization of the water molecules increase. Reduction in chaos results in a reduction of water volume and surface tension. Local ordering around the particles increases hydrogen bonding in the near vicinity of the *Microcluster*® particles, leading to a decrease in hydrogen bonding at a greater distance, which manifests as a reduction in surface tension.

In the process of homeopathy, the very process of making the remedies lead to the production of similar hydrophobic hydration "cages" around the remedy molecules. These molecules vibrate in their cages and probably produce holographic information patterns in water organization. These information patterns are read by cells and the information may then alter cellular processes by entropic changes. A few homeopathic manufacturers in Europe are now using the *Microcluster*® colloids as carriers in their medication.

1.5.4. Johann Grander *Implosion* Water Activation

After decades of research, Austrian inventor and naturalist Johann Grander, has succeeded in imprinting natural and vital electromagnetic energies into water. Johann is not a formally trained scientist. His approach to repairing water is based on his observation of nature. In his words, "water is sometimes called the 'earth's blood', and water in its natural state is energized by three types of magnetic energy."

Material Magnetism: This is the conventional north/south pole energy.

Gavitational Magnetism: This type of magnetism is commonly referred to as "gravity."

Planetary Magnetism: This is the highest degree of magnetism. It maintains the order of the universe and is responsible for all life in it."

If mankind perceived the Earth to be a living being it would not treat it in the manner it does. After decades of research and overcoming many major obstacles, I am very thankful to say it is now possible replace natural living energy back into water that has been damaged by industrial chemicals, electrical disturbances, satellites, high pressures and many other negative influences.

Our water revitalization process works under the principle of implosion. This process concentrates the natural energies and transmits them onto the piped water. The results are a healthy, energized and alive water.

The effective operating principal of the "Grander Water" system is the implosion of electromagnetic and subtle energy fields emanating from the device (which does not use magnets or require electricity) with those of the water that is to be treated. The interacting causes a restructuring of the physical and energetic properties of the water and is referred to as revitalization. It is like a tuning fork which causes one to resonate similar to the other when in close proximity. Water, which is subject to such an influence, undergoes a change in its structural composition.

There are some indicators that are suggesting a change in chemical structure as well, especially when time is factored into the regeneration process. Some of the changes seen thus far are outlined as followed:

- ∞ There is a reduction in surface tension of the water as a result of the tight molecular packing. Total amount of solids suspended by the water is increased. This prevents the build up of calcium deposits in many areas, and will remove scale deposits from the inside of pipes, water heater, heat exchanger, air conditioners, refrigeration units, dishwashers, cooling towers, boilers, sewage plants, steam plants, etc. This extends the life of machinery and parts considerably.
- ∞ We have reports of increased plant growth biomass, and a decrease in the germination time of seeds. Natural fertilizers effectiveness is increased, allowing a shift away from the need for chemical fertilizers.
- ∞ There is altered antibacterial behavior seen in the treated water. The significantly increased aerobic bacteria has a tremendous effect on biodegradability in septic tanks and grease traps. The "Grander Water" system provides an environment unsuitable for harmful bacteria such a E-Coli and Coliform.
- ∞ Revitalized water assists in the precipitation of chemical toxins and heavy metals from the body. It suspends these substances in the treated water such that they pass through the body. Regulation of self from not self is more effective.
- ∞ We see that the electromagnetic frequencies from chemical toxins and heavy metal that were present, although chemically removed through filtration, remain in the 'memory' of water as an electromagnetic oscillation.

1.5.5. The "Grander Water" process removes these negative oscillations.

It is well known that certain frequencies have a damaging effect on life, and that they are transferable. They are deconstructing in effect on the ordered semblance of natural waveform balance. It is this constructive harmonic nestedness of the electromagnetic landscape which is an aspect of living quality water, which is the water one would expect flowing out of an unpolluted spring (however, in today's state of affairs one would be hard pressed to find a pristine, completely unpolluted water source). A great benefit to all occurs when alive water is returned to the streams, rivers, lakes, and aquifers. The transference of this positive electromagnetic information acts as a catalyst to repair the damaged environment into which the enlivened water enters. The implications of this technology are far reaching and just now starting to unfold.

It is important to remember that these devices are not filters. There is nothing to replace. They do not require maintenance as they do not have any moving parts, nor do they require the addition of any chemicals or salts. Once the unit is installed it will function as described without maintenance. Prototypes have been in operation for over fourteen years without any sign of degradation in the quality of water that these devices produce or the effects that they generate, however exposure to x-rays will compensate the effectiveness of the devices. Many factories employing these devices are saving considerable amount of money on chemicals, cleaning labor time, energy, etc., as well as a host of qualitative benefits.

The Grander process has succeeded in improving the structure of water in such a way that the vital oscillations were increasingly absorbed from their natural environment, and released again, for which a patent was filed. The water to be treated is channeled (without coming into direct contact) along a concentrated fluid that has been treated with specific naturally occurring high frequency fields. This fluid serves as an organization template for the water structuring. Thus, the oscillatory composition of the water is harmonized and the water becomes more and more of a mediator for natural oscillation energy which life needs just as much as it needs sunshine. For this reason the inventor uses the expression "water activation" for this type of water treatment. The water structure modified by water activation is scientifically proven and reproducible (modified form of the minerals; reduced tendency of the treated water to calcify). Based on the excellent results of the new technology, the water activation devices bear the TÜV/GS mark of conformity (a European equivalent to UL).

The subject liquid/water to be treated is channeled in an optimized direction of flow along metal, hollow cylinders containing Grander's water concentrate (obtained from one of the world's largest fresh water underground aquifers high in the Austrian Alps, dated at 5000 years old, and enhanced by means of an electromagnetic process). As the subject water moves through the unit, the laminar (rectilinear) flow is divided into individual, turbulently moving partial streams which, with intensive intermixing, improves the mean retention of the bio-magnetic fields sourced by the water concentrate. As a result, an optimal interaction is achieved between the special fluid and the liquid to be treated. This process allows the "tuning fork" effect to occur (one vibrating tuning fork sharing its vibration when brought into proximity to a second tuning fork), changing the liquids specific set of waveform characteristics. The Grander Water acts as a template for relational and organizational structure. This arrangement is surrounded by a magnetic steel jacket whose magnetic field is conducive to the above mentioned interaction and thus contributes to a further increase in efficiency.

Electromagnetic energies, it has been proposed, are the building blocks of the atoms. It is the interchange of these fields which is only possible due to the existence of string relationships known

as the Fibonacci series. It is the only relationship of numbers that allows a recursive embedded, or fractal, possibility to exist. It is the only phased or nested possibility of both a multiplicative and additive structure that coheres simultaneously. The series has been found in the relationship of codons of DNA; the structures of plant growth; planetary movement; and the shape of shells, horns, etc. It is this relationship between electromagnetic waveform and pattern that appears to be the basis for the ordering of life. Even the correlation of numerical quantities associated with the electrons in their orbital shells share this common thread.

Polluted water acts as a carrier of damaging frequencies (e.g. the signature waveform of lead or exposure to radiation). Our bodies spend enormous amounts of energy compensating for the presence of polluted water's discordant harmonics. The Grander Water System works on these energetic and structural levels, conserving the body's energy that would have been spent assimilating municipal water's disorganized structure into the body's cellular water's super-orderly structure.

The approach to the discovery of this technology came about through the critical observance of forces in nature. Much study has centered its focus on centrifugal forces and a fractionating science to move and change matter. The centripetal, implosive forces of nature are just now beginning to be understood.

We know, via quantum physics, that matter is composed of energy. The most recent work of respected theorists points to a holographic model in which chaos is seen as an illusion, for there is unseen order that underlies the way in which the building blocks of atoms are arranged. This order is seen manifest as the circular spiraling motions of the whirlpools in the seemingly overwhelming chaos of river turbulence. Foundations of these theories visualize the construct of matter through the nesting of waveforms (energy). Electromagnetic energies are explained and understood through the concepts of the waveform. The electromagnetic vibrations are the cause of the formation of an electromagnetic field with a defined frequency, phase and direction. Waveforms can be a seeming infinite number of sizes and periods called wavelengths.

Water emits oscillations that are measurable from zero through Megahertz. This frequency spectrum is also a physical copy of the geometrical structure of water, and changes itself in a characteristic manner over a period of several life processes. One can spectroscopically read the life processes of water. Thus differs the photon (light quantum) spectrum of poisoned water very clearly from the spectrum of living quality water.

The resonance properties of water change as soon as it comes in contact with heavy metals such as lead, cadmium, etc. Everything that water comes in contact with is remembered through the storing of these frequencies, which seem to be transferred to the water upon contact. Even after double distillation, the information left by pollutants, being the transferable electromagnetic vibrations, can be detected in the water molecules through photon spectral analysis.

The Grander Water systems work to alter and wipe out this nefarious information while introducing a vibratory spectrum that synchronizes with the frequencies found in nature. The understanding of sinusoidal mathematics and the ability of waves to nest or form harmonics seems paramount to a complete understanding of this. A standing waveform nesting with another wave is said to be in phase. The points of interaction are known as nodes. This can be seen in water, which is the closest manifestation of waveform in the world of matter. The share, or phase, is called crystalline-liquid,

since it possesses a very high relationship to the crystal formation process. Whereas the energetic bonds in the normal-liquid non-orderly state are very weak, the intermolecular forces in the crystalline-liquid part have considerable energies. They lead to combination of several hundred water molecules.

These intermolecular bonds are called the hydrogen bonds (or bridges). They occur in extremely polar molecules such as water. The combination of several such bonds result in an infinite great number of possible shapes of the crystalline-liquid phase of water, rightly called a very complex lattice system. This lattice system has as many vibrations as a harp and produces a great number of its own frequencies. It is the varying way in which water relates or bonds to itself that creates water's pleomorphic nature.

Grander appliances change the macromolecular structure of water resulting in a reduction of hydrogen bridge points. The smaller molecular clusters, instead of being held together in arbitrarily larger clusters, are now available for use and further organization by living systems. The water trimer, composed of three water monomers, is such an example. The intermolecular vibrations produce an exact oblate symmetric rotor pattern (toroid) in the spectrum as a result of a "flipping", the rotating of one water monomer about its donated hydrogen bond. When this flipping operation is repeated 6 times in succession, the principal axis of inertia complete a full 360° rotation. This happens as each water acts as donor and receptor in a synchronous balance. It has been shown that renowned spring waters have smaller clustering than tap water.

It is water's ability to differentiate (or sort) itself from not self that permeates all living systems ability to maintain a balanced, stable state. Some recent theories would have this unfolding out of a state termed the implicate order. It has been demonstrated that this ability in water is enhanced after revitalization. It is the loss of this ability that is seen as a possible result from the problems associated with pollution. A condition that essentially leads to the confusion of what is self and what is not. A doorway is opened to the eventual corruption of a living system. This effect in water could be possible because of the alteration of the water's resonance (permanent coefficient of Spin Spin coupling integration). It has been shown that when these resonances are in proper balance, possibly enhanced states, that creative processes such as the germination of a seed occur at an increased rate with a more highly developed crystalline structure.

The effects of "Grander Water" exposure have been shown to promote better general health and well being, or even a disappearance of symptoms. The body is 2/3 water. The brain consists of 80% water. This suggests that water plays a possible larger role in the function of living systems, and is reflected in recent writings considering water the platform and director of a natural energy sphere. The ability of a cell to maintain structure is possible only when the water composing the cell parts consist of a certain relationship of frequencies that allow the cell wall to maintain a relatively static nature. It is this folded, interlaced quality that some researchers believe is paramount in the functioning of memory. Linguistics shows us that the ancient root for the word for water is 'Mem', furthermore hinting at such a correlation.

The Grander Water is making inroads in the expanding research of electromagnetism related to health and well being. The body's bioelectric balance can now be measured with the aid of a computer, specific hardware and software. Sending a defined waveform through a defined electrical meridian, the signal is analyzed and then related graphically to an optimum balance. When the Grander Water is brought into close proximity of a subject, the test results show significant, if not

complete tendencies of the bioelectric reading, to be of a balanced state. These confirmations are opening up new avenues of exploration into the mind, body, energy, and matter equation.

Picture not available "The results of the lab work of Horst Felsch. The General Form is exhibited here."

A filtration process is used to filter bacteria by pore opening size. In an attempt to make the filtration method more effective, the bacteria culture was placed in Grander-Wasser-Konzentrat. The symmetrical distribution of growth was unexpected. The rising sun of the east would have been at the top. It demonstrates that the intermolecular forces of water are influenced by energy fields, such as the earth's magnetic alignment and the gravitational field associated with planetary rotation. The Grander Water created an environment where the molecules grew in a higher energy state of order.

Not far away from the home of Johann Grander (near Kitzb in the Tirol region of Austria), lives one of his old associates and colleagues, Wolfgang Pöhler. It is in Dörrebach, near the Bodensee in southern Germany, where Mr. Pöhler carries on his research of a similar nature.

1.5.6. Wolfgang Pöhler *Aquamedicus*

Whereas Grander stores and delivers his information or field effect through the medium of water, Pöhler uses the mineral kingdom (minerals, royal stones and colors) as the delivering mechanism. The storage medium is described as 'Regenerationsfläche'. Water flows through the a device containing the 'Regenerationsfläche' and is effected as it passes by. Mr. Pöhler will not comment much on how this medium is created, but refers one to the scientific trials that have been completed on the effect of the process. Both Wolfgang Ludwig and Fritz Popp have done clinical analysis on the effects of Pöhler's devices. The conclusions of both scientists found that his devices had effected the water in a positive manner.

Ludwig used Perkin-Elmer UV/VIS/NIR Spectroscopy to analyze the effect of Pöhler's ater Regenerator. He found that the treated water behaved more like spring water. Ludwig has found that certain frequencies of ultra violet light tend to be absorbed in water of low quality, and not in higher quality waters such as healthy spring water. Some frequencies tested were from 240 to 320 (nm). The treated water tended toward the same result as healthy water—not absorbing these specific frequencies with the same magnitude.

1.6. More Modern Methods To Treat Water

1.6.1. Electrolysis *Ange* Microwater

Electrical currents run through the water to polarize the water into oxidizing/acid and anti-oxidant/alkaline elements at the flip of a switch. The acid water (from a home unit) has a Redox potential of +700 to +800 mV with a pH value of 4.5. It contains a shortage of electrons, giving it the ability to oxidize or sterilize. Because it increases the concentration of Hydrogen ions (H⁺) it is ideally suited for medical uses as a sterilizing agent or disinfectant.

Oxygen-reduction or Alkaline Micro-water has an oxygen-reduction potential of -250 to -350 mV and contains a mass of electrons that can be donated to free-radicals. Due to reduced water cluster size, the permeability of this water results in increased absorbency. Alkaline water can inhibit excessive fermentation in the digestive tract by indirectly reducing hydrogen sulfides ammonia, histamines, indoles, and phenols. Industrial units reduce water's transient pH to 2.7.

Microwater is being used extensively in Japan's medical facilities for the sterilization of surgical equipment and wounds, making such chemicals as chlorine redundant and no longer in use. For the same reasons it has been adopted in the food service industry for the sterilization of kitchen utensils and the cleaning of seafoods and meats.

Used in agriculture, the oxidizing water is sprayed on foliage to prevent mold and other growth from destroying the plant. Money is being saved through the reduction of pesticides and herbicides. Golf courses which use approximately 2 tons of chemicals per 18 holes per years have reduced 80%.

1.6.2. Electrolysis *Alkalizer*

The Alkalizer is another device to change water's pH and Redox potential. Like the Ange, it is imported from Japan. It is designed purely as a home use unit. It performs batch processes instead of accommodating a continual flow of water through the unit. Quantity of water is sacrificed for a stronger pH change in the water. The Alkalizer boasts creating an acid, oxidizing water of pH 2.1 in one hour and a alkaline, anti-oxidant water of strength 10.1 in one half hour.

1.6.3. E-water

Another European inventor, Wilfred Hacheney, treats water with vortexian motion, using a process that changes the directional flow of the water and simultaneously subjecting it to extremely high acceleration. The result is an energized water or E-water that retains energy in the form of micro-vortices.

Some Applications:

- ∞ Agriculture: greater biomass in crop growth, longer shelf life of packaged produce and other food products, crop resistance to disease and pests
- ∞ Construction: increases bonding capacity of cement, increases resistance in compression and bending of the concrete, increases resistance to temperature variations.
- ∞ Industry: reduction and removal of calcification.

1.7. THE EMPEROR'S NEW DETERGENT LAUNDRY BALLS ETC. More to come...

1.7.1. Water Conditioning *Care Free Aqualine Catalytic Conditioning*

Many of the same results found from Grander's and Pöhler's flow through units are claimed by the Aqualine creators (known as Care Free and manufactured for TradeNet Marketing Inc. of Clearwater, Florida). The device comes in flow through sizes ranging from 1/4" to 8". It is a one piece, self contained electromechanical catalytic water conditioner consisting of a brass casing that contains a non-ferrous core. This core is a special bronze alloy casting that contains curved, multiple venturi passageways. The non-ferrous alloy is composed of 15 different precious and semi precious metals. Its venturi core scrubs the water as rocks scrub water in a mountain stream.

The devices are equipped with a earth ground attachment. When water flows through the unit at a nominal rate (varies for different size units), a 300 to 400 millivolts potential is created, thereby providing free electrons for the water through the existence of the ground.

The Aqualine effect repels and removes adhesive compounds, such as alumina and silica, from the minerals in the water. With the cohesion eliminated between the mineral particles they go into solution and remain there even at higher temperatures. Corrosive gaseous ions, such as chlorine (Cl⁻), are gathered together into stable harmless, non-corrosive, non-foaming bubbles (C12) that release themselves from the water as the water comes out of the faucet. In the ionic form, chlorine stays in solution and cannot easily release itself from the water and escape into the atmosphere.

1.7.2. Pi Water

Pi water was discovered through 30 years of analytical research of bio-systems by Dr. Yamashita of Nagoya University. This system employs multiple unique layers of filtration combined with magnetism. During the process a minute amount (2×10^{-12} mol) of a substance called Ferrosiferrous Iron is dissolved in the water which is claimed to play a role in the electromagnetic balancing of water. The cluster chains of the H₂O's are also said to be reduced. Its filtration includes activated carbon, coral sand, natural active calcium, BCS ceramics. A powerful magnet is also used. Many amazing claims are made about the water, including its ability to sustain both freshwater and saltwater fish together. Its introduction into this country is so new that still very little is known about it. The writers of this paper have yet no personal experience with Pi water, but are actively pursuing leads.

1.7.3. Living Water Machine *Wonder Water* John Ellis

John Ellis created a device that distills and condenses water in small amounts, relatively quickly. The distillation/condensation process occurs 100's of times per gallon of water produced. The water is cycled with oxygen 400 times per gallon. It takes 1500 Watts of power to operate. It has two settings for strength. The strongest output is about 1/2 gallon in an hour, or by means of a simple adjustment the output will be 24 gallons in an hour. The device claims to be a most amazing degassification unit, while increasing the available oxygen in the water. Crops are said to double.

1.7.4. Dr. Lee Lorenzen *Nanocluster Resonant Water*

Dr. Lorenzen has discovered a process which locks water into symmetrical cluster rings. This has a direct impact on the efficiency of cellular absorption of water, and to optimize coherent cellular communication. This water is taken as a water supplement in ones diet.

Dr. Lorenzen's publicly released and copyrighted (1995) work on water is excellent in its research and depth of modern scientific reference material. An array of information from varied universities is presented including Stanford University, Moscow Institute of Science, University of Toronto... etc.

The presence of water clusters is well documented. He notes that one of the first modern researchers to document the powerful physical activity of organized water was Dr. Julia Goodfellow with the Department of Chrystallography at Birbeck college, London, England. Ling's theory of structured water is presented as the most prominent scientific work which stresses the importance of structured water in cellular systems. We see enzymes described to function as "field-effect electronic/protonic elements in the execution of chemical reactions", as Coherent Transmission Theory is explained. More testimony is given to confirm that water has a "memory", such as the studies done by Dr. C.W. Smith of the Department of Electrical Engineering at the University of Salford in England. Dr. Valerie Hunt's study at UCLA of the human energy field being a result of cellular resonant energy release is discussed. Furthermore with cellular resonance, it is documented that the absorption spectra for DNA is 42 octaves above the C tone (C=256 Hz), with all living processes functioning at 42 octaves above the C=64 and the F above C=512.

In the water seed concentrate products called Aqua-Resonance, 16 different formulations of nanocluster resonant water are created which have crystalline hexagonal, pentagonal, or septagonal water rings. By introducing water with a cellular structure already imbedded in it, cellular absorption of the water is enhanced.

1.7.5. Dr. Karl Maret *The Bio-Com Process*

Dr. Maret is involved with a multi-process approach to revitalize water with a company Bio-Com Inc. of Edmond, OK. This includes processes which increase the pH, use of a Flowform, addition of trace minerals, an electromagnetic process, and the geometrical combining of oxygen and silica.

An insight that is emerging in the biological water sciences is that the real intelligence of the cell resides not in the genetic information the nucleus, which simply acts as the hard-wired programming template for a wide variety of possible cellular activities, but in the complex network of unique receptor protein embedded in the cell membranes. These specialized proteins are responsive to a host of environmental influences including chemicals, light, sound and other electromagnetic energy such as radio waves or microwaves, and often at a quantum physical level of sensitivity. It is the way in which biologically structured water interacts with the cellular membrane and the cells' complex protein receptor and effector molecules with which cellular communication occurs.

With a system of such sensitivity, specificity and adaptability, we are now beginning to respect the importance that water plays in our bodies to create health through its interaction with our cellular membrane receptor proteins and subsequently our very DNA. The process is not simply chemical, but equally important, is biophysical and at a quantum level of sensitivity. It is therefore not only important how clean our water is from the chemical perspective, but how "clean" it is from a

physical energetic perspective. In other words, that it has a degree of right information" or coherence that is supportive of life processes.

The Bio-Com process creates a condensed seed water which is added to ones own drinking water. An summary of the process to create this water is as follows. Trace minerals are added to distilled water. The pH of the water is brought to about 8. This simultaneously raises the zeta potential within the water. Zeta potential is the physical property exhibited by any colloidal particle that is held in a state of suspension or emulsion due to its surface charge being in contact with the water or liquid medium.

The next step injects 99.99% pure conditioned oxygen into the water. For lack of a better term, this "coherent oxygen" or "electrically-conditioned oxygen" is added to the vortexially spinning water. This entire process opens up the water through the dissolved oxygen to the subsequent magnetic effects and electromagnetic conditioning carried out in the next phase of water processing.

This water is then exposed to special crystals which are vibrating through as a result of application of specific radio frequencies (depending on the effect desired). Oxygen aligns in a tetrahedral arrangement with Silica. This spatial arrangement, which is shared within water, may be responsible for the ability of water to be conditioned by quartz crystal energies. To stabilize these resonant energetic conditions within the water, small amounts of sodium, potassium, magnesium and silica are added to the water.

The final stages of the Bio-Com process involve a proprietary magnetic stabilization process wherein the water flows through specially designed magnetic energy devices affectionately nicknamed "Big Bertha". The process is to treat water such as would happen as water flows through different strata of the earth's tectonic plates whiled being acted upon by the earth's magnetic field. This process takes between 12 and 48 hours.

1.7.6. Dr. Karl Maret *Gabor Technology*

Gabor technology is summed up as a high-speed spin nebulization and recondensation process for liquid media. It was developed by the German engineer/inventor Dieter Gabor over the last 10 years with patents being granted in the last two years (as of December 1994).

The method consists of the specialized application of centrifugal forces existing in a manifold within a rapidly rotating flywheel to draw water from a reservoir and bring it into a gaseous form with subsequent recondensation. Specifically, fluid is sucked into a rotation nozzle attached to a uniquely constructed flywheel and is then sprayed centrifugally outwards in a nebulized form into a fog or recondensation chamber of special construction. The recondensed fluid medium is led back to a larger holding chamber to be recirculated through the apparatus.

After a 30 minute treatment at speeds exceeding 25,000 rpm the fluid achieves a new state characterized by unusual physical, chemical and biological properties. Notable among these is high oxygen saturation, extremely low carbon dioxide solubility, and suppressed microbial growth. The activated water appears to significantly affect colloidal systems leading to the promise of the creation of unique chemical combinations which may be useful in irreversibly binding environmental pollutants. Stimulation of the colloidal equilibrium within living systems has led to

many anecdotal reports of well-being in plants, animals and humans who consumed or were treated with this water.

1.7.7. Corresponding Research

Dr. Fritz Albert Popp of Germany has shown that our cells transmit DNA codes by the emission of ultra-violet laser light. He has shown that the mechanism of light transmission is by means of structured water molecules. These act as 'light pipes' for the signals.

Two Germans, Erwin Neher and Bert Sakmann, just received the Nobel Prize for their pioneering research in basic cell functioning. The scientist discovered how tunnel-like structures called ion channels regulate the passage in and out of cells of positively or negatively charged particles (ions).

Dr. Wolfgang Ludwig of Germany is now recognized as one of the leading researchers of the effects of energy fields on the spectral capacity of water. Ludwig states that "during the last few years, research on a scientific level has started on the interaction between water and living organisms, and more specifically the electromagnetic oscillations. What very few people know is the following fact: polluted water as we find it presently in our wells is contaminated with lead, cadmium, nitrates and many other harmful substances. Although the water treatment plants chemically remove these substances and bacteria, the treated water gives off electromagnetic frequencies, vibrations of particular wavelengths which, upon close examinations, correspond with those of the removed harmful substances. The water, even after its treatment, therefore retains certain signals, which, depending on their wavelengths, can be beneficial or damaging to our health."

Using spectroscopy, Ludwig has found that the activation process on water increases the amount of light absorbed and sustained in the water. This research has also shown the power of fields to do just the opposite. Sitting a glass of water next to a strong electromagnetic source can scramble water and its ability to absorb light.

Research by Nobel Prize receiver A.Gyorgyi has established that such oscillation play an important role in the composition of cells; super orderly water is essential to cell metabolism.

Dr. Ivan Cameron of the University of Texas Health Science Center in San Antonio has described four cell water types:

1. **Bulk water** -- water so distant from the solute surface that its molecular motion is determined only by the interaction characteristics of the water molecules themselves;
2. **Bound water** -- water molecules which are either hydrogen bonded to fixed polar sites (electric dipole) or to ionic charge sites.
3. **Structured water** -- water molecules that are motionally perturbed from that of bulk water; and
4. **Hydration water** -- all water molecules for which motion is perturbed from that of bulk water (hydration water is the sum of bound and structured water).

T.A. Gagnon and G. Rein, Ph.D. have been exposing water to non-Hertzian wave envelopes. Using a model developed by Gagnon, they chose frequencies to emulate the information lattice of Aconite and also of Interleukin-2. These were chosen for they are known to be necessary for the

maintenance of lymphocytes in tissue culture. After exposing a medium of water to both an inhibiting and stimulating non-Hertzian wave envelope for 24 hours, the water was added to the lymphocyte cultures. Either stimulation or inhibition of growth was controlled by the restructured water, with the largest change being a stimulation of growth of 87%.

1.8. The Past Becomes The Future

As the structure of the molecule of water becomes more of a focus of scientific endeavor, so do we see the knowledge of antiquity entering a new light of interest and curiosity. More specifically, there appears to be underlying geometrical relationships that the most high tech wizardry is discovering which was a knowledge that existed in prehistory.

Water itself has a tetrahedral structure, meaning that the electron orbitals within the water molecule point into four roughly equally-spaced directions in space, thus defining a three-sided pyramid called a tetrahedron. Water can also develop macro-structures with each other (via hydrogen bonds) to create larger tetrahedral arrangements.

It was Pythagoras who played a large role in bringing the knowledge of the tetrahedron to conscious memory. He taught that geometry, music, and astronomy were essential to a rational understanding of God. The tetrahedron is the root symmetrical symbol. The other four can be mathematically unfolded and created from this form. This is the infinitely recursive relationship of the line.

More recently we have rediscovered a relationship known as the "flower of life", or the "seed of life." It is said that all form unfolds out of this relationship. The seed of life is created by drawing six circles evenly distributed about a center root circle, with the outer six meeting at the center point of the root circle. This is the infinitely recursive relationship of the circle.

Interestingly enough, two of the above mentioned technologies use this form as a model for how they structure their water. One forms a hexagonal ring of H₂O's, while the other uses a tetrahedral alignment of silica with oxygen to form a larger hexagonal relationship.

The golden mean relationship (a specialized form of the Fibonacci relationship based around 1.6128) is the only relationship that mathematically nests through both multiplication and addition. This relationship has been found encoded into ancient monoliths and as the sacred spiral. Recently it has been proposed that the seven layers of the heart muscle (there are seven lines capable of being drawn through the tetrahedron where the shape can rotate around the line in a symmetrical fashion) fire off in a cascading golden mean relationship always and only when a person describes themselves experiencing a state of love (versus anger, hate or joy). The golden mean spiral also nests mathematically inside a tetrahedron.

Here we see the physical structures of the world carrying the same set of relationships which have to occur in wave theory of energy to create form. A sort of sinusoidal mathematics laid on top of tetrahedral geometry.

This is where the past meets the future. This is today. This is the satori where the rational illusion of a fixed three dimensional space and of an unwavering linear time become no more. This is the infinite mystery of which water is the greatest metaphor.

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2. MESSAGES FROM WATER

2.1. Visual evidence of the power of prayer, gratitude and appreciation

Articles from Dr. Joseph Mercola's online newsletter "eHealthy News You Can Use" # 322, 2002
May 8 <http://www.mercola.com/2002/may/8/index.htm>

Articles compiled from 3 Web sites:

God's Direct Contact: <http://www.godsdirectcontact.org/eng/news/131/ss2.htm>

Co Creach Resources: http://www.cocreah.com/messages_from_water%20article.htm

The Spirit of Maat: <http://www.spiritofmaat.com/archive/nov1/cwater.htm>



Dr. Masaru
Emoto

Dr. Masaru Emoto, [website for Thank Water <http://www.thank-water.net/english/main.htm>] a visionary researcher from Japan received certification from the Open International University as a Doctor of Alternative Medicine. Subsequently he was introduced to the concept of micro cluster water in the US and Magnetic Resonance Analysis technology. The quest thus began to discover the mystery of water.

Continuing in this stream of awareness, Dr Emoto began to study the impact of altering water by various factors of vibration and consciousness. He studied water that had been altered by music - healing music, classical music, heavy metal music - and so forth.

And the crystalline pictures reveal how water responds to these influences ... into complex arrangements of crystalline beauty. This begins to reveal that water is alive - it is conscious and responds to applied force by a rearrangement of its inner crystalline properties.

Inspired by these revelations, he decided to study the impact of human consciousness on water and its crystalline order.

Through repeatable experiments Dr. Emoto demonstrated that human thoughts and emotions can alter the molecular structure of water. Now, for the first time, there is physical evidence that the power of our thoughts can change the world within and around us.

He found that water that had been consciously altered by the simple imprinting of a word of intent upon the water would change. Water that was imprinted by love, gratitude, and appreciation, responded by the development of complex beauty, and water that was mistreated by negative intentions became disordered and lost its magnificent patterning. In fact, it often took on grotesque forms of resonance.



He experimented first with water from a pure source in Japan. The picture revealed a beautiful crystalline form. (Photo 1) He then did the same thing with water from a nearby polluted river. The result was a muddy, smeared pattern with very little structure. (Photo 2) He then asked a priest from a temple to offer a prayer to the polluted water sample and repeated the experiment out of curiosity. To his surprise, another beautiful crystalline structure appeared. (Photo 3)

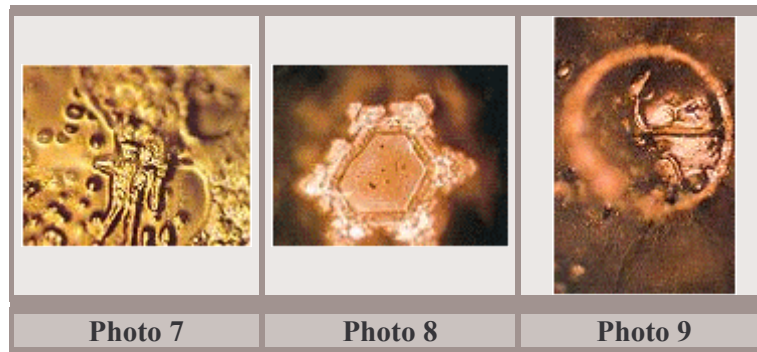


This experiment was repeated many times over with the same result. The researcher then exposed water samples to different types of music. Classical music always reflected beautiful patterns, (photo 4) whereas heavy metal or rock and roll created distorted, formless, smudged images, (photo 5) as if these types of music had destroyed the delicate equilibrium of the molecules.

He continued experimenting, this time by writing words on pieces of paper and taping them to a clear glass container to see if anything happened.

He tried using positive words like "Love" and "Thank you" (photo 6) and every time noticed a beautiful and delicate crystalline pattern. He tried "You Make Me Sick. I Will Kill You" (photo 7) and each time observed distorted, frightening, muddied patterns. He even experimented with names

like "Gandhi" "Mother Teresa" (photo 8) and "Hitler" (photo 9) and the same kind of results occurred.



After much experimentation, Dr. Emoto discovered that the most powerful combination of thoughts in terms of capacity to transform was that of "Love and Gratitude." (Photo 10)

What makes this discovery so amazing is that we live on a planet covered by more water than landmass, and that the human body is largely composed of water. So if we have the power to change the structure of the medium we are made of by simply producing positive thought patterns, we can restore not only our own health but that of everyone around us, and even the planet itself, with our every thought.



Think about what giving thanks and praying before a meal can do to your health. I used to believe that it was a good way to stop the mental business of the day and put myself into a more receptive space. Now I know that even the food I am about to eat will also be transformed.

2.2. Finally, Physical Proof that Distilled Water is Inferior

Dr. Masaru Emoto, a visionary researcher from Japan received certification from the Open International University as a Doctor of Alternative Medicine. Subsequently he was introduced to the concept of micro cluster water in the US and Magnetic Resonance Analysis technology. The quest thus began to discover the mystery of water.

He undertook extensive research of water around the planet not so much as a scientific researcher but more from the perspective of an original thinker. At length he realized that it was in the frozen crystal form that water showed us its true nature.



Distilled Water



Water from a pure source

Dr Emoto began by studying the crystallization process of water. It all started in 1994 when he took samples of water from various sources, froze a few droplets, examined them under a dark field microscope and photographed them. He photographed the crystal formations produced by water as it passes from liquid into freezing state.

It is like taking a snapshot of the water at that moment in time. He quickly realized that the crystals that formed from water depended highly on the natural health of the water. In other words, water from natural springs, healing water sources etc, formed beautiful and complex crystalline geometries - like snowflakes.

Water that had been distilled, polluted or passed through consumption had lost its inner order. This leads to the realization that natural healthy water carries an 'inner order' defining its nature and properties.

Dr. Mercola's Comment:

In April I attended the SkaSys lecture by Dr. Hans Lechner. This amazing technology allows one to successfully harness consciousness as a diagnostic and therapeutic tool.

Dr. Lechner shared detailed of his recent meeting with Dr. Emoto and it became clear that this technology could clearly demonstrate the danger of distilled water at a clear and easily seen level.

Although it is controversial I am firmly convinced that distilled water is harmful to your health.

One of the major foundational reasons is that distilled water is highly acidic. Most of us are far too acidic already and the last thing we need to be drinking is a fluid that will make us even more acidic.

Distilled water is alleged to be beneficial due to its lack of contaminants. Well, many of the devices that distill water are made of metal and will actually add certain toxic metals like nickel back to the water, which actually worsens health.

Since distilled water is like a vacuum without any minerals, it will actually leach beneficial minerals from your body to balance it out. While this maybe beneficial for a short period during some sort of detoxification regimen, this is usually highly counter productive in the long run.

Then there is the physics of the water. Water is structured and when it is distilled the structure becomes profoundly disturbed as you can see by the pictures above.

It is possible to restructure the water by putting it in a clear glass container, adding a few minerals and leaving it out in the sunshine for a day. This will help to restore the normal beneficial structure that water should have to promote health.

I believe it was the Asians who popularized the saying that one picture is worth a thousand words, so please enjoy the pictures which will help you appreciate the difference between natural spring water and distilled water.

3. Chapter 8 :THE ELIXIR OF LIFE (pp. 86-103)

From Begich, N. (1996) Towards a New Alchemy: The Millennium Science; Earthpulse Press, PO Box Anchorage, AK, 99520, and Flanagan Technologies, 1109 S. Plaza Way. Suite 399, Flagstaff, AZ 86001

3.1. Introduction

Most people think that water is the same everywhere. Not so, say Patrick and Gael Crystal Flanagan. There are significant differences in water throughout the world beyond just the factors which most of us think about - taste, appearance and hardness (mineral content).

The flow of moisture through the world is as important as the flow of blood through the human body. Blood consists of 92% water. The right kind of water is critical to optimum blood flow through the body. It is through the blood circulatory system that toxins are removed and important nutrients delivered to the various parts of our bodies.

Blood carries nutrients to the very fine vessels called capillaries. These in turn release the nutrients into a water-based fluid between the cells called lymph. This fluid surrounds and bathes each cell of our body and keeps each cell from coming into direct contact with others. The capillaries drop oxygen and food into the lymph where it can then be transferred to the cells of our bodies for use. The lymph system requires the right kind of water for it to achieve a maximum level of efficiency.

Dr. Roy Walford of UCLA suggests that our bodies should last 120 years. It has also been suggested that many of the symptoms of the aging process may be due to accumulations of toxins and free-radicals in the cells of the body. These toxins are created by combinations of the food we eat, liquids we drink and air we breathe. The overload of toxins we take into our bodies keeps us from being able to absorb the levels of nutrients we truly need. If the blood we use to transport toxins and nutrients is polluted and thickened, it does not follow as required for optimum health. Research shows that most people have extremely polluted blood streams.

Pure water has a structure which resembles the water found in vegetables and fruits. When the Flanagans observed the juices of freshly picked fruits under high power microscopes, they found "somatids," thought to be life-energy mediators. "Crystal Energy®" water is uniquely structured to mirror the structure of the water in fruits and vegetables.

3.2. The Search For The Ultimate Water

The story of how the Flanagans discovered Crystal Energy® several years ago when Patrick was still working for the Huyck Research Laboratories in Connecticut. There he met Dr. Henri Coanda (1885-1972) the father of fluid dynamics. In the 1920's a Rumanian scientist, Dr. Coanda, discovered that water tends to cling to any surface. This discovery was considered so significant by physicists that they called it the "Coanda Effect".

Dr. Coanda was always intrigued by the stories from various parts of the world where people were known to live for extraordinary life spans. He had always thought that it might be connected to the water that they drank. In the early 1930's he journeyed to Hunza, in the Karakorum Mountains just north of Pakistan, where he was told that the secret to the people's longevity was indeed related to the water that they drank. In Hunza people maintain their vitality beyond 100 years.

He was convinced that the structure of the water held the key to its uniqueness. He began considering the molecular structure of the water and measuring samples against ordinary water samples. He studied the crystalline form of water by observing snowflakes manufactured in his laboratory. He found that in the center of each snowflake a small network of tubes of water circulated like blood in the veins of humans or like sap in plants. It was as if the water were alive!

Dr. Coanda observed that when the flow of water slowed and solidified the life of the snowflake ended. It was also observed that when people drank the water which was "alive" it seemed to add life to them. Dr. Coanda continued his research, including analysis of water from several locations where human life spans were extraordinarily long. The same characteristics were observed in the water from these other locations.

Dr. Coanda returned to his native country to become the president of the Rumanian Academy of Sciences. Just prior to leaving he passed on his 60 years of accumulated research to his young colleague and collaborator at Huyck Laboratories, Patrick Flanagan. Coanda told Patrick, "I think you are the only one I know who can eventually come up with a system to make Hunza water available anywhere in the world." [Secrets of the Soil: Vortex of Life, by Peter Tompkins & Christopher Bird, 1989, Pages 99 -115]

3.3. Creating the Ultimate Water

Patrick read everything he could find on water only to conclude that it was one of the world's most mysterious substances. Over the last 15 years Patrick and his wife Gael have focused their research into water's unique properties collecting water samples from around the United States.

Water has a number of unusual attributes. It is considered a universal solvent. It has 36 distinct isotopes, each possessing different properties. It is capable of dissolving any element, even gold. It grows lighter rather than heavier when it freezes. It also has surface tension, a force that causes it to stick to itself, forming a sphere, the shape with the least surface tension and requiring the minimum amount of energy to maintain its shape. The potential strength of water is significant. If all of the gas bubbles in water were removed a column one inch thick would have the strength of steel.

Water is composed of liquid crystals surrounded by large numbers of chaotically random molecules. It has been theorized that water, even when boiling, contains some crystalline forms which maintain their shape and structure even though the rest of the water is vibrating vigorously at random. As water cools it forms increasing numbers of crystal forms until the entire mass of ice is virtually all crystalline.

When animals, plants and humans drink water they structure the water to form crystals with a smaller number of unorganized molecules. This happens as a result of tiny high-energy particles being suspended in the water. These particles are referred to as colloids and are so small that even powerful microscopes miss them. These small particles act as "energy seeds" which carry a charge

causing free molecules of water to become attracted to them thus forming the nuclei of liquid crystals. In order to take this form the colloids must maintain a high electric charge which is possible because of the organic coating they gain in the living system.

Another observation which Flanagan made was that certain crystalline minerals reduce surface tension merely by making contact with these mineral crystals. The reduced surface tension means that the water is "wetter" and more readily absorbed. The observation led to more questions. Where did these mineral crystals gather the energy to change the surface tension of water?

Flanagan found that the surface tension of ordinary tap water was 73 dynes per centimeter while the Hunza water's surface tension was 68 dynes. The Hunza water also maintained a negative net electrical charge which means the rotation of the molecule was to the left rather than the right. The negative charge is one of the key factors in the healthful effects of the water. The negative charge is an important attribute of the water which causes it to bond with positively charged molecules.

The cloudy Hunza water contained virtually every known mineral element including a high concentration of silver. These elements were all in the super-microscopic colloidal form. The water did not contain mineral salts. These tiny particles, the colloids, do not dissolve but remain negatively charged and suspended in the solution as self repelling particles. They are self repelling because the charges are the same and, like the negative poles of two bar magnets, they push away from one another.

The glaciers of Hunza land with their tremendous weight against the surrounding rock formations grind the rock into super-fine powder. This glacial silt is caught up with the melting outflowing water and tumble down the sides of the mountains. The water becomes murky with these suspended solids and even after the movement stops the colloidal minerals remain in the water. These colloidal minerals are coated with some kind of organic substance which he believed came from some ancient strata that the glaciers had also cut through.

In his laboratory, the search for the means to create these same properties in water was attempted. However, he was not able to replicate the characteristics in these early experiments.

Flanagan contemplated the nature of the water and what was happening with it as it flowed down the mountains. He realized that the motion the water experienced might be contributing to the effect. As water travels it flows at different rates of speed causing small spirals or vortices to form. These flows cause an electric current to be generated. This observation made it possible to duplicate this important property in the water.

The water vortices shrink in diameter and extend in length and then contract and enlarge in diameter. The Oscillation continues periodically and rhythmically. The curvature of these vortices mirror a universal matrix observed by other researchers. T.J.J. See, a professor of mathematics, showed that the entire universe revolved around a geometric figure known as a rectangular hyperbola which is the same as a water vortex. This discovery of the basic curve apply to many phenomena according to See, including the laws of magnetism, gravity, planetary motion and, most importantly to the surface-to-volume relationships and the structuring forces which bind all matter. The idea that cosmic energies could be captured and held by water was pursued by Flanagan in his experiments.

A significant electrical charge is generated by these vortices of water. Flanagan demonstrated the electrical potentials by placing a specially prepared wire down the center of a vortex of water, being careful to not contact the water sides. The water was spinning at about 1,000 revolutions per minute and using another electrode touching the water he was able to record a charge of about 10,000 volts.

In the 1930's a German physicist named Paul E. Dobler demonstrated that water flowing in underground passages radiated an unknown energy. This energy radiation he called an X-band because the equipment did not exist at the time to measure it. He designed a device which could record the effects on x-ray film. Other physicists replicating the experiments showed the same results but could not explain their observations. The idea that the movement of water underground could create a radiant energy did not fit the mold which physics had been pushed into in the 1930's.

Flanagan continued his research in vortices and developed a device capable of creating the "perfect vortex." He called the device the "vortex tangential amplifier." Using this device he was able to lower the surface tension of water to an all time low of 26 dynes per centimeter, which is the same as ethyl alcohol. When water tension was lowered to the extreme ...it would revert to its normal surface tension rather than remain stable. It was found that at 38 dynes the surface tension could be maintained and last for years.

The basis of Flanagan's understanding dealt with the unique characteristics of the tiniest colloids. Large colloidal materials would lose their charge whereas the smallest particles would retain their charge, which made them optimally long lasting. The ability to retain the electrical charge is known as Zeta-potential.

Thomas Riddick, a colloidal chemist, says that Zeta-potential is what is responsible for the billions of circulating cells in the body maintaining their discreteness. He found that blood cells are kept in circulation by this Zeta-potential or negative electric charge. The entire living organism is made up of colloids which flow according to electrical attractions. Blood cells are coated with albumen a substance that allows them to maintain their charge and separateness from other blood cells. Unhealthy foods or high toxic levels in the blood, poor oxygen intake and other factors cause the blood to clump together, losing discrete form. This impairs the transfer of energy and the flow of nutrients through the system. Conversely, if you eat and drink charged colloids from fresh vegetables and fruit, or from the right forms of water, increased negative electric charges will be found on blood cells. This increases human health and energy.

The water Flanagan invented duplicated the key properties of Hunza water. He found that by adding only one teaspoon of the concentrated 38 dynes per centimeter water the surface tension would be between 55-65 dynes. This water when taken into the living organism changes the state of the cells within a few minutes. The cells of blood when observed under the microscope change from being clumped together to being separate and discrete.

The idea that this water's altered structure might have other beneficial uses was also explored. In one instance this newly engineered water was used in cement where the strength of the solidified concrete was increased from 8,400 pounds per square inch to 12,300 pounds per square inch. In another test on cement the air content of partially liquid cement was measured. It was found that the air content, which makes cement weaker, was only 30 percent verses 70 percent with ordinary water. In addition, the treated cement required less water and demonstrated greater flow and plasticity.

Flanagan found that reversing a vortical flow's direction caused increased potentializing of the water. This was the same mysterious energy found by earlier researchers and yet unexplained. What happens when the fluid is turning is that an amount of energy is present in the whirling flow of the water. When the flow is abruptly reversed the energy must go somewhere and, in this case it has to be absorbed into the hydrogen bonds of the water. This increases the Zeta-potential, making the water more ingestible by living things. The change in direction causes the vortex to collapse by imploding or falling into itself. In so doing, what appears to be total chaos is, in reality, the formation of many vortices of water and exchanges of energy.

Flanagan worked to develop the highest energy potentials of the water he created with his newly discovered 33 step process. He knew that the higher the Zeta-potential achieved, the better in terms of removing toxins from the body and carrying nutrients through out the living organism. The Microclusters® he created energize everything they come in contact with. When the University of Minnesota studied his invention they found that the size of the colloids was as small as five nanometers (five billionth of a meter). They are so small that 240,000 of them can be placed side by side on the head of a pin while at the same time they have an incredible surface area of 240,000 square feet per ounce.

Another way to illustrate this is to take a cube measuring one inch on each side. The total surface area is six square inches. The electrical charge is held on the surface of the substance. Therefore, the greater the surface area the greater the electrical charge. If we slice the cube into the thinnest possible slices we get an increase in surface area. For instance, if you just sliced the cube into one hundred slices you would have a surface area, front and back, of 200 square inches. Think of this illustration in terms of Microclusters@ five billionth of a meter in size and the surface area they can cover.

When various nutrients are combined with Microclusters@ they are enclosed in a geodesic sphere structure composed of a form of silica. These structures then carry the nutrients to the parts of the body where the cells can use them. These tiny nutrient and mineral combinations have unusual energy and catalytic abilities making them much more effective when they reach the cells.

3.4. Living Water

Another early researcher into the anomalies of water, Viktor Schauberger, concluded that life was based on implosions and death was based on explosions. He believed from his observations in nature and experimentation that this was the case. In his laboratory he built an egg shaped "vortex reaction chamber" which he also referred to as an "implosion chamber." These chambers caused the energy releases to flow to the center rather than toward the outer edges like an explosion. He believed that to optimize life things should flow with nature rather than act against natural flows. [Secrets of the Soil, Vortex of Life, by Peter Tompkins & Christopher Bird, 1989, Pages 99 -115.]

Viktor Schauberger observed that energy entering matter like water and air do so with inwardly spiraling energy. He observed that these inward spirals were the building forces of nature, imploding towards the center, the energy flows in life giving funnels or power. The energy of decaying forces on the other hand were always outflowing explosive energies. Based on these observations in nature he believed this principle should be applied to technology.

Schauberger believed that the prevailing technology was using the wrong form of motion. These forces always scattered energy whereas nature uses a different kind of energy in creating order and growth by focusing inward. He warned that the system that men had adapted of burning fossil fuels and splitting atoms filled the world with heat-generating motion which flowed in the wrong direction. He believed that modern technology should use the principles of implosion, or inward flowing motion, in its future developments.

3.5. The Energy Exchange

The Microcluster® colloids produced by the Flanagans exhibit a property which is known as hydrophobic (hydra = water & phobic is a dislike of) hydration. Hydrophobic refers to particles which have little or no affinity towards water. It was once thought that these kinds of particles would be suspended in an "iceberg quasi-crystalline" structure. What is now known is that these particles actually become suspended within cage-like structures formed by the water molecules. This increases the structured order of the water where the molecules then pack more closely together decreasing in volume and decreasing the surface tension of the water.

Entropy is a measure of the amount of unavailable energy which is also reflected as the amount of disorder or chaos in a system. The lower the entropy, the more energy is available and the more organized the system. Energy of entropy is directly related to the organization of structure. A system with low entropy is more organized than a system with high entropy. A system which displays maximum entropy is a system in chaos showing only random motion. By use of Microcluster® the organizational structure of the water is increased and entropy decreased, creating higher levels of "free energy" - energy available for other work.

When Microcluster® are added to the water the idea of hydrophobic hydration discussed earlier comes into play. What happens is that the water-disliking particles become trapped within a geodesic structure formed by the water molecules. As a result, the organization of the structure of the water changes and becomes increasingly more uniform. This can be thought of as a liquid crystalline structure. This causes the water molecules to pack more tightly resulting in a reduction of random movement, water volume and surface tension of the water. ["Flanagan Microcluster® Colloids and Negative Entropy" by Patrick and Gael Crystal Flanagan, 1994]

These structures, formed around the minute particles, do not bind to the particles themselves. The particles are trapped in suspension within their cages. These particles are free to vibrate and rotate in suspension. The vibrational and rotational energies create patterns of energy throughout the newly structured water which form patterns that are similar to holograms. ["Flanagan Microcluster® Colloids and Negative Entropy" by Patrick and Gael Crystal Flanagan, 1994]

These observations might be applied to explaining homeopathy. Homeopathic treatments are used throughout Europe and Asia and have been for years. These remedies are based on the idea that water can act as a carrier of the "memory" of various elements and compounds which can then create reactions in the body causing healing. Homeopathy comes under attack from time to time because mainstream science, until recently, has had difficulty explaining why this system of healing works. In other words, what is observed does not line up with the current view of the science. The science has advanced and now is more clear in describing why some of these effects may occur.

In the process of preparing homeopathic remedies, hydrophobic hydration "cages" are formed around the remedy particles. These particles are then free to vibrate to their own true frequency in these cages thereby producing energy waves which most likely produce holographic information patterns in the water structure. These information patterns are picked up by the cells which then alter cellular processes. The use of Microcluster® colloids in the production of homeopathic remedies makes this process easier and more efficient. A few European homeopathic manufacturers are now using Flanagan Microcluster® colloids as carriers in their medications.

3.6. Nutritional Formulas

All nutrients must be wetted before they can be used by the body. Nutrients can be divided into two general categories - those which are water soluble and those which are lipid or "oil" soluble. Lipid soluble nutrients are known as lipophilic or "oil loving" and water soluble nutrients are known as hydrophilic or "water loving."

All substances have a property referred to as Critical Surface Tension (CST). Critical Surface Tension is used to describe the level above which a substance can not be wetted. Water soluble nutrients have a higher CST than oil soluble substances.

Critical Surface Tension is based on the number of electrical charges on the surface of a substance. Water wets a substance by means of an electrical charge called hydrogen bonding. The hydrogen atoms in the water molecules are positively charged. In order to wet the surface of a substance the surface has to have free negative electrical charges on the surface. The greater the number of charges the more readily wetted. Oil has no electrical charge and as a result can not be wetted by water. Quartz crystal (silica) is highly charged and can be easily wetted by water.

Water soluble organic nutrients are only soluble in water which has a surface tension below the surface tension of the substance. If the water is ordinary tap water with high surface tension the nutrients will not be absorbed into the solution. If it is not absorbed into solution, the nutrients will not be efficiently transferred to the cells in the body. With Microcluster® the surface tension of the water is so significantly reduced that nutrients can be moved into the cells with great efficiency. The interaction resulting from the use of Microcluster® is that the nutrients become wetted to the point where they can be easily absorbed into the body and used.

Oil soluble nutrients can not be wetted by water. It is important to remember that Microcluster® are hydrophilic ("water loving") and lipophilic ("oil loving"). Oil particles can be trapped within a Microcluster® colloid. When oil particles are encapsulated in this way a tiny ball is created which is bound to water on the outside surfaces and to the oil on the inside surfaces.

These oil containing "cages" are very similar to what the body naturally produces when it digests oils. The body produces what are called chylomicrons which can be visualized as tiny spheres of oil which are coated with a covering of bile or other biological substances. Like the body's chylomicrons, Microcluster® have a negative surface charge or Zeta potential. It is the negative electrical charge which allows either a chylomicron or a Microcluster® sphere to be absorbed into the body. The absorption occurs thorough the lymphatic system from the intestines. These particles by-pass the liver on their first entrance into the body. [Dr. E. M. Carlisle of the University of California, reported in "Trace Elements in Animal and Human Nutrition", that silica is "absorbed

through the intact intestinal mucosa, pass through the lymphatic and circulatory systems, and reach other tissues supplied by arterial blood via the alveolar region of the lung."]

The amount of Microcluster® powder used in formulating the solution is dependent on the surface area to be covered and the CST of the original nutrient. Remember that the particle size has a relationship to surface area: the amount needed to cover the surface is relatively small. The smaller the size, the higher the surface area of a similar mass of the nutrient. The key is making sure that enough of the Microcluster® solution is present to ensure complete wetting so that the nutrient can be absorbed by the body.

Some nutrients can be destroyed by the liver. The use of Microcluster® for encapsulating these nutrients in the geodesic cages described earlier allow for these to bypass the live and be absorbed by the lymphatic system. Particles as large as five microns in diameter can be absorbed whole into the lymphatic system if they can get by the liver. What this means is that very large nutrients with high molecular weights can be easily distributed into the lymphatic pathway by-passing the destruction by the liver. [Earthstar, Vol. XIV No. 88, 'Drs. Gael Crystal and Patrick Flanagan, "Putting the 'Physics, Back in Metaphysics" October/November 1992]

According to Dr. Patrick Flanagan, "In the digestive system, nutrient absorption depends on the wetting of nutrients by water. The wetting process depends on surface tension: The lower the surface tension of the digestive fluids, the more effective will be the nutrient absorption. There are three sites of absorption in the digestive system. Alcohol is the only nutrient absorbed by the stomach. Carbohydrates, amino acids and other nutrients that are water soluble are absorbed through the 'hepatic' pathway from the small intestine. The portal vein carries these nutrients to the liver where they are further processed before being used by the body." [Earthstar, Vol. XIV No. 88, 'Drs. Gael Crystal and Patrick Flanagan, "Putting the 'Physics, Back in Metaphysics" October/November 1992] Microcluster® lower the surface tension in water which allows for the increase in efficiency in nutrient transfers into the body.

3.7. Looking at the Microcluster®

Dr. Alex Carrel won the Nobel Prize in medicine for demonstrating that living cells can be kept alive indefinitely. Dr. Carrel said, "cell is immortal. It is merely the fluid in which it floats that degenerates. Renew this fluid at intervals, give the cells what they require for nutrition, and as far as we know, the pulsation of life may go on forever."

The fluid that this researcher was referring to is cellular water. Cellular water has unique form because it is structure out of liquid crystals as opposed to ordinary water which lacks liquid crystal form. Many attempts to duplicate Dr. Carrel's work have met with failure because other researchers were unable to duplicate his secret solution used in vitalizing the cells. The secret of long cell life is in the energy mediator which is found in the fluids of all living things. The mediator may have been discovered by Dr. Gaston Naessens of Canada. He called the cellular energy transformer a "somatid" which means "tiny body."

The discovery made by Dr. Naessens could not have been made without the invention of a new and powerful microscope. Dr. Naessens microscope allowed him to see objects never visible to the human eye and which could not be seen using ordinary microscopes or electron microscopes.

In his early research (1940's) as a microbiologist, he observed something in the blood which could barely be seen under the best microscopes of that time. He knew that the ability to see an object under a microscope was dependent on the ability to illuminate the object. He discovered a way to create a much more powerful microscope. He was successful in inventing the Naessens Microscope, now available to researchers. This is one of the tools which Dr. Patrick and Gael Crystal Flanagan have used in their research into water and other areas.

Patrick and Gael Flanagan have made good use of this invention, using it to observe these ultra-small energy mediators - somatids. These somatids look like tiny flickering points of pure light which appear to dance around live human blood cells. These super small points of light are in the body fluids of all living things from plants to animals. In fresh vegetables these somatids are found in abundance. As fresh food ages the number of somatids decreases, as does the vitality of the food.

What Dr. Gael Crystal Flanagan noted was that, "In foods, we have found that live, organic raw fruits and vegetables as well as their juices quickly affect the blood in a positive way. The discreteness and mobility of blood cells and somatids are rapidly enhanced. The microscope has enabled us to rapidly see the difference between organic vital food and devitalized and processed foods." [Earthstar, Vol. XIV No. 88, "Drs. Gael Crystal and Patrick Flanagan, "Putting the 'Physics' Back in Metaphysics" October/November 1992] The Flanagans observed that poisons and pollutants destroy the energy or Zeta-potential of foods.

The research conducted by the Flanagans correlates what was observed in plants with humans. The Flanagans found profound changes in blood samples after the use of Microcluster®. They found that the concentration markedly increases with the ingestion of water treated with Microcluster®. Moreover, when feeling tired and sluggish a direct correlation between the density or concentration of somatids in the blood was observed. They found somatids in Hunza water, Crystal Energy® and fruits and vegetables. By observing somatids concentrations in their blood after eating, sleeping, exercising and other activities the Flanagan's have designed a lifestyle with maximum energy levels.

They also found that certain specific nutrients had a profound effect on human blood. Vitamin B12, for instance, has unique electrical properties which cause them to function as energy transducers, changing the energy from one form to another. They found that the best type of B12 was co-enzyme B12 which is the form naturally stored in the human body. When this form is taken it bypasses the body's five-part natural B12 manufacturing process. Dr. Gael Flanagan explains that, "The reason vitamin B12 is energizing to the body is that all tetrapyrrole or porphyrin ring type structures act as energy transformers for the living system. The algae Spirulina contains an enormous quantity of these pigments including co-enzyme B12." [Earthstar, Vol. XIV No. 88, "Drs. Gael Crystal and Patrick Flanagan, Putting the 'Physics' Back in Metaphysics" October/November 1992]

The Flanagans found that Adenosine Tri-phosphate (ATP) as the energy giving molecule, has a powerful effect when it is delivered to the fluid outside of cells. Normally, ATP is manufactured and used inside of cells rather than on the outside. Very little ATP appears on the outside of the cells in the lymphatic fluids which are found there. Research has shown that this energetic substance has a powerful effect on the outside of cells, acting like a powerful neurotransmitter. In this case it exerts a powerful influence on extra (outside) cellular receptors. Fresh natural foods contain an abundance of ATP.

The Flanagans, through this microscopic research into blood, were able to observe the effects of foods most American ingest regularly. These processed and fat laden foods thicken and devitalize the blood. They also observed that many products contain aluminum such as deodorants and antacids. Aluminum is a small atom which has a triple positive valence and wreaks havoc with the negatively charged blood. According to the Flanagans, aluminum entering the body through aluminum cans, cookware and as additives in various products should be avoided.

Imbalances between potassium and sodium or calcium and magnesium could have profound effects on blood. Most processed foods are devitalized partially because they reverse the concentration of these important nutrients. Natural foods contain more of the right proportions of the correct nutrients which food processing reverses. In the case of sodium/potassium balances natural foods contain as much as five times the potassium as sodium. In the case of magnesium/calcium balances, natural foods contain twice the magnesium as processed foods. The proper proportion is critical to blood balance and good health.

Excessive magnesium moves calcium from the softer tissues in the body into bones where it is needed. When calcium is in excess, hormones are released which move calcium away from the bones into the softer tissue where the excess calcium ions destroy cells.

The Flanagans research has shown the importance of eating the right foods in the right form. Also, their research reinforces the role of water as a carrier for energy and nutrients transfer into the body and a remover of toxins. By adding Microclusters® colloids, increased efficiency in the nutrient transfer process occurs. If food and vitamins are spread out over the day and combined with the right water, the body can increase the efficiency of those transfers even more.

The circulation of blood is also significantly enhanced by exercises such as T'ai Chi Chuan, walking and yoga. Breathing exercises are also powerful body vitality enhancers. Health can be significantly enhanced with the right combination of diet and water. This is one of the keys to maintaining health and vitality as we age.

Their life's research has led the Flanagans down a number of unusual paths. Through their diverse work they have studied the energy which flows through the acupuncture points as well as other subtle energies in the body. They have constructed instruments which can measure these very fine bioenergies. They have shown that the energy around the human body can be altered by diet, exercise, attitude, water intake and a number of other factors. The changes in the overall energy state of the body can be dramatic.

4. ...WATER...A NEW "FOUNTAIN OF YOUTH"?

Patrick and Gael Crystal Flanagan,
Flanagan Technologies, 1109 S. Plaza Way, Suite 399, Flagstaff, AZ 86001
From NEXUS: New Times, December 1994 - January 1995, pp. 21-24

The key to "the fountain of youth" is within the physical structure of water itself. Indeed, we are what we drink. The Flanagans' research in this area of hydrogen and longevity looks very promising.

4.1. Introduction

Albert Szent-Gyorgyi, the Nobel laureate who discovered vitamin C, calls water the mother and matrix of all life. Water is so much a part of life that we tend to ignore it and look elsewhere for the magic bullet, the secret herb or nutrient that will increase health and vigor and extend life-span.

Recent discoveries about the significance of water and its functions in the living system may forever change our view of water. All the symptoms of ageing are in one way or another accompanied by a slow dehydration of our vital tissues associated with free-radical oxidative damage. No matter how much tap water we drink, we cannot seem to slow down the inevitable starvation of vital tissues for the fluid that is everywhere. There is much more to tissue hydration than simply drinking ordinary water. Tissue water is as different from spring water as milk is from apple juice.

This is the story of a discovery that may help to slow down the dehydration and subsequent tissue damage that accompanies the ageing process.

4.2. The Beginning of the Quest

When Patrick Flanagan was 17 years old, he had already been a child prodigy in electronics and chemistry since the age of eight. He was consulting with a Stamford, Connecticut-based science 'think tank' when he first met Dr. Henri Coanda (1885-1972).

Dr. Coanda was 78 at the time and appeared to be in exceptionally good health. He had the quick mind and bright eyes of a man driven by a vast reservoir of inner energy. Dr. Coanda is known as the "Father of Fluid Dynamics". In 1910, seven years after the first flights by the American inventors Orville and Wilbur Wright, Henri Coanda designed and built a jet-propelled monoplane which took off and flew under its own power with Coanda as Pilot. He used an engine that he termed a reaction motor, but, discouraged by the lack of public acceptance of his aircraft, he abandoned his experiments and designed Bristol Fighter craft for the British in World War I.

While building the world's first jet airplane, Dr. Coanda discovered an effect that has become known in the science of fluid dynamics as the "Coanda effect". Without the Coanda effect, we would not have a space shuttle or a 747 jet today.

During his 78th birthday party at the home of author-scientist G. Harry Stine, Patrick told Dr. Coanda that he hoped that he (Patrick) was in the same excellent health when he was 78 years old. Coanda looked at Patrick and said, "Patrick, when you are 78 years old we'll talk about it." Everyone in earshot laughed at Coanda's joke.

A few days later, Dr. Coanda invited Patrick into his office and told Patrick a secret that would change his entire life. He told Patrick that he had spent over 60 years searching for the secret to "the fountain of youth". He said that the human body is over 70 per cent water and that the brain is 90 per cent water. He said that water contains within its structure the secret to reversing the ageing process.

Dr. Coanda had developed testing methods for determining different geometries in the structure of water. He traveled at length around the world and found five places that contained what he termed "anomalous water".

Two of these places included Hunza land in the Karakoram Mountains of Northern Pakistan, and the Vilcabamba in Ecuador. It has long fascinated anthropologists that people who live in these areas tend to age more slowly than the rest of us. In fact, people who live in these areas tend to remain healthy and disease-free well after the age of 100. There are documented cases of men fathering children after the age of 100.

Dr. Coanda discovered that the secret of longevity in these areas was due to the special physical properties of their water. The people who live in these areas also claim that water is the secret of their long, healthy lives. He found that this 'Hunza type' was water significantly different from water found anywhere else.

Dr. Coanda's lifelong ambition was to recreate Hunza water in his laboratory. Since the human body averages 70 per cent water, he was convinced that the secret of the Hunza people's abundance of healthy centenarians was due to the health enhancing properties of their anomalous water.

As a result of his studies, he was able to test water anywhere on Earth and could predict the average age of death in any given locality just by testing the water in that area.

Although Dr. Coanda was able to identify and catalogue these characteristics of Hunza water, he was unable to duplicate these special waters in his laboratory.

Dr. Coanda originated the expression, "You are what you drink". He said that water affects our health more than any other nutrient. He told Patrick: "Discover the secret of Hunza-type water and you can extend life indefinitely.

It is interesting that Dr. Alexis Carrel, another French scientist, had received the Nobel Prize in Medicine for keeping the cells of a chicken heart alive for 34 years. Dr. Carrel said that 'The cell is immortal. It is merely the fluid (water) in which it floats that degenerates. Renew this fluid at intervals, give the cells what they require for nutrition and, as far as we know, the pulsation of life may go on forever.'

Dr. Coanda revealed the special characteristics of Hunza-type water to Patrick. With these clues in hand, Patrick started his own quest for the secret of Hunza water.

After obtaining a sample of Hunza water from Betty Lee Morales, a friend who had been to Hunza land many times, Patrick performed his own analysis. The first thing he discovered was that Hunza

water is in many ways just like distilled water. It does not contain the mineral salts we find in mountain springs or in well-water. It is devoid of mineral salts.

The next thing Patrick found was that Hunza water contains trace minerals in a special colloidal form. Colloidal minerals are minerals that are insoluble in water. Colloidal minerals are not ionised into anions and cations like mineral salts. Although colloidal minerals are very common types of minerals, the colloids in Hunza water are different from ordinary colloids.

Colloidal minerals are so tiny that they cannot be seen except with the most powerful microscopes. Instead of being ionised, they are suspended in water by a phenomenon known as "zeta potential".

Dr. Thomas Riddick, a pioneer in colloid chemistry, stated: "Zeta potential represents a basic law of Nature, and it plays a vital role in all forms of plant and animal life. It is the force that maintains the discreteness of the billions of circulating cells which nourish the organism." If zeta potential is low, toxins cannot be suspended for elimination, and nutrients cannot be suspended for transportation to the cells. The whole system becomes clogged.

Patrick discovered that the colloid mineral clusters in Hunza water were smaller and had a higher zeta potential than other colloidal minerals. He also found that Hunza water contained a very large quantity of negatively ionised hydrogen atoms. Negatively ionised hydrogen atoms are not found in ordinary water.

All water contains hydrogen atoms with a positive charge. The hydrogen protons that are found in ordinary water control the pH or acid-alkaline balance. The negatively charged hydrogen protons found in Hunza water are the most powerful electron donors known to chemistry. These atoms are extremely powerful free-radical scavengers. These hydrogen ions are normally found only in the fluids of healthy living systems.

4.3. Colloidal Mineral Clusters

In 1983, Patrick met and married his wife, Gael Crystal. They travelled to the Great Pyramid of Giza in Egypt where they were married in a special ceremony inside the King's Chamber. Over the next three days, they stayed inside the Pyramid overnight and also spent the entire night on top of the Pyramid under the full moon.

After returning to their new home in the mountains outside of Sedona, Arizona, they built a new water research laboratory where they continued the quest for the secret of Hunza water.

As a result of one year of joint research, they finally succeeded in duplicating the anomalous properties of Hunza water. They created a new type of colloidal mineral cluster that is so small it is only 50 angstroms in diameter. These minerals are so small that 1,600 of them would fit side by side on a red blood cell.

These mineral clusters have since been trademarked under the name of Flanagan Microclusters®.

When these colloidal mineral clusters are added to ordinary distilled water, a number of extremely complex physical changes occur.

These changes include:

1. The high zeta potential attracts water molecules to the vicinity of the colloid where the water molecules are strongly polarised into forming hollow cages that resemble Buckminster Fuller's geodesic domes.
2. This ordering of molecules reduces the entropy of water. This means that the Gibbs free-energy increases. An increase in free energy in water means that the water can now support chemical reactions more easily and with less energy than before.
3. The surface tension or energy required to break the surface of water is greatly reduced. The phenomenon known as "wetting" is dependent on surface tension. The lower the surface tension, the wetter the water. This means that the water requires less energy to wet substances.
4. The colloidal mineral clusters can act as vast reservoirs of negatively ionised hydrogen atoms. (This final part of the Flanagans' discovery was made ten years after they were first able to duplicate the minerals found in Hunza water.)

Hunza-type waters have several things in common: they all come from high altitude mountain valleys, and the basic source of water is from ancient ice-blue glaciers. This means that the water is pure and mineral-free like distilled water, since glacier water is ancient rainwater. It has no mineral salts like the water found in springs and deep wells.

Lord Rutherford had discovered that proton nuclei could pick up electrons when they passed through matter. Since 87 per cent of cosmic rays are hydrogen protons, these high altitude glaciers may have trapped an enormous amount of hydrogen. As these cosmic rays passed through the glacial ice, they may have gained electrons in the upper layers of the glacier. In addition, it is well known that hydrogen protons can travel through ice crystals thousands of times faster than any other type of ion.

Dr. Castleman at the University of Pennsylvania has found that hydrogen can be trapped in cage-like water structures similar to geodesic domes. These geodesic dome-like cages were first predicted by two-time Nobel Prizewinner, Linus Pauling, in 1959 in his classic book, The Hydrogen Bond.

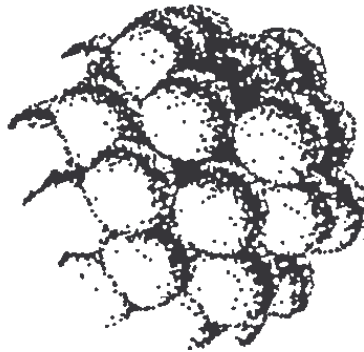
In addition, these waters contain a small quantity of high zeta-potential colloidal mineral clusters.

Patrick and Gael Crystal Flanagan discovered that Hunza water has special physical properties different from ordinary matter -- properties such as surface tension, viscosity, heat capacity and Gibbs free energy. These physical anomalies also contribute to formations in the structure of snow crystals. The Flanagans' task was to create water that was identical to Hunza-type water so that they could share it with the rest of the world.

Patrick had spent 20 years trying to duplicate Hunza-type water. He tried to induce anomalous properties by applying energy fields from magnets, ionising and non-ionising radiation, crystals and pyramids. He was able to duplicate a few of the anomalous properties of Hunza water, but these changes were only temporary. These altered waters lost their anomalous properties with the passage of time.

In the first year of their joint research, Patrick and Gael Crystal discovered the secret of Dr. Coanda's anomalous water, and created the first laboratory analog of Hunza water. After ten years of additional research and development, they opened up a new domain in nanotechnology. They not only duplicated the properties of Hunza water, they also increased the quantity of negatively ionised hydrogen atoms millions of times over that found in Hunza water.

They duplicated a type of colloidal mineral cluster that is only found in Hunza-type water. These mineral clusters act like tiny magnets, drawing water molecules to their surface, creating liquid crystals in the process. The electrical charge on these minerals alters the properties of water so that they reproduce the properties of Hunza water. These minerals are so tiny they are only 10 to 12 atoms in diameter.



These colloidal mineral clusters are arranged in a spherical pattern roughly 12 atoms in diameter.

A new emerging science, known as cluster chemistry, has shown that minerals in this size range have profound, unusual properties not found in any other form of matter.

When substance is reduced in size to this dimension, electrons travel all over the surface of the mineral instead of being confined to localised areas like electrons found on ordinary colloids. These electron clouds form a zeta potential or negative electrical charge that attracts and organises water molecules, building a liquid crystal structure.

This water intimately resembles the water found in the living system rather than water that is found in ordinary mineral or tap water. These special minerals are the source of many of the unusual water properties described by Dr. Coanda. When we drink ordinary water, we have to convert it into cellular water before the cells can use it. If we cannot convert tap water into the structure of cellular water, it passes through our bodies and may leave our cells in a partially dehydrated state.

The tiny mineral clusters found in Hunza-type water, and duplicated in the Flanagans' laboratory, create liquid crystal structures that resemble those found in the living system. These tiny mineral clusters may energize practically all nutrients with which they come in contact.

4.4. Future Research on the Hydrogens

In addition to the presence of special colloidal mineral clusters, Hunza-type water contains negatively charged hydrogen ions that may be trapped in cage-like structures. It is only in the last year that the Flanagans have been able to enhance the negatively charged hydrogen ions in water by millions of times.

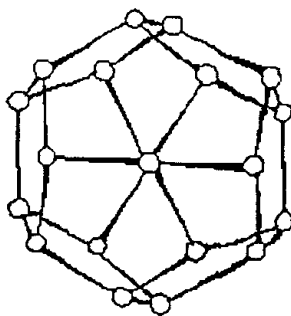
Everyone knows that the body needs oxygen in order to live. Recently, a lot of attention has been focused on oxygen therapies. What many do not know is that we need hydrogen as much as we need oxygen. Oxygen burns hydrogen in the living system, releasing the energy that runs our bodies.

Studies have shown that the human body stores hydrogen in its tissues. As we age, tissue hydrogen-depletion may lead to many of the symptoms of the ageing process. This may cause subclinical dehydration since it appears that hydrogen may play a role in hydrating our cells.

Symptoms of hydrogen depletion may include chronic fatigue, depression, hormone imbalances and indigestion. As our tissues are depleted of hydrogen, they become stiff and lose flexibility. Dehydrated tendons and muscles tear more easily, and dehydrated bones become brittle. Loss of lung flexibility leads to loss of oxygen. By replenishing our hydrogen stores, we may be able to relieve many of these conditions if they are brought about by hydrogen depletion.

Hydrogen makes up 90 per cent of the matter in the known Universe; helium makes up 9 per cent. All the other elements in the Universe are found in the remaining 1 per cent. Since hydrogen is so abundant, you would think that we know all there is to know about it, but we are just now learning about its importance in the living system.

The word "hydrogen" comes from the Greek language and it means "water-former". Indeed, we all know that water, the matrix or mother of life, is made up from hydrogen and oxygen. In fact, water is formed when hydrogen is burned by oxygen. We create pure water every day as a product of our metabolism. When we burn hydrogen in our cells, the energy that is released is used to run our bodies.



The figure above is an example of a molecular cage made up of 20 water molecules. This structure is formed by a phenomenon known as 'hydrophobic hydration'. It is a liquid crystal structure that may transport hydrogen protons and mineral clusters.

The living system contains numerous chemical messengers that carry information and trigger events in metabolism. New messengers are being discovered all the time. The most recently-discovered chemical messenger is nitric oxide. It is known as the fifth messenger. What very few people know is that hydrogen is the final messenger in the living system.

Albert Szent-Cyorgyi, the Nobel laureate who discovered vitamin C, found that the tissues of the animal body store hydrogen in vast quantities. Different organ tissues 'pool' hydrogen in different amounts. For example, he found that the order of hydrogen-pooling is the following:

liver > intestine > kidney > heart > lung > spleen

Liver tissues store the most hydrogen, while the spleen stores the least. This is interesting in view of the fact that the liver is the body's first line of defense and needs a supply of the most antioxidants in order to do its work of detoxification.

Transport of hydrogen may be the missing factor in the search for the cause of the ageing process and the secret to age reversal. As we grow older, our cells become dehydrated and our 'hydrogen pool' becomes depleted. The hydrogen pool protects our cells from free-radical damage. Virtually all longevity researchers agree that free radicals are responsible for the ageing process.

There has long been an unsolved paradox in medicine, and that is the fact that oxygen is the source of all life and is also the major cause of ageing. A tremendous effort is being extended to find a combination of powerful anti-oxidants that may control or reverse cell damage by oxidative free-radicals.

Hydrogen may be the missing half of the life equation. It is hydrogen that protects our cells from oxidative free-radical damage and provides energy to the cells when it is burned by oxygen, which is the other half of the equation.

The single factor that is common to all anti-oxidants is that they are sources of hydrogen. Hydrogen is the ultimate anti-oxidant. Hydrogen is also the source of protons for ATP production. (Note: ATP or adenosine triphosphate is a biochemical energy battery that supplies almost all the energy needs of the human body. Our purpose of eating food is to ultimately create ATP, which could be called the 'currency of life'.)

Hydrogen is the lightest and smallest element known to science. We now know that we each use about one-half pound of pure hydrogen every day just for the production of ATP.

We have all heard of the carbon cycle in biology. The carbon cycle is the process by which plants use sunlight and water to create carbohydrates and other food stuffs. These are then used as food by animals who burn the food created by plants. Animals exhale carbon dioxide gas which is then taken up by plants. The plants then use the carbon to make more carbohydrates, proteins and lipids (fats) which then serve as animal food.

The carbon cycle could actually be renamed the 'hydrogen cycle'. Several patents have been issued lately that take advantage of the fact that plants are able to use infrared light from the sun to break down water (H₂O) into hydrogen and oxygen. The plants exhale oxygen into the atmosphere and add the hydrogen to carbon in order to make carbohydrates, proteins and lipids. Recently, scientists have succeeded in intercepting the hydrogen before it is made into food. the gas thus released can then be used to run cars!

Plants create carbohydrates, proteins and lipids by attaching hydrogen to carbon atoms like hats on a hat-rack. Carbohydrates contain an equal amount of carbon, hydrogen and oxygen. We can say

that all the foods that nourish us are primary sources of hydrogen. We can see that the life cycle is really a hydrogen cycle. The 'burning of the hydrogens' is a secret of life.

Free hydrogens that are released from carbohydrates, proteins and lipids are carried into the mitochondria by a process known as the 'hydrogen shuttle' where they are used to make ATP. In this process, hydrogen is burned by oxygen, releasing energy. The final product from the burning of hydrogen is water. This extra water is eliminated from the body and is eventually taken up by plants and split by photosynthesis to make more carbohydrates, proteins and lipids.

While the above biological processes have been overly simplified in an effort to reveal the basis of the hydrogen cycle, we can see that life energy is controlled by burning hydrogen.

Albert Szent-Gyorgyi says in his book, The Living State: "Attaching Hydrogen to a molecule means lending energy to it. Since in Hydrogen the electron and proton are loosely coupled, by attaching an Hydrogen we essentially attach an electron."

In biological systems, hydrogen and electrons travel together in pairs. When this combination meets up with a positively charged cell-damaging free radical, the hydrogen may react with the free radical and neutralise it so that no further cell damage may occur.

It is possible that hydrogen is the ultimate anti-oxidant.

As a result of their discovery, Patrick and Gael Crystal Flanagan have been consuming large quantities of negatively charged hydrogen ions every day. Their new transport system may make hydrogen available to the cells without first having to be attached to food. These hydrogen ions may act as free-radical scavengers, and may also be used for the production of ATP.

Since hydrogen bonds are the 'glue' that holds together the molecules in the DNA double helix, the Flanagans believe these bonds can be activated and energised. It is well known that as we age, the DNA helix coils tighter and tighter, losing flexibility. It has been hypothesised that this contraction of the DNA coil may reduce the number of times that our cells can divide. At the present time, our cells can only divide about 50 times before they cease reproduction.

If we are able to loosen the DNA helix by activating the DNA hydrogen bonds, it may have a profound effect on our ability to increase the regeneration of our cells. The DNA helix floats in water and is ~therefore hydrated. The tightening of the helix with ageing may be a reflection of the loss of the hydrogen pool with ageing. By restoring a plentiful supply of the hydrogen pool, these spirals may naturally unwind and regain their ability to stimulate cellular reproduction.

5. 'WATER MEMORY' PHENOMENON REFUSES TO DISSOLVE. MEMORY FINDINGS GIVE SUPPORT TO HOMEOPATHY. . .

Brain/Mind, January-February 1996, Vol. 21, #s 4/5

5.1. Introduction

Despite the professional humiliation of a noted scientist who attempted to prove it, research continues to support the idea that water can store and "remember" biological and electromagnetic information.

As described in two recent scholarly books, "water memory" appears to be a viable, if little understood, phenomenon. Yet this principle, which lies at the heart of the medical system known as homeopathy, remains anathema to much of the mainstream scientific community.

In homeopathy, originated in the late 18th Century by the German physician Samuel Hahnemann, a tiny dose of a normally harmful agent is placed in water. Before administration, the solution is repeatedly shaken and diluted to the point that no molecules of the original substance should remain.

The system has a long history of anecdotal success in treating medical problems, especially infection and inflammation. But its apparent violation of physical principles has long caused many scientists to judge homeopathy invalid on its face.

In 1988, French allergist Jacques Benveniste's paper supporting water memory was published in Nature, the influential British science journal. After publication, the journal took the extraordinary step of sending its editor and two "fraud busters" to Benveniste's laboratory.

Although Nature's subsequent repudiation of the research elicited numerous sighs of relief, many scientists were appalled by the journal's treatment of Benveniste, one of France's most widely recognized biologists. (See Brain/Mind, August and September 1988.)

In the years since, Benveniste and his co-workers have replicated the finding that white blood cells react to "inert" dilutions. His group also found that water can retain information initially received from an electronic circuit and that the potency of diluted solutions can be destroyed by heat and low-frequency EM radiation.

Similar results have been reported by English researcher Cyril Smith, who discovered that patients whose allergies were affected by certain electromagnetic frequencies responded in the same way to water exposed to the frequencies. Smith also found that water's ability to absorb information from a current was heightened when the solution was shaken.

5.2. The evidence builds

Reviewing the latest evidence in Homeopathy: A Frontier in Medical Science (North Atlantic Press, 1995), Italian physicians Paolo Bellavite and Andrea Signorini asserted that homeopathy and biomedical research are evolving toward a convergence point.

Bellavite, a pathologist, and Signorini, who employs homeopathy as an adjunct to his medical practice, say that the properties of water are "still in many respects unknown," making the idea of information storage fully plausible...In The Memory of Water (Thorsons/Harper Collins, 1994), French physicist and sociologist Michel Schiff uses the Benveniste saga as the occasion to issue a larger condemnation of scientific orthodoxy.

Initially a skeptic, Schiff became impressed with Benveniste after meeting the researcher in 1992. On the basis of his observations, including direct participation in several replications, Schiff came to believe in the validity of water memory.

In such wryly titled chapters as "Anomalies of all disciplines, unite!" and "Be quiet--the experts are not worried!," Schiff maintains that the phenomena deserve a far more respectful examination than they have received. Despite widely held fears, one need not discard centuries of established wisdom to acknowledge that water memory seems to occur, he said.

5.3. A variety of models

Homeopaths have often invoked "spiritual essence" as the key to their craft. The late Theodor Schwenk... proposed that shaking the solution (succussion) is a reversal of a universal process described by Rudolf Steiner in which "etheric formative forces" coalesce into matter. In the Schwenk model, succussion-induced lamination (layering) opens water to spiritual information.

In recent years, several more easily testable physical mechanisms have been proposed.

Drawing on his own work and Smith's finding of electromagnetic coherence patterns within water, Benveniste theorizes that the information is carried in EM wave-forms of 0 to 22 KHz ...

Water molecules also appear capable of assembling and reassembling in various types of clusters, including five-sided shapes known as pentamers, millions of times each second. This mutability could offer a means of information storage.

Similarly, molecules could form helices that permit the formation of an electromagnetic "circuit" of protons across oxygen atoms. In addition, information could be imprinted, a la Schwenk's model, on the layered water surfaces created by natural turbulence and vortices.

As a research topic, homeopathy ultimately may be validated by the sheer volume of evidence that it works.

Of 105 studies reviewed in 1991 by two Dutch physicians, 81 yielded significant results--strong evidence despite the lax methodology of some experiments.

More recently, Scottish researchers reached a starker conclusion. Reporting their findings with allergic asthmatics in The Lancet, David Reilly's group declared that "either homeopathy works. . .or the clinical medical trial does not." (See Brain/Mind, January 1991 and February 1995.)

Benveniste: Digital Biology Laboratory, 32 Rue des Carnets, 92140 Clamart, France. Smith: Electrical Engineering Dept., U. of Salford, Salford M54WT, U.K.

5.4. Benveniste: Information retained in form of waves

Bruised but unbroken, Jacques Benveniste has continued to replicate and expand on his "water memory" findings in the years since his 1988 run-in with Nature.

Most recently his team has found that the molecular activity of active substances can be retained as the information is digitized, recorded by computer and later "replayed" into water. "I may be the only person walking around with a diskette in my pocket containing digital molecular signals," Benveniste quipped.

If molecular information can be digitally recorded and played back at will, he told Brain/Mind, then a whole new medical paradigm could emerge--"treatment by information." Isolating different biochemical signals could enable scientists instantly to detect and fight the activity of viruses, bacteria and other harmful agents.

"As we come to understand the nature of the molecular signal, the high dilution principle becomes clear," said Benveniste. "Homeopaths have been using water's capacity for electromagnetic storage just as soccer players use Newton's laws."

Nevertheless, his unit within INSERM (the French equivalent of the U.S. National Institutes of Health) was recently disbanded and most of his collaborators reassigned to other groups. He retains his old site and a salary from INSERM but must constantly seek outside sponsors to fund his work.

Ironically, Benveniste said, top journals still use him as a referee--another example of what he calls the "schizoid behavior" of the scientific establishment.

"The situation is very curious," he said. "I think [INSERM] hopes I'll just stay in my shack and do nothing until retirement, yet everyone could benefit from this work "

6. IS MIND MEDIATED BY WATER? NEW TECHNOLOGY MAY BE CLUE. BRAIN MAY USE PHASE-CONJUGATE MIRRORS.

Brain/Mind, January-February 1996, Vol. 21, #s 4/5

"I don't know who discovered water," the line goes, "but you can be sure it wasn't a fish."

The joke is a little hollow these days. An array of recent discoveries hint that we--who are just as reliant on water as fish--haven't fully discovered H₂O. Furthermore, there is reason to revisit the traditional notion that consciousness is somehow mediated by the fluids in the brain's cavities, the ventricles.

Among water's surprising qualities:

- ∞ Water molecules organize themselves into complex arrangements, including tetrahedrons.
- ∞ Water is critical for the proper folding of linked amino acids into protein chains.
- ∞ Water stabilizes the DNA helix.
- ∞ Some water is unfreezable. When biological tissues are cooled, about 20 per cent of the tissue water refuses to freeze.

- ∞ Having fought long and hard against homeopathy, science is having to back down. Too many rigorous studies have shown that homeopathic remedies are effective, and new studies indicate that water might indeed be configured to hold memory.

Unlike most substances, which are denser in a solid state, ice is less dense. It floats on water. Ice sheets trap heat below, preventing all the water from freezing and enabling life to continue.

Water's high specific heat enables oceans to absorb solar energy and act as vast energy reservoirs, slowly re-distributing heat around the planet through ocean currents like the Gulf Stream.

These properties, which we take for granted, are nonetheless evidence of water's uniqueness.

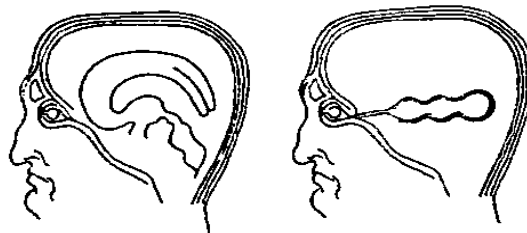
"The fact is that water offends against nearly all of the criteria of normality laid down by physicists and chemists," biophysicist Felix Franks wrote in Polywater (1981).

Although we rarely give them a second thought, Franks said, water's eccentric properties are instrumental in maintaining conditions that make it possible for life to exist at all.

In the 1970's researchers invented a device called phase-conjugate mirrors, crossing two laser beams in a reactive medium to create a kind of super hologram. The property of such "mirrors" is that light from a third laser reflected from this structure retraces its incoming path back to its origin. Clear images can be retrieved even through frosted glass.

Optometrist Ray Gottlieb, (336 Berkeley St., Rochester, N.Y. 14607, (716) 461-3716.) Brain/Mind's former director of research, has suggested that the brain may use such a mechanism to carry out its remarkable capacity to retrieve associated information and make decisions.

But where in the brain would a phase-conjugate mirror be found? A reactive medium would be needed. The brain's ventricles, filled with cerebrospinal fluid, seemed the likeliest site.



Two drawings of the ventricular system from the papers of Leonardo da Vinci. The illustration ...is one of many similar old drawings.)

"The day after that idea dawned on me, I flipped through a new neuro-science volume that had come in for review," Gottlieb said. "There was a medieval anatomical drawing that showed the ventricles as the sites of memory, imagination and reason."

If the brain uses phase-conjugate principles, information could move without nerve pathways.

Other recent research shows that cells in the visual cortex perceive selectively, apparently stimulated by cells in the pre-frontal region. But how do these cells "decide"?

A phase - conjugate search could alert, associate and retrieve complex information distributed throughout the brain.

As Gottlieb described it: "Imagine that somewhere in the cortex an idea that has formed sends out its particular vibration that contains a configuration of that idea--some kind of code. That information is then sent out and scatters itself through the brain.

Information resonates, bounces, returns to the original site and reinforces it, which sends out an even stronger signal.

In the brain the concept of a cup-- its shape, color, the word c-u-p--is distributed in space but not in time. A phase-conjugate model could explain ordinary associations as well as creative insight.

7. Brain may remember via natural lasers in fluid. Phase-conjugate brain. Is it done with mirrors?

Brain/Mind: A Bulletin of Breakthroughs, March 1996, Volume 21. Number 6

A radical new hypothesis of brain function--inspired by a high-tech invention--draws together provocative findings from several disciplines.

Optometrist Ray Gottlieb's "phase-conjugate brain model" (Brain/Mind, January-February, 1996) includes the use of the cerebrospinal fluid in the brain's ventricular system as a medium for linking memories.

Phase-conjugate "mirrors," invented in the 1970's, employ two crossed laser beams as a light structure to reflect other lasers and thus retrieve information precisely, with no loss of detail. No optical devices such as lenses or ordinary mirrors are used to construct these dynamic "superholograms."

Light traveling back and forth along the beam reinforces weak input. Phase-conjugate mirrors are being used now for comparison, classification or identification of shapes. Their potential usefulness in satellite transmission is obvious.

The precision that makes the technology so useful, Gottlieb pointed out, is no more remarkable than the human brain's ability to recognize a man's face after he has grown a beard or remember a friend we haven't seen in 25 years.

Beginning in the 1920's, rigorous research showed that no matter how much of the cortex is destroyed, memory of learned behavior persists. Where is it? In the 1970's neuroscientist Karl Pribram proposed that the brain employs the principle of holography to store memories in interference patterns of waves.

The holographic model has gained adherents over time, along with occasional findings that seem to support it. Nothing has seriously undermined its credibility.

Holograms require a coherent light source. Phase-conjugate mirrors are created or extinguished by turning the pump beam on or off--instant lasers.

Where in the brain is the equivalent of a laser beam? Lasers are created by making atoms vibrate violently in a crystal or other highly regular structure. The light energy breaks free in organized wave fronts. German scientists found evidence that living cells and organisms emit photons. They suggest that the macromolecule that can emit coherent light is the DNA itself.

When he first pondered the idea of a phase-conjugate brain, Gottlieb imagined a neural event that releases a flash of coherent energy. "This weak signal, propelled at the speed of light, radiates through the brain as a radio signal travels through the walls of my house, rather than traveling along the axons, as we've imagined."

Gottlieb proposed that these mirrors are situated in the brain's system of fluid-filled cavities, the ventricles, and in located mirrors would be created and maintained by specialized assemblies of cells that pump coherent light to form standing holograms in the fluid.

The central importance of the ventricles can be inferred from assorted observations. For example, a 95 per cent fatality rate is associated with bullet wounds in the ventricles. Many crucial brain structures line the ventricles. An embryo's development branches out from its "neural tube," which eventually forms the ventricles.

That helps to account for the ventricles' hospitable environment for implants. In one study, tissue inserted in the ventricles began to function and grow even though the graft had not yet connected. Most accepted grafts were in the ventricles.

Another clue: many hydrocephalics, whose ventricles are enlarged, function intelligently with a minute fraction of the cortex of a normal brain. Of those who had lost 95 per cent of their cortex, more than half had above-average intelligence.

When people commonly assumed a role for the ventricles in consciousness prior to the 19th Century, they made some interesting observations. The following are sample usages from old scientific treatises as shown in the Oxford English Dictionary.

1548: "From the foremost ventricle of the brain springeth seven pair of sensitive or feeling sinews."

1594: "Here we may see the ventricles of the brain as so many sundry chambers for the entertainment of the animal spirits." (This from proceedings of the French Academy.)

1620: "Beer that is too bitter causeth the headache by filling the ventricles of the brain with troublesome vapors."

The following speculation, published in 1655, eerily prefigures the phase-conjugate model described in [here]. "Suppose memory were thus sealed upon the brain and transmitted its image through the animal spirits [fluid] in the ventricles."

Anatomical talk of the ventricles got more mundane with the Age of Enlightenment. 1748: "Blood, matter or serum lying upon the brain or in its ventricles...." 1800: "The vapor or water in the ventricles of the brain." 1840: "The calamus scriptorius in the floor of the fourth ventricle." 1872: "Cilia are found in the ventricles of the brain."

Oh, friend, we arrived too late. The divine energies are still alive, but isolated above us in the archetypal world.... Sometimes a human's clay is not strong enough to take the water; human beings can carry the divine only sometimes.... Grief and Night toughen us, until people capable of sacrifice once more rock in the ironcradle, desire people, as the ancients, strong enough for water.
--Friedrich Holderlin, 1800

(Translated by Robert Bly)

Just as a stone flung into the water becomes the center and cause of many circles, and as sound diffuses itself in circles in the air, so any object, placed in the luminous atmosphere, diffuses itself in circles and fills the surrounding air with infinite images of itself. And is repeated, the whole, everywhere, and the whole in every smallest part.

Leonardo da Vinci

8. DON'T DRINK TAP WATER

Dr. Julian Whitaker Health And Healing Newsletter, (1998 April) , v.8, # 4 published monthly by Phillips Publishing, Inc., 7811 Montrose Road, Potomac, MD 20854

8.1. Introduction

Folks, I haven't drunk water from the tap in over a decade! In my house, I have water filters in the kitchen and bathrooms, and drink copious amounts of pure water. At home I never "run out" of bottled water and it's cheaper to process your drinking water yourself than buy it in the store. However, you must decide to either buy drinking water or filter it at home because your tap water is unsafe. You see, even if the municipal system is working well, it is the system -- chlorination -- that puts you at risk.

8.2. Municipal Water Supplies: The Good, the Bad, and the Ugly

Chlorine is a highly poisonous chemical used as a bleaching agent and germicide. It has been added to water as a disinfectant since 1908, when it was found to significantly reduce the incidence of infectious diseases in cattle in the Chicago stockyards. Today, chlorine-treated water is supplied to about 75% of America's homes. In addition, because some microorganisms are resistant to chlorine, most municipalities use elaborate filtration systems, and pathogens are generally kept at bay.

Yet these "state-of-the-art" systems do break down. In 1993, over 403,000 people were infected by the parasite *Cryptosporidium*, and over 100 died. There were 19 deaths in Las Vegas the following year, attributed to the same pathogen. Other examples include recurring cases of Legionnaire's disease, a pneumonia caused by *Legionella pneumophila*, which may lurk in hot water supplies, and the 1996 scare in Washington, D.C., when residents were told to boil tap water because of high levels of coliform bacteria. According to Environmental Protection Agency (EPA) records, from 1971 through 1990, there were 570 documented cases of contaminated water causing illnesses which affected thousands of people. And the Centers for Disease Control (CDC) estimate that over a million people every year get sick from microorganisms in drinking water (a figure some experts peg at seven times that number), and 900 to 1,000 die as a result!

8.3. Chlorine By Products Are Carcinogenic

Chlorine not only attacks water-borne pathogens, it also reacts with organic substances -- such as decaying vegetation in water -- to produce a number of byproducts known as halogenated organic compounds, or trihalomethanes, the most common being chloroform. It has been known since the 1970s that these chlorine breakdown products, in high enough doses, cause cancer in laboratory animals. More recent research has focused on this question: Does drinking chlorinated tap water cause cancer in humans?

The answer is "yes." A 1992 study published in the American Journal of Public Health, pooling the results of 12 studies, demonstrated "a positive association between consumption of chlorination byproducts in drinking water and bladder and rectal cancer in humans." The study concluded that 18% of all rectal cancers (6,500 cases per year) and 9% of all bladder cancers (4,220 cases) could be attributed to chlorination byproducts.

In a recent 1997 study, researchers from the University of Minnesota questioned 28,237 post menopausal women in Iowa regarding their health and their drinking water source, and then evaluated the chloroform content from water surveys. They found that the women who lived in areas with high levels of chloroform "Were at significantly increased risk for colon cancer and total combined cancers." Risk rose according to the amount of chloroform in the water.

It doesn't stop with cancer. Researchers in California have recently found that women who consume five glasses a day of cold tap water containing trihalomethanes at commonly found levels had about twice the rate of spontaneous abortions (miscarriages) compared to women whose consumption of tap water was considerably less. Other researchers have theorized that chlorine contributes to atherosclerosis.

8.4. Radon and Heavy Metals Also Pollute Tap Water

In addition to microbes and chlorine, other harmful pollutants can enter your tap water. One is radon, a radioactive gas emitted from the breakdown of uranium, a naturally occurring mineral in soil. Although radon is often considered an air-quality issue, this harmful gas leaches into underground water supplies and may then "outgas" and leak into your home. When inhaled, radon, like any radioactive substance, continues to break down in your lungs and is associated with cancer.

Several heavy metals, including lead, have been identified in tap water. Exposure to lead is particularly harmful to children, in whom relatively low levels of lead have been linked to learning disabilities, delinquent behavior, and brain damage. In recent years, the EPA identified over 800 water systems, supplying some 30 million people, with levels of lead exceeding safety guidelines. But even if water is lead-free when it leaves the treatment facility, lead may leach out from old lead pipes or lead-soldered pipe joints.

Other toxic metals found in tap water include arsenic, cadmium, mercury, and fluoride. (I discussed the problems with fluoridated water in the September 1997 issue.) These metals may seep into your water supply system from landfills or contaminated industrial wastes. Other common pollutants are nitrites from fertilizers, feedlots and sewage treatment systems; all manner of organic chemicals, from pesticides to industrial petrochemicals; and salt.

8.5. What About Bottled Water?

A lot of people make an end run around tap water by drinking bottled water. Americans spend \$3 billion every year on bottled water. Folks, I have mixed feelings about bottled water. Although I feel it is much better than tap water, and I drink bottled water myself when I travel or eat out, the bottled water industry is not well regulated. For all we know, we're just drinking somebody else's tap water. In many cases, even "mountain spring" water is, at best, a marriage of filtered municipal water and water from the reputed source. In addition, reports of bacterial contamination and unsanitary conditions in bottling plants have surfaced.

8.6. Filter Your Own Water

The most convenient, reliable, and, over time, inexpensive way of ensuring that your drinking water is safe is to install a home water treatment system. I have done a great deal of personal research into this crucial health issue, evaluating dozens of systems and checking the recommendations of the Water Quality Association and NSF International (third-party certification services).

Many of the water treatment systems don't go far enough in filtering your water. Some systems, like the inexpensive sink-side plastic pitchers with replaceable filters, reduce the chlorine taste and some of the minerals but do little more. I don't recommend reverse osmosis systems or distillers because they remove valuable minerals from the water such as calcium, magnesium and trace minerals. Further, neither reverse osmosis nor distillation remove chlorination byproducts -- you'd need added filtration to do so.

I feel that the best systems are those that combine activated solid carbon block filters with ultraviolet (UV) light chambers. The carbon block filters effectively remove lead, chemical and organic pollutants, and chlorination byproducts, and improve taste, and the UV light chambers kill microbes. The system I use in my home and office, which contains both, is called the Ultra-Sun. The reason I like it is because it removes all the harmful elements from tap water, but retains the healthy minerals. I change the filter and UV bulb yearly, and have complete confidence that I am drinking pure, clean water. In fact, the same system is used by missionaries in areas of Central America and Mexico where cholera is rampant.

8.7. Recommendations For Pure Water

I regularly stress the importance of drinking eight to 12 eight-ounce glasses of water every day- which is why I made this recommendation a part of the Whitaker Program. But make sure it's clean water. Look into a home water filtration unit. As I have pointed out, there are many systems out there, so check them out and make your own decision. If you are interested in the system I use, the Ultra-Sun (U\$295), which can be installed under the sink or on the countertop, or the April Shower filter (U\$59.95) for your bath, which is easy to install and easy to change the filter cartridge, you can call Phillips Products and Services at 800-705-5559 ext. K11019.

8.8. How Safe Is Your Shower?

Showering and bathing may expose you to more of the harmful chemicals in tap water than actually drinking the water! Not only are they absorbed through your skin-these harmful chemicals also evaporate, returning to their volatile gaseous form, which you then inhale when you breathe in the steam. According to research presented at the American Chemical Society, your exposure to these

chemicals by breathing the air in and around your shower is up to 100 times greater than by drinking tap water.

Solution: Install a shower filter. In addition to protecting you from noxious chemicals, it will do wonders for your hair and skin. I have a water filter on my shower head at home, and one thing I always notice when I travel is that after showering, my skin smells of chlorine (except in Florida, where it smells of sulfur).

9. DON'T SHORT YOURSELF ON WATER

by Dr. Julian Whitaker, Health and Healing: Tomorrow's Medicine Today, October 1994, Vol. 4, No. 10 published monthly by Phillips Publishing, Inc., 7811 Montrose Road, Potomac, MD 20854

9.1. Introduction

We take water for granted, and, consequently, we don't drink enough of it. The standard recommendation is to drink eight eight-ounce glasses of water a day. That's a glass of water, not coffee or juice, each hour of the working day. How many of you do that? If you think you drink that much, have you ever monitored it to make sure?

If you are shorting yourself on water, you're making yourself sick. In his book Your Body's Many Cries for Water F. Batmanghelidj, M.D., an Iranian physician, paints a convincing case that chronic, unintentional dehydration is at the root of many of our more serious maladies, including asthma, arthritis, high blood pressure, and lower back pain. Even if he is only half right, imagine the suffering we bring upon ourselves by not drinking enough water. In medical school I learned that water was unimportant to the body - even though it consists of 75% water. Water was inactive, simply "along for the ride." We were taught that conditions such as too much stomach acid, increased histamine causing asthma, inflammation in your joints, chronic pain in your muscles and joints, and increased cholesterol were all malfunctions of the solid or solute parts of your body.

9.2. We Need to Change the Way We Think About Water

In his book, Dr. Batmanghelidj calls for a paradigm shift. He argues that it is water that activates your body's systems, and the lack of it causes a variety of "thirst" responses that we call disease.

For instance, histamine, which causes the bronchioles in your lungs to constrict, is the primary trigger for asthma. However, histamine release is also the body's primary mechanism of stopping water loss from your lungs.

Dr. Batmanghelidj argues that most of us are chronically dehydrated, and we have to discipline ourselves to drink water to avoid this. If you drink only when you feel thirsty, it's too late - you are already dehydrated. In addition, as you get older, your sense of thirst doesn't work properly. Many elderly people walk around dry as prune, with visibly dry mouths - but no sense of thirst.

9.3. How Water Can Prevent an Ulcer and Arthritis...

The mechanism of ulcer formation is particularly interesting. The mucus that lines your stomach, protecting it from the hydrochloric acid, is 98% water. Within this mucous material, sodium bicarbonate neutralizes the acid before it reaches the stomach wall. When your body has too little

water, this mucous barrier sloughs off, and the stomach acid eats away at the stomach cells. When water is added, it immediately goes into the stomach, restoring the mucous membranes.

Once you recognize how devastating dehydration can be, you see how it could be at the root of many illnesses. Arthritis, for instance, is a fiery inflammation of the joint- it is the body's way of burning up. It's a hot spot. Forest fires are hot spots on the planet. The central requirement for both is lack of water. Without adequate hydration around the joints, once inflammation starts, it runs rampant, just like a forest fire.

The lubricating material of the joint - called synovial fluid - is almost all water, with some protein-carbohydrate molecules. Cartilage also is very high in water content, much higher than bone. When your body has plenty of water, both the lubricating fluid and the cartilage that covers the ends of your bones glide smoothly on each other. Obviously, when there is not enough water, neither the synovial fluid nor the cartilage is able to maintain the smooth, gliding joint motion.

9.4.And High Blood Pressure

I was particularly stunned by Dr. Batmanghelidj's lucid description of how lack of water is the primary cause of hypertension, which affects 50 million Americans. For over 20 years I have, and .rightly so, recommended increased intakes of both magnesium and potassium to counterbalance the excess sodium involved in hypertension.

As Dr. Batmanghelidj clearly points out, however, the very mechanisms that cause the body to elevate your blood pressure - the hormone system in your kidneys that conserves sodium, the constriction of your arteries, the increased action of your sympathetic nervous system - are also those used to combat water loss.

Even so, for 20 years it never dawned on me to tell my patients with hypertension to drink more water. I was taught to treat high blood pressure with drugs, a practice that Dr. Batmanghelidj dismisses as "scientific absurdity." Dr. Batmanghelidj contends that water may relieve an enormous amount of human suffering. I agree.

9.5. Recommendations

- ∞ You must read Dr. Batmanghelidj's book, [Your Body's Many Cries for Water](#). It is available from APMA (800/230-APMA; U\$14.95 plus U\$3.00 shipping and handling) and is sold in book stores.
- ∞ Drink at least eight eight-ounce glasses (two quarts) of water per day for starters. Drink one to two glasses half an hour before meals, and upon rising. And, of course, take your Whitaker Program vitamins, at mealtimes, with tall glasses of water. Increase your water intake above this to make up for any obvious losses from exercise or hot weather.
- ∞ If you're taking diuretics or have a problem with heart disease, the hydration will help, but check with your doctor before drinking more water. Don't expect your doctor to understand the importance of water per se, because he or she likely holds the traditional viewpoint that water is an inactive substance. Water is Nature's diuretic and could take the place of man's diuretics if used appropriately. A gradual increase in your water intake - not juices, not coffee, not tea - has enormous healing potential.

I now drink 12 oz. of water before I go to bed. This obviously causes me to have to wake up at night to urinate, but rather than walking around and stumbling in the dark, I've put a "chamber pot" under the bed!

The quality of the water you drink is of paramount importance. I do not recommend that you drink tap water. The quality of the water delivered by the municipal water supplies is deteriorating. This is why bottled or filtered water is so important. I strongly recommend that you filter the water you drink at home - it's cheaper than bottled water in the long run.

I use the Ultra-Sun water purification system, which has two separate filters for sediment, hydrocarbons, chlorine, and everything else. In addition, it is the only home system with a UV chamber that kills bacteria and viruses (filtration alone doesn't do this). It costs US\$308, but it is so good that Faith Baptist missionaries from Indiana use it in near-cholera environments in Mexico and Central America to get crystal clear drinking water from swamp water.

The Doulton water filter is another excellent choice. It combines a special high-density matrix carbon and ceramic technology, removing chlorine, lead, bacteria, and parasites. It costs US\$199. Both are available from Phillips Publishing (800/777-5005), and both need to be installed below your sink by a plumber.

For more information on water treatment systems, write to Water Quality Association, P.O. Box 606, Lisle, IL 60532 for a free information package.

10. WASH AWAY YOUR BACK PAIN

by Julian Whitaker, Health and Healing, v. 5, # 3, March, 1995 pp. 5-6

10.1. Introduction

I have written many times on water and its importance for a variety of ailments (see Oct. 1994 Health & Healing), and you will be hearing about it from me again, as this is a paradigm shift. What I mean by this is that most people consider water to be an inactive solvent, unlike cholesterol, enzymes and other "dynamic" molecules in your body. In reality, though, it is water that causes the other substances in your body to get up and move. When a paradigm shift like this occurs, individuals are not likely to understand or grasp it the first time around.

So against this backdrop, let's talk about back pain. It's an enormous problem in this country. Half of Americans have at least one day of back pain a year which interferes with their daily routine, and the average for such back-related incapacity is six days. Over 40 million people - over 15% of our population- suffer from chronic back pain. The medical costs for treating back pain total \$80 billion a year. That is about \$9 million an hour, 24 hours a day! Much of the cost is for the over 200,000 operations performed annually to remove discs between spinal vertebrae. Think about it - chances are you know several people who have had this operation.

Folks, I just can't believe that the design of the human body is so faulty that some 15% of us wind up crippled with back pain. Secondly, I am convinced that our conventional treatment with drugs and surgery is not only not helping the problem but is probably making it worse - like swatting flies in a china shop with a baseball bat! Surely there is a simpler, less expensive, less dangerous, more

effective approach to this enormous problem, and it is likely sitting there right under our noses. Well, I just may have found it, and I want to share it with you.

10.2. Simply Put. Your Back Hurts Because It Is Thirsty

In his incredibly easy-to-read paperback book, [How to Deal with Back Pain and Rheumatoid Joint Pain](#), F. Batmanghelidj, M.D., of Falls Church, Va., outlines and convincingly supports a seemingly preposterous theory. He writes that a lot of our back pain, and even rheumatoid pain is due to an insufficient amount of water, a symptom of chronic dehydration. In the most simplistic terms, our backs hurt because our bodies are thirsty.

Once you understand the mechanics behind your spinal column and how it supports your body, the connection between hydration and back pain is quite straightforward.

First, as Dr. Batmanghelidj writes, most of the pain people experience in the back is from strain, injury or overwork of the back muscles. The stressed cells need ample amounts of water to flush out the acid particles created by the increased work or stress. When copious hydration is supplied, the cells have no problem. When we become dehydrated - and most of us are chronically dehydrated - then the cells are unable to rid themselves of these acid components. As a result, the cells produce substances called kinins, which are polypeptide hormones that remain dormant unless your water level drops too low or your salt level goes too high. The function of kinins is to cause pain - a not-so-subtle sign to the body to 1) stop using that section of the body or more severe damage will occur, and 2) get some water into the system so the acid-clearing pumps can do their job.

Alleviating pain in arthritic or low-back conditions cannot be done by simply drinking several glasses of water at one time. If dehydration has been around for a while, as has the pain, then relief will occur only after the body has had an increased intake of water for several weeks.

10.3. Your Discs Need Lubrication to Short-Circuit Pain

Secondly, the discs in the lower back that separate the spinal vertebrae act as shock absorbers just like the springs and shock absorbers on a car. Just imagine driving a car with no shock absorbers or springs over a rough, bumpy road where each bump is felt "as is." These discs are attached to the vertebrae only at the edges. Therefore, as they are compressed, each disc can shift either towards the back or towards the front.

The ability of these discs to act as shock absorbers and shift one way or the other in response to stress is completely dependent upon adequate amounts of water. As discs are compressed, they extrude water. When that pressure is relieved or the discs shift frontwards or backwards, a vacuum is created inside the disc space and water rapidly flows in, rehydrating and cushioning the vertebrae. Without this powerful water surge, these discs flatten and slip out of spinal alignment, causing acute and chronic pain on the nerves behind the disc.

Standard treatment for disc slippage is surgical disc removal, an operation performed over 200,000 times a year. While this conventional approach may alleviate your back pain, in the long run it sets you up for more problems. You see, once a disc is removed or a joint is fused, then you just increase the chance of other discs deteriorating because you have removed a good portion of the shocking system and increased the stress on the remaining discs.

10.4. These Exercises Are Different. But They Do Relieve Pain

Whereas people with acute disc pain are told to lie in bed in the fetal position curving the spine outward, Dr. Batmanghelidj recommends exercises that have you lie on your stomach with pillows under your chest and pelvis to gradually bend the spine inward.

By gently bending the spine inward toward the front, the anterior spinal bodies separate, creating a vacuum which pulls the discs away from the nerves, thus alleviating pain. In addition, this vacuum stimulates the water flow into the disc, which separates the tiny facet joints of the spinal body, another source of irritation and pain. The end result is relief.

I reviewed some other books while looking for a solution to back pain, and one, which was highly regarded by the Los Angeles Times, gave me a headache after only three minutes!

10.5. Recommendations

If you or someone close to you suffers from acute or chronic back pain, I suggest getting a hold of Dr. Batmanghelidj's paperback, [How to Deal with Back Pain and Rheumatoid Joint Pain](#), Global Solutions Press. The words on the front cover say it all: a "preventive and self-treatment manual for those who prefer to adhere to the logic of the natural and the simple." The book is available in some book stores. To order by mail call 800/759-3999, or send \$14.95 plus \$3 for shipping and handling to the publisher at PO Box 3189, Falls Church, VA 22043.

As I've stressed before, you should be drinking at least two quarts (eight 8 oz. glasses) of clean water a day. I recommend mineralizing your water with a concentrated mineral source like [ConcenTrace](#) from Trace Minerals. This liquid is available in health food stores or by calling Mother's Market & Kitchen at 800/595-MOMS (6667). Add about ½ to one teaspoon per gallon of water.

For acute or chronic pain caused by a disc compressing on a nerve, I recommend Dr. Batmanghelidj's back exercises. They are in his book, but for a schematic diagrams of them and instructions on how to do them, send a long SASE to Phillips Publishing, customer Service - H&H Back. 7811 Montrose Rd., Potomac, MD 20854.

11. WHAT YOU SHOULD KNOW ABOUT WATER

1990 Evian Water Co.

Water is the most important substance you can put into your body. And the one liquid you must absolutely have, in one form or another, in order to live. Not only is water necessary for existence, your body has an unending need to consume and absorb it. Of course, many of us already know the cardinal rule about the necessity of drinking eight glasses of water a day. But what many of us do not know is exactly why we need so much water.

Basically you can think of the human body as a machine that needs water for three vital functions: 1. to maintain normal performance levels; 2. for temperature control; and 3. to help process every biological, mechanical, and chemical action that takes place in your body. In addition, not only is your body comprised of a large percentage of water, it is constantly losing water in ways you are not aware. So replacing that water, constantly, is vitally important.

If you are an adult, it is likely that your body contains about 40 quarts of water. If you are a man, water comprises as much as 60 to 65 percent of your body. If you are a woman, your body contains 50 to 60 percent water.

Hydration means meeting that unending need for water in the human body. But good hydration has to be an act of will. Meaning you must drink water, even when you don't feel thirsty. It is the only practical way to meet the real water needs of your body. The 40 or so quarts of water in your body sounds like a lot. But even a small loss of water will have serious consequences including a laboratory proven measurable decrease in physical performance. The loss only needs to total a mere 2 percent of your total body water. Which is not an unusual amount to lose in an average hour of exercise. If your water loss amounts to somewhere between 6 and 7 percent you will experience definite symptoms of dehydration and weakness.

Water is essential for virtually every biological process, chemical reaction and mechanical action that takes place in every part of every human body. For instance, since water comprises a large portion of the blood itself, water is needed for your heart to pump and to maintain your circulatory system, including your blood pressure. Water is needed to carry away waste products. If allowed to accumulate, these wastes can become harmful. Every joint in your body also requires water as a lubricant so motions will be smooth and painless. In addition, the function of the lungs is not just to collect and process air, but also to heat and humidify it. The digestive system uses several gallons of water daily to process food. And most importantly, your brain could not perform the chemical reactions required to run the body without adequate water. After all, about three quarters of the brain is water.

Most people drink only when they get thirsty. Thirst, however lags far behind the body's hydration needs. If, for instance, you are involved in a regular exercise program and rely solely on thirst to replenish your water, it takes up to 24 hours before your body returns to proper hydration status.

You are always losing water. For instance, even when you are just sitting quietly, you are constantly and lightly sweating. Even while you read this. You also lose water when you breathe out, you eliminate some of the water vapor your lungs used to heat and humidify air. On a cold winter day you can actually see this loss as a cloud that comes from your mouth whenever you breathe out. The insensible losses total approximately a quart of water each day. Other normal losses bring the total up to two and a half to three quarts of water per day. If you exercise for an hour or so, or if you live in a hot, humid climate add another quart.

To maintain good hydration and to keep even mild dehydration from affecting your performance during exercise, follow this routine even if it sounds like a lot to drink. Drink 8 ounces of water before you exercise. Drink approximately 4 ounces of water every 14 minutes or so while exercising. Then, drink 8 ounces again, about 20 or 30 minutes after you finish exercising.

12. WATER BOOSTS HEMOGLOBIN'S LUST FOR OXYGEN

Science News, Vol. 139, 91/3/30

Hemoglobin, the iron-rich protein pigment in red blood cells, ferries oxygen through the body. Despite intensive study, hemoglobin still baffles scientists because it grabs on to oxygen in the lungs more readily than its molecular structure would suggest. Now, three biophysicists have discovered that water whets hemoglobin's appetite for this vital gas.

In experiments at the National Institute of Diabetes and Digestive and Kidney Diseases in Bethesda, Md., the researchers found that at least 60 water molecules latch on to a hemoglobin molecule as it takes up oxygen in the lungs. The water sops up energy that otherwise makes hemoglobin rebuff oxygen. Thus, other oxygen molecules can attach more easily, report V. Adrian Parsegian, Donal C. Rau and Marcio Colombo, who described their findings last week at a meeting of the American Physical Society in Cincinnati.

Each hemoglobin molecule consists of four peptide chains and can carry up to four oxygen molecules. To do so, the complex protein changes its shape - but only slightly, and not enough to account for the energetics of the oxygen loading, says Parsegian, now a visiting scientist at Princeton (N.J.) University.

In hemoglobin's oxygen-lacking configuration, attractions between the peptide chains keep the protein-structure taut. These attractions tie up a lot of energy and make it difficult for oxygen molecules to enter. But in the lungs, high concentrations of the gas help jam that first oxygen into the protein molecule, Parsegian explains. The binding of oxygen strains the hemoglobin structure, and the Peptide chains twist a little.

Scientists had speculated that chemical bonds in the protein took up the energy released by this twisting. But Parsegian and his colleagues have shown that the energy also transfers to the hemoglobin surface, where it gets bound up in holding on to water molecules. This wetting seems to cause the hemoglobin to relax and open up, increasing the Protein's affinity for oxygen by a factor of 100 to 1,000 he says.

"The fact that there are 60 water molecules tells us there's a lot of energy involved," Parsegian told Science News. He and his co-workers do not yet know how quickly the water molecules attach to hemoglobin, but "I think it's a rather sudden event," he adds.

The energy tied up in the linkages between the chains roughly equals that involved in wetting the hemoglobin surface, he says. The addition or removal of oxygen tips the balance in favor of one energy state or another.

The new findings could affect efforts to develop oxygen-carrying blood substitutes, biochemist Enrico Bucci told Science News. Bucci, an expert in blood substitutes at the University of Maryland School of Medicine in Baltimore thinks Parsegian's results may mean that blood substitutes need to be encapsulated with water in order to work. If so, approaches that use free-floating hemoglobin substitutes may not pan out.

13. MAGNETIZED WATER IS NO MYSTERY

by Rhody Lake, 1995, January, #148, Alive, pp. 12-13, PO Box 80055, Burnaby BC V5H 3X1

13.1. Introduction

Most of us are not fortunate enough to get our water from free-flowing artesian springs, pure mountain creeks, rain water (unmixed with acid rain) or uncontaminated rural wells. Our choices are chlorinated tap water, bottled spring water or a water purification system.

We need water. Living water. We need water to hydrate every cell in our bodies (see "Your Body's Many Cries For Water" page 16). But the water delivered to us from household taps is contaminated with chemicals industry waste effluent and garbage. It's also under such pressure that we now learn its life-giving energy is all but destroyed. We need water that is not only purified but revitalized to bring it back to something close to the life-giving, nourishing, cleansing element it was designed to be. That is apparently done through magnets.

Independent research into magnetized water began in both Eastern and Western European countries. One grass roots researcher was a self-taught scientist by the name of Johann Grander. He claimed his knowledge came from studying nature in his native Austria.

"In normal conditions," Grander wrote, " water flows either on the surface of the earth or deep under-ground, always seeking a natural course In our water supply system however, the water is collected and forced through pipelines under pressure. At this stage the water suffers a serious aggression for the first time. The high pressures are highly detrimental to the liquid. The water is then further contaminated by the addition of powerful chemicals, such as chlorine. However we use it, the water eventually finds its way back to nature through the drains. We collect clean water from nature and return it soiled and sick."

Grander said water has a double function. It supplies life-giving energy. It also acts as a waste disposal agent for all living beings.

"Water picks up energy from the sun and collects the energies that are stored in the earth. In summer, with strong solar energy, the water pushes itself to the surface. In winter, with weaker solar energy, it burrows deep into the ground, collecting the stored and transformed energies.

"It. is an eternal circle in which water plays the main role. The water is also a living organism and therefore capable of transforming energies and refuse through its own micro-organisms. Live water seeks by itself its sources of energy. Healthy water can be distinguished from sick water even by its murmurs."

13.2. Magnetism in North America

Dr. Klaus Kronenberg is a scientist who studied in both Germany and the United States. He is now an associate professor at California State Polytechnic University in Pomona, California His original research used magnets in water treatment for industry.

"Water is chemically neutral," he said, "but it is one of the best solvents known to man. It has the ability to entrap other substances. In other words water tends to cluster around every non-water particle forming conglomerations or complexes.

"Water's capacity to entrap substances results in its high mineral content. One of the most common is calcium carbonate, a substance that forms mountain ranges, such as the Austrian Alps. Most water supplied by water districts in (North America) contains a good amount of calcium content. This is important for proper taste and a healthy mineral balance."

However, calcium is a problem in industry. It creates deposits of scale, like the accumulated scale in your kitchen kettle. Calcium is also a health problem when unassimilated calcium is deposited in

human joints. Water softeners work as ion exchangers replacing calcium carbonate with sodium. which is okay for industry--but it-s not recommended for human consumption!

13.3. Magnetizing Water

The effects of magnetic fields on running water have been observed for years. Patents on treating water with magnets appeared as early as the 1950s. It was discovered that less scale deposit was produced after long use. The effects were described as making the water appear to "behave" as if the mineral content was lowered. This technology was used mainly in countries which had very little chemical industry, like Russia, China, Poland and Bulgaria who all reported the successful use of magnets in treating water for irrigation, industry and home use. They cited improvements in taste and faster drying time--but no one knew why!

Magnetic water treatment developed more slowly in the West. To Western minds, measuring the magnetic effect of flowing water was somewhat suspect (Kronenberg said, "People in the West insist on understanding what they say or do!").

Also chemicals were in general use in North America and the chemical industry did its best to discourage the use of magnets--for obvious reasons!

Even to Westerners, however, the genuine and practical effects of magnetic water treatment after prolonged use were undeniable. And Kronenberg states there is no mystique in how magnets treat water problems. The positive effects have been confirmed through systematic research. When treatment devices with permanent magnets were developed they were immediately successful.! The formulation of scale on new pipes was totally eliminated and the removal of scale deposits in old water pipes was soon evident.

It was while he was at California State Polytechnic that Kronenberg contributed to the pioneering work in agriculture that re-used re-energized irrigation water with magnetic treatment. He says magnets actually change the nucleus of water.

And that is the source of its seemingly magical properties. A diet of magnetized water makes cows give more milk, chickens grow fatter and lay more eggs. And cantaloupes and other crops grow larger and have better yields with less fertilizer.

Professor Israel Lin of the Israel Institute of Technology decided to use magnetic treatment on saline and brackish water using an instrument costing less than \$5000 (US). The unexpected effects were revealed during tests at Kibbutz Gvat. The 85 cows that drank magnetically treated water for three years produced a litre more milk a day, had fewer milkless days and conceived more easily, due to increased health and vitality (Better than bovine growth hormone!)

The calves not only weighed more than calves in the control group, they were leaner!

Magnetic water had a similar effect on all farm animals at Kibbutz Gvat. Geese grew bigger, sheep produced more meat, milk and wool, chickens and turkeys laid more eggs and were prolific for a longer period. More dramatically, the mortality rate was reduced with less feed. Lin said the change of the water s properties is the key.

The magnetized water increases the solubility of minerals and therefore improves the transfer of nutrients to all parts of the body. making the organism work more efficiently."

13.4. The Nucleus of Water

The shortage of nucleation centres in water is known to result from the capability of the water molecules to cluster around each foreign particle," Kronenberg explained. This renders it unavailable as a nucleation centre. The forces of the magnetic fields on those water molecule clusters is very weak, however. The clusters vibrate in a number of ways. When they pass a number of magnetic poles at a certain velocity the periodic changes of the magnetic fields may coincide with one of the internal vibration frequencies of the water clusters. Resonance may occur and result in cracking open such a cluster.

"The formerly entrapped particle is set free and the nearby mineral molecules rush from all sides to their nucleation centre where they form circular platelets. The minerals that form the circular platelets do not have to be crystallized on a container wall. In turn, the number of hard crystals is reduced accordingly. The percentage reduction is the magnetic treatment's effectiveness rating."

13.5. The Memory of Water!

Many success reports specify that magnetized water maintains its property of scale deposit prevention up to two days. Kronenberg says some critics make this fact look absurd by calling it "water's ability to remember its magnetizing experience."

"We do know," he states, "that the treated water retains its special scale-reducing properties while the calcium carbonate is present in the solid, inactive form of the micro crystals. We have examined these crystals under massive magnification in various waters and different treatments. We can recognize in the 400-time magnification the clear prototype of the disc-shaped crystallization nuclei."

He says that following magnetic treatment of water with a bad smell the odor was removed because "the dissolved sulfite minerals were changed into solid masses."

13.6. Water Is Life

Johann Grander says that because of electrical disturbances, satellites and especially through high water pressure, water loses its life force. And sick water negatively affects the health of people, animals and plants. On the other hand, water that has been revitalized through magnetic treatment is restored to its natural energy.

Crops grow faster and stronger; flowers and plants are healthier and more resistant to disease; lakes, rivers and streams are helped back to health; and livestock and pets are more vigorous.

Magnetic treatment for purifying and rejuvenating water is new in North America. Kronenberg says it's important that the public learns and understands the physical structure of water and the fundamental problems that presently exist--but don't show up in a chemical water test. The benefits of restoring the vital energy of water has economic, personal and environmental benefits.

Unfortunately, government bureaucrats are so far behind what is really required to revitalize and purify our water that they refuse to recognize that chlorination is a poison, not a purifying agent. And magnetism is not magic It's just slightly foreign to North American experience--but it's not going to make big profit for mega chemical companies!

14. FOODS THAT HEAL: WATER

Fields, D., New Age Journal, 1993 August, p. 107

An imprisoned Iranian doctor accidentally discovered the healing properties of ordinary water in 1980 when he offered two glasses to a fellow inmate suffering from extreme ulcer pain. Remarkably, the man's pain disappeared within minutes. Since his release in 1982, F. Batmanghelidj, M.D., has continued to research the medicinal value of water and has treated more than 3,000 peptic ulcer sufferers with water alone. The physician believes that chronic dehydration is the cause of a host of ailments, including hypertension, asthma, various allergies, and migraine headaches. In his 1992 book, Your Body's Many Cries for Water (Global Health Solutions, Inc., PO Box 3189, Falls Church VA 22043), he asserts that the body's thirst sensation declines steadily from early adulthood, resulting in increasing dehydration with age. Dr. Batmanghelidj recommends at least six to eight glasses of water a day as the ultimate preventive medicine.

15. YOUR BODY CRIES FOR WATER

by F. Balmanghelidj MD, 1995, January, #148, Alive, pp. 16-17, PO Box 80055, Burnaby BC V5H 3X1

15.1. Introduction

The most important life-giving substance in the body and one that the body desperately depends on is water. I have helped thousands of people stop using prescription drugs and avoid surgery by suggesting that they drink two and a half quarts of water per day.

In this case, water is taken upon rising and a half hour before meals so it can be ready when it's needed in the stomach, pancreas, liver and intestines - and again between meals. I also recommend a glass of fresh orange juice each day and the gradual addition of mild exercise, such as walking and rebounding. But it is not easy to change a lifetime of dehydration (which is the state of most people).

Dehydration starts early, when the pregnant woman does not drink enough water to provide for the proper growth of new cells. Then she seldom drinks enough water to maintain a good supply of breast milk. Children are not trained to drink water, but to ask for sodas, juices and manufactured foods.

As for adults, one person who quit coffee said, "Everyone offers you coffee. It is nearly impossible to not get a cup of coffee in this country." And sad to say, many people are utterly addicted to diet colas which research shows cause health problems and actually add weight.

15.2. You're Not Sick, You're Thirsty

My research has led me to believe that chronic dehydration is the root cause of many major diseases. Water has medicinal value in helping relieve such ailments as rheumatoid joint pain, back

pain, anginal pain, hypertension, asthma, allergy, high cholesterol, chronic fatigue and obesity. People who have lost weight by drinking water before eating food have managed to separate the sensation of thirst and hunger.

The sensation of thirst and hunger are generated simultaneously to indicate the brain's needs. We do not recognize the sensation of thirst and assume both indicators to be the urge to eat. So we eat food when the body should receive water! We should not overeat to satisfy an urge for water.

In my book, Your Body's Many Cries for Water, I give a lot of detailed scientific reasons for getting enough plain water (as well as some amazing case histories). Twenty-five per cent of the human body is solid matter (the solute) and 75 per cent is water (the solvent). The brain is said to be 85 per cent water, and within the strict priorities the body sets for rationing the water available to it, the brain takes absolute top priority.

It is assumed that, as in the chemistry lab, the solutes are the regulators in the body. Water is only a solvent, a means of transport and insignificant "packing material." But it is the solvent itself that is the regulator in the body, every function of which is dependent on an adequate supply of water. There are many signals the body sends out to announce its need for water before loss of those functions occurs. In "advanced" cultures people are trained to ignore those signals and chronic dehydration is generally widespread. It is assumed that because water is abundant and the least expensive of commodities that there is no problem of shortage.

A cultivated preference for coffee, tea, alcoholic beverages, sodas and other manufactured drinks automatically lessens the urge to drink water, even when those beverages are not available. But it is not possible to drink enough manufactured liquids to meet the water needs of the body. When the natural love of water is so suppressed, one finds it a chore to drink it. If water intake is normalized, the taste for water develops again, bringing a simple but profound pleasure to life as the body's most vital needs are served.

Signals given by the water distribution system regulators of the body have come to be known as indicators of unknown disease conditions in the body. That is the most basic mistake that has devastated clinical medicine. Doctors have been taught to suppress those signals for water with chemical products. These signals of water distributors indicate regional thirst. When they are satisfied they will not lead to pathology and disease as will the use of commercial chemical products.

The production of histamines with their corresponding pain and symptoms is actually a signal for water, but we have sought complex solutions with great cost both to our pocketbooks and our health. We must rule out the simple solutions first, because they are the basis of health. Whereas a dry mouth is now regarded as the only accepted sign of body dehydration, damage has already been done when that occurs. We can reduce the health care costs of this nation by at least 60 per cent if we adopt a new paradigm that recognizes the importance of water. Water is the only medicine that can deal with dehydration. In order to restore the body to a healthy state of hydration, we should drink at least eight eight-ounce glasses of water per day.

15.3. Dyspeptic Pain

The dyspeptic pain is the most important signal for the human body. It denotes dehydration. It is a thirst signal and can occur in the very young as-well as in older people.

Of dyspeptic pains, that of gastritis, duodenitis and heartburn should be treated with an increase in water intake alone. When there is associated ulceration(s), attention to the daily diet to enhance the rate of repair of the ulcer site becomes necessary.

It is generally understood that 12 per cent of those with dyspepsia develop ulceration in their duodenum after six years, 30 per cent after 10 years and 40 per cent after 27 years. It is the dyspeptic pain that is of significance, although the condition develops importance once the ulceration is viewed through the endoscopic examination. It seems that medical practice is becoming more and more a visually oriented discipline rather than a perceptive and thought-based art that it was at one time.

I have treated with only water well over 3000 persons with dyspeptic pain who had other distinguishing characteristics to classify them according to those jargons. They all responded to an increase in their water intake and their clinical problems associated with the pain disappeared. The report of my new way of treating dyspeptic pain with water was published as the editorial article in the Journal of Clinical Gastroenterology, (June 1983).

15.4. Ulcers Healed with Water

One of the many patients I treated with water stands out and proves the fact that at a certain threshold of dehydration, when the body urgently calls for water, nothing else can substitute. No medication other than water is effective. He was a young man in his middle twenties. He had suffered from peptic ulcer disease for a number of years before the crisis time, when I met him. He had the usual diagnostic procedures performed on him and received the label of "duodenal ulcer."

This man had been given antacids and brand name cimetidine medications. He was in such pain he was semi-conscious, lying in the fetal position in his room. His pain started after lunch when he had taken three tablets of cimetidine followed by one whole bottle of antacid in the next 10 hours. I gave this man two full glasses of water - one pint. His groans stopped. Fifteen minutes later, I gave him another full glass of water and his pain disappeared completely!

I had another occasion to test whether the abdominal pain registration for dehydration was time-dependent or water volume-dependent. This time, a man was carried by two other persons into the clinic where I was working at the time. The patient could not walk. He was lifted from under his arms by two other persons. He too was an old peptic ulcer patient in extremely severe upper abdominal or dyspeptic pain. After examination to see that he had not perforated, I had the patient drink one full glass of water every hour. He did not achieve total relief in 20 minutes, or even one hour and 20 minutes. He recovered after three glasses of water (three hours)! On the average, it takes less severe cases about eight minutes to achieve total pain relief.

Dyspeptic pain is a thirst signal associated with chronic or severe dehydration in the human body. It should be treated by regular intake of water. The current treatment practice and the use of antacids and histamine-blocking agents is not to the benefit of a chronically dehydrated person whose body has resorted to crying for water.

16. ASTHMA PREVENTION AND CURE: A NEW UNDERSTANDING OF CHRONIC DEHYDRATION

by F. Batmanghelidj, MD Alive, #153,

16.1. Introduction

Annette C.P. is a journalist and public relations consultant whose husband had suffered from asthma for a number of years. Mr. C.P. was on various medications for asthma that had so incapacitated him that he had become almost confined to his house and his room, with medications on hand at all times. Life had become unbearable for both of them: for her, the anxiety of his impending death, and for him, the drudgery of life in constant suffocation.

Such was the quality of their lives before the morning she met me at a Rotary Club meeting. She asked my opinion about her husband's asthma. I told her not to wait until she would get home, but to tell him to begin drinking plenty of water straight away.

It did not take him more than a few days of following the instructions I gave her to see the miraculous improvement in his breathing and the capacity to move and talk with much more ease. He did not need to use the nebulizer he had rented. He could now return the apparatus to the company that rents these gadgets to very sick persons who cannot afford buying them.

Annette was very impressed with the unexpected result of her husband's response to simple water. she kept referring to it as a "miracle."

Not only did increased daily water intake cause improvement in this particular man's quality and expectancy of life, it also relieved his devastated wife.

Michael P. is in his 50s. He suffered from allergy and eventually asthma) ever since childhood. Later on in life he became overweight and developed high blood pressure. His allergy was so bad that he needed to pay attention to the daily pollen count before he would step out of the house. Seven years ago he became aware of the curative properties of water in asthma and allergy.

He started regulating his daily water intake and stopped drinking tea or coffee. When everyone in the office took coffee, he would drink hot water. Since that time, Michael has not had any asthma attacks. His allergy became much less troublesome, almost to the point of non-existent. He no longer bothers with the pollen count. He has been free of allergy and asthma attacks since the time he started to regulate his daily water intake. He considers himself cured of these health problems.

Nathaniel C. is now a young man in his 20s. He suffered from asthma since childhood. On several occasions he developed attacks that needed immediate professional attention at the emergency department of the nearest hospital.

In recent years, one of these attacks was so severe that he needed to be hospitalized. Consequently, in constant fear of a repeat of these attacks, his inhaler was always with him and used frequently, possibly more often than prescribed. Good morning to him would mean a few puffs from his inhaler.

He could not endure smoky rooms. He could not go through a business meeting without the support of his inhaler. Nor could he exercise with the same abandon and pleasure as his friends. For Nathaniel, fear and the constant threat of another attack preoccupied his mind and punctuated the days activities.

When he became aware of the topic of my research -- chronic dehydration -- he wanted to know if his asthma could also be cured with water. He was surprised when I informed him that asthma was caused mainly by chronic dehydration. After adjusting his daily water intake and reducing his coffee intake, his breathing became more comfortable. He could go longer hours without needing his "puffs of medication." He was able to reduce, and eventually do away with, his inhaler. He had been virtually free of his asthma and its associated fears for the past two years.

Dr. Jose Rivera, developed adult onset allergies and asthma when he went to college. At times he would get such severe attacks that he would need hospitalization for his suffocation and shocked state. He was allergic to cats more severely than other things.

Apparently he would never step into a house where a cat was kept as a pet. Before accepting an invitation, he would ask if they kept a cat. Such was the state of his body sensitivity to some allergens.

One day while talking to me on the telephone I noticed his repeated dry and gasping coughs. This was the time I learned about his asthma. I asked him to drink a glass of water and put a pinch of salt on his tongue. His words: "As you recall, I was having a coughing spell that interrupted my work and as you directed, the putting of some granules of salt on my tongue not only calmed my coughing but also took it away. My nurses commented on my not coughing some five minutes later."

For the past 18 months he has been free of asthma and allergies. He seems not to fear cats anymore. He does visit his friends who have cats in their houses. He now treats his asthmatic patients with water and some added salt intake.

Priscilla Preston's letter to me begins: "Imagine having to sleep in an upright position for almost a year, struggling for each breath and suffering from countless asthma and panic attacks nightly! That was me until five months ago!

"On March 27, 1993 I was hospitalized with a severe asthma attack and developed bronchial pneumonia! My blood gases registered 40 and I was in a life-threatening situation!"

She had heard about my book [Your Body's Many Cries for Water](#), which she bought and read. All she needed to know was the cause of asthma-dehydration. Armed with the new information on asthma, she is now cured of the disease.

In her own words: "As of this date, October 31, 1994 I am no longer on any medication for asthma! I have not used an inhaler or medication of any sort for more than five months! When I start any sort of mild wheezing, I just drink a glass of water and take a little salt and I am fine."

Asthma is not a "disease" It is a complication of water shortage in the body. Any time an asthmatic does not drink enough water, his/her predisposition to asthma attacks will come back. In which

case, the patient might think that water has not been effective. You cannot be lazy about drinking water and expect asthma to stay away. This became the painful experience of Mr. C.C. He decreased his water intake and after a few weeks his asthma recurred.

16.2. End Of Asthma In Five Years Crusade

For parents of 12,000,000 children who have asthma, the devastation of seeing these innocent children in the slow process of suffocation must be distressful beyond imagination. You see, several thousand of these children die from suffocation of asthma every year. Yet asthma can be cured. The information in the book Your Body's Many Cries for Water pointed these people in the direction of how to cure their asthma. As you see from these patient reports, asthma is so easily cured that from now on it should be classified as a "stupid" disease. Please join me in the declaration of an end to asthma in five years. Please share this information with your relatives and friends, that they might in turn warn their friends. Tell them that asthma is a disease of dehydration and salt shortage in the body. Chronic dehydration, to the point of causing asthma, will also produce genetic damage to a child in the process of development. Now that you have access to the information in the book, show the asthmatics you know how to cure themselves. You can not be indifferent to the suffering of 12,000,000 children with asthma. If you are successful at restoring health, wellness and the happiness of being normal again to a child with asthma, please write to me. F. Batmanghelidj.

17. THE IMPORTANCE OF WATER

Your Body's Many Cries for Water, by F. Batmanghelidj, M.D. Global Health Solutions, Inc. 2146 Kings Garden Way, Falls Church VA 22043

reviewed by Jule Klotter Townsend Letter For Doctors: An Informal Letter Magazine For Doctors Communicating With Doctors, #130, 1994, May

How like "monkey mind" to bounce about, tying itself in knots with complex solutions while ignoring the profound significance of the simple! Circumstance helped Dr. Batmanghelidj perceive the elegant significance of one factor we too often overlook: water. As a political prisoner in post-revolution Iran, Dr. Batmanghelidj gave a man suffering-from peptic ulcer pain two glasses of water because he had nothing else to give him. To the doctor's surprise, the man's pain disappeared in minutes. Over the next two years as the prison doctor, he researched the clinical value of water in treating people under stress. He has treated over 3,000 peptic ulcer cases with water; his method was described in an editorial article in the Journal of Clinical Gastroenterology (June 1983).

Batmanghelidj has also used plain old water to alleviate asthma, allergies, hypertension, high cholesterol levels, headaches, low back pain, rheumatoid arthritic joint pain, angina pain, and intermittent claudication pain. Batmanghelidj does not claim that water is a miraculous cure-all. He does say that the body's thirst can cause diverse unexplained, chronic pains and that dehydration needs to be considered as a factor before complicating the situation with other treatments. In Your Body's Many Cries for Water, Batmanghelidj explains the physiological roles of water and the many ways that the body signals dehydration.

Water has long been viewed, and subtly ignored, as merely a solvent for holding other, more important particles. But it has several profound effects on body functions. As a solvent, water must be plentiful since the proteins and enzymes it carries work more efficiently in less viscous solutions. Besides being a solvent, the osmotic flow of water at the cell membrane creates "hydroelectric" energy, energy used in neurotransmission and in the manufacture of ATP. Water is necessary to

create the stomach's protective mucus lining and natural antacid, preventing peptic ulcers. Water is a primary ingredient in the lubrication and repair of cartilage. Without well-hydrated cartilage, friction will cause bone damage. "Remodeling hormones" rush to repair the damaged joint and, in the process, restructure it, causing disfigurement. Water also lubricates the contact surfaces between the spinal vertebrae. In addition, its presence in the disc core within the intervertebral space supports 75% of the weight of the upper body.

The number and intricacy of the body's mechanisms to regulate and redistribute water indicate its importance. When the body lacks water, histamine levels rise, stress hormones are secreted and the Renin-Angiotensin system becomes very active. Research shows that dehydration causes histamine production to rise. Histamine directs the neurotransmitter systems responsible for controlling water intake and Distributing available water according to the greatest need. By increasing daily water intake and by reducing the amount of orange juice consumed to 1 glass/day, Batmanghelidj has reduced histamine levels and thereby alleviated asthma and allergies in patients. High potassium content in orange juice can also raise histamine production. Excessive amounts of histamine and its subordinate water regulators lead to chronic pain.

In response to the stress of insufficient water, the body secretes powerful hormones: endorphins, cortisone, prolactin, and vasopressin. Endorphins raise the pain threshold, allowing the body to withstand pain and stress until the emergency is over. Cortisone calls up the body's stored energies and raw materials for emergency use. If the emergency continues for too long, amino acid reserves become depleted as the body continues to feed off itself. Prolactin insures that the lactating mother will continue to produce milk. Batmanghelidj points out that although we concentrate on the solid composition of the milk, it is its water content that is of primary importance Every time a cell gives rise to a daughter cell, 75% or more of its volume has to be filled with water." Vasopressin governs the water rationing and distribution during dehydration. It also constricts select blood vessels and capillaries.

The Renin-Angiotensin system becomes very active when either water or sodium, the mineral responsible for maintaining water levels outside the cells, are below preset levels. This system causes the body to retain water and absorb more sodium. Like vasopressin, the RA system makes the vascular system constrict in order to prevent "slack" or empty space in the circulation system. When we become dehydrated, shutting down capillary beds is the body's only way to keep blood vessels full. We call measurable signs of this vascular constriction "hypertension." Hypertension is a sign of dehydration. Diuretics to get rid of water and sodium compound the problem. Another physical response to dehydration is the manufacture of cholesterol. Batmanghelidj explains that "cholesterol is a natural 'clay' that...regulates permeability of the cell membrane to water. Its manufacture is part of the natural design for the protection of living cells against dehydration."

How is it that people don't recognize thirst and become dehydrated to the point of chronic, unexplained pain? With the variety of canned juices, sodas, plus the availability of coffee and tea, we are not inclined to drink plain water. These other beverages do not have the same effect as water. For one thing, many, including coffee and tea, contain dehydrating agents. In addition, by cultivating a taste for a certain beverage, we disregard the urge to drink water - even when the desired beverage is unavailable. Research has also shown that as people age, they lose their thirst sensation and become gradually, chronically dehydrated. People also tend to confuse thirst with hunger. Many of Batmanghelidj's patients found that they lost weight when they followed his water routine; they no longer were consuming food in an unconscious attempt to quench thirst.

Batmanghelidj states that the body needs a minimum of 6 to 8, 8 oz. glasses of water each day: one glass a half-hour before each meal and a similar amount 2-1/2 hours after the meal. An extra glass should be taken before and after the heaviest meal or before going to bed. Batmanghelidj recommends using tap water if it isn't contaminated by heavy metals or toxins because people who rely on bottled water tend to ignore thirst if they don't have access to their special brew. Chlorine in tap water will evaporate if the water is left standing in an open jug. Dehydration cannot be healed overnight with large quantities of water. The body works like a sponge and must have ample access to water to saturate at its own rate. If unexplained pain has persisted for many years, be sure that the kidneys haven't been damaged by dehydration and can still make sufficient urine to eliminate an increased water load. After some days of increased water, you may need to increase salt. Batmanghelidj says that cramps in unexercised muscles often indicate a need for salt.

As an aside, Batmanghelidj includes a chapter on his research and theories regarding AIDS. He has found that people with AIDS are "consistently and drastically short of methionine, cystine and cysteine." Cysteine prevents the production of what we call HIV in cultured cells. HIV is actually a fragment of DNA or RNA from a damaged cell and indicates the breakdown of the cell nucleus. In Batmanghelidj's opinion, AIDS is ~a metabolic disorder, and the DNA/RNA fragments classified as the different viruses of AIDS were themselves a product of cysteine shortage in the body.'

In his book Your Body's Many Cries for Water, Batmanghelidj clearly explains the forgotten physiological importance of water. When water is plentiful, blood viscosity, joint cartilage, blood capillaries, digestion, ATP hydroelectric system, the spinal column, all work in an efficient, easy manner. When water becomes scarce, the body robs some areas to insure water to others, resulting in pain and, eventually, tissue damage. The body responds to insufficient water with emergency measures. It was not designed to live in a constant emergency state. Doctors and their patients need to understand the varied effects of dehydration. Daily water intake is its only - and very simple - solution.

Your Body's Many Cries for Water, By F. Batmanghelidj Reviewed by Dan C. Roehm, MD
Pompano Beach, Florida, Journal of Clinical Gastroenterology, 1994, v. 18, #1, pp. 90-91

Editorial note: The author of the book here reviewed, Dr. F. Batmanghelidj, published his first editorial on the problem of water in this Journal back in 1983, so it will interest some of the readers to see the world view that he has developed from that doleful experience.

Under death sentence on 32 counts from a Khomeini kangaroo court in his native Tehran, the author of this unsettling book set out to save his life by becoming totally indispensable to the health of the teeming prison population using virtually the only medicine at his command, water. He began in a cell with one writhing (nonperforating) peptic ulcer case, gave him two glasses of water and stopped the pain in 8 min. Released after two years to pursue his successes, he escaped his arid homeland and settled just outside Washington, D.C., where he has established the *Foundation For The Simple in Medicine*. Now he proposes to save the rest of us (from a bigger jail) by showing how nearly all our degenerative diseases are caused by unrecognized dehydration because as physicians we are solute, not solvent, oriented and, as a population, we all go on our rounds without the wit to sense that our mouths are dry and thus we are slowly dying of dehydration, the greatest stressor our bodies (or any life forms) are ever subjected to. Several examples must suffice.

Item: Our cholesterol rises because this waxy sealant must increase within the bilayer cell membrane for prevention of the escape of water. The volume of cells is regulated by the amount of water within them, yet in dehydration some of this water must be given up to maintain the normal composition of the blood: In measuring solutes we miss this.

Item: In hypertension, the result of increased peripheral resistance (practicing regional drought), the body desperately tries via the renin-angiotensin system to present *some* species of water to the cell by retaining salt and expanding extracellular fluid even unto edema. The best diuretic/hypotensive? Water! The body's most ardent "cry" is often pain. As in peptic ulcer, colitis, arthritis, angina, headaches, degenerating discs (75% of a disc's weight bearing is hydraulic). In drought management, histamine is dominant and directs vasopressin, renin, angiotensin, prostaglandins, and kinins. Histamine and the latter two together with PAF are direct pain producers.

Mental depression is a localized brain dehydration, and it is no accident that many antidepressant drugs, as well as H₂ blockers, are antihistaminics. Nonpainful illnesses include diabetes mellitus (the entire pathogenesis is steeped in originality far beyond water), asthma (histamine bronchoconstriction is a defeating way to manage insensible water loss), overeating (possibly a dysperceptive response to thirst). Batmanghelidj leads us through these entities point by point and weaves a magnificent tapestry, if not possibly allopathic medicine's shroud--we can't both be right.

It is claimed that fish probably have no awareness of the presence of water; this book shows we may have done little better. Mostly we have treated symptoms, and often wrongly at that, but masterpieces come into being to produce paradigm shifts. If we learn this one, we may arrest the course of our patients in their still all too rapid going the way of all flesh. Two to 2½ quarts of tap water (*not* total fluids) daily are about right. All is testable.

18. THE MANY "FAUCETS" OF WATER THERAPY

by Giselle Roeder, 1995, January, #148, Alive, pp. 24-27, PO Box 80055, Burnaby BC V5H 3X1
Giselle Roeder is a Kneipp therapist and takes regular Kneipp tours to Europe. Phone her at 925-2723.

Water has been used for healing throughout the ages, but somehow it was a forgotten art until about 150 years ago.

Sebastian Kneipp (1821-1897), desperately ill with lung tuberculosis, discovered a little booklet written by the Dr. Hahn in the 18th century called The Effect of Water Unto The Body of Men. Kneipp followed the advice, cured himself and thousands of others and became known as the "water doctor." His first book, My Water Cure, was to stop the pilgrimage of people from all over Europe to his home town, but it carried his name around the world. It was translated into 17 languages.

Kneipp, a village priest and the father-confessor for the Dominican nuns, perfected the water cure and added the use of herbs, sensible eating, exercise and emotional spiritual order to it.

"I have seen no healing take place until the peace of the soul was restored." Kneipp said And. "All disease starts in the blood."

The medical establishment fought him to the bitter end. Very few medical doctors came to observe and stayed on. Kneipp faced excommunication until he met and treated the Pope, who bestowed

great honors on him. After the death of Monsignor Kneipp his Last Will and Testament revealed his wish for the medical profession to take on and further develop his treatment system and make it "accessible to all."

Kneipp Therapy today is part of the traditional medicine in Europe. Insurance companies pay for the so-called Kneipp Cure, knowing the value of prevention to be less expensive in the long run. The Kneipp method used as complementary treatment alongside conventional medicine, saves about one-third of the cost. Another plus is the lifestyle change it affects in people who are exposed to it.

Did you know that water is successfully applied to treat, ease or even heal the following conditions"

- ∞ Heart and circulatory ailments.
- ∞ Respiratory conditions. including asthma.
- ∞ Muscular and rheumatic problems.
- ∞ Post-surgery treatment and rehabilitation.
- ∞ General restoration of good health and "Joie de vivre."
- ∞ Strengthening of the immune system.

Water in its various forms (liquid, solid, steam) and temperatures (hot, cold, alternate, increasing or decreasing) is used to assist the body's natural healing processes. Administered to the skin, it sets the stimulus via the nervous system (nerve receptors in the skin) to elicit a reaction from the body. The most important organ system affected is the circulatory system: a hot water application turns the skin color to an intensive pink or red. Arteries and veins widen, the blood pressure sinks, more blood loaded with oxygen is flowing into the treated area. (Example: a wider pipe holds more matter than a narrow pipe.) If the hot treatment is followed by a cold application, the reaction is the opposite: veins and arteries narrow, the blood pressure rises again and heart and lungs work harder to process the increased blood flow.

Used therapeutically this "exercise" helps to strengthen the circulatory system and the heart muscle, regulating blood pressure and increasing detoxification of the blood as the carrier of toxins in exchange for fresh oxygen. This is now transported to every single cell in the body, increasing its life enhancing the quality and speed in building new ones. An increase in the number of fighter cells of the immune system has been established by blood tests over a three to 21 day course of water treatments in clinics in Germany and Austria.

Water treatments re-direct the blood flow in order to set in motion or affect certain healing processes. For instance cold feet keep you from falling asleep. An alternate foot bath with help.

You need two large pails. Place them in the bath tub so as to just tip them over when you are finished. Fill the one on the left side with hot water (comfortable), the one on the right with cold water (as cold as it comes). Sit on a pillow at the edge of the bath tub. Immerse both feet into the cold water - which should almost reach your knees - for five minutes. Lift the right leg out, stroke off the water, inhale deeply. hold a moment, then while slowly exhaling, place the right leg firmly into the cold water. Follow with the left leg. Slowly count to 15 or 20. You should feel some tingling. Now it is time to move both legs back into the hot water as you inhale.

Repeat the procedure, finish with cold water, dry between toes and go straight to bed. You'll sleep like a baby. You can do this alternate foot bath every night until your feet stay warm naturally.

If you cannot fall asleep because your feet are too hot, fill bathtub three-quarters full with cold water, walk in it like a stork, always lifting one leg high up and out of the water. The idea is the change between air and water, air and water. Step like this for approximately 30 seconds until you feel the water "bite" you. Get out, stroke off the water and just dry between toes. Go to bed immediately - don't read or watch television. Be ready to sleep.

Your home spa consists of your bathroom, your kitchen and your garden hose. Turn your morning shower into a Kneipp treatment by finishing with cold water from the feet up. Always start the cold water treatment on the right foot, far away from the heart. If you have a half or full bath with a herb extract, brush your skin under water to absorb more of an aroma. Finish with a cold sponge washing to stop the perspiration process. Have an increasing full bath to get the body to sweat out a flu or cold. (Keep adding hot water. Do not finish with cold.) Have an alternate arm bath in your double kitchen sink. (Five minutes warm. 10 seconds cold. Change twice.) It is good for an oncoming headache or migraine.

Use your garden hose in summer to give yourself knee, hip or full rinses, from the toes (right foot first) up. The hose can also be used for the beauty rinse: three times cold around the face, two times around each eye.

Use cotton kitchen towels to wrap cold around your calves, cover the wet cloth with a dry large terry towel and leave on for 30 minutes. Good to clear your head, bring a fever down or increase blood flow because of varicose veins.

Modern medicine will soon have to include alternate or complementary methods since the expenses for the traditional ways cannot be met anymore. Take your health into your own hands. Turn on your faucet. It's just one facet of total health care.

Recommended reading/listening/watching:

Balmanghelidj, F. MD (1992) Your Body's Many Cries for Water, (1993) Audio cassette, Your Body's Many Cries for Water, 90 minutes, (Global Health Solutions, Inc., PO Box 3189, Falls Church VA 22043)

Balmanghelidj, F. MD (1991) How to Deal with Back Pain and Rheumatoid Joint Pain, VHS Video How to Deal with Back Pain, 25 minutes (Global Health Solutions, Inc., PO Box 3189, Falls Church VA 22043)

Bragg, P, () The Shocking Truth About Water,

Buchman, D.D. (1994) The Complete Book of Water Therapy, Keats Publishing, inc., New canaan, CN

Caplan, R () Our Earth, Ourselves,

Lust, B. () Kneipp Herbs,

Walker , N.() Water Can Undermine Your Health

19. THE COMPLETE BOOK OF WATER THERAPY (chaps. 1, 3, 4)

(* =exerpts)

Dian Dincin Buchman

1994 Keats Publishing, Inc., New Cannan, CT

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19.2. Chap 1: Why We Use Water for Therapy (pp. 2-7)

19.2.1. Water Is Holistic Medicine

Water is a natural medicine that benefits the entire body. It can be used in a variety of versatile, no-side-effect ways to help control and cure acute conditions--everything from diarrhea to a cold to migraine headaches--as well as chronic bad health. It can also be used as a disease deterrent, and superior health *safeguard*. The vast number of techniques and therapeutic uses which involve water are collectively known as water therapy, or hydrotherapy. Water therapy, in turn, is a part of a general approach to good health known as *holistic* medicine.

Holistic medicine has several elements: a three-part approach to total health that stresses the interaction of the mind, body, and nutrition; a desire to always investigate the general *cause*, as well as the specific symptom, affecting the body; a need to take responsibility for your own health; a sense of partnership with a caring health practitioner.

In holistic, nondrug medicine, one of the important aims is to overcome sudden or chronic *energy blocks*, and to restore the normal flow of internal energy to the affected part, or to the entire body. Water therapy is a remarkable reenergizer, and can be used in first aid as well as many other everyday problems. In restoring the energy flow, water therapy helps the body to heal itself, and prevents many other health problems from occurring. It is therefore in the first line of health defense, and should be considered an important tool in self-care, and self-*caring* medicine.

19.2.2 A Daily Routine

Water can and should be part of your daily health routine. When you take a warm bath to relax or a short cold shower to stimulate your tired body, you are unconsciously using the techniques of water therapy. I start each day with two personal therapies: I drink two glasses of *cold* water about an hour before breakfast, and I march for a few minutes in a shallow cold foot bath. The drinking overcomes an inherited tendency for sluggish peristalsis and the cold water treading boosts my energy and is a long-range body strengthener.

19.2.3. As Simple as Drinking a Glass of Water

Every person who has ever lived on earth has used water for survival, for without drinking water we would die. But because we normally drink water only to quench our thirst, and as a solvent for our foods, we tend to ignore its manifold health benefits and the fact that water is needed internally by every functioning cell and organ.

I've discovered that just drinking a lot of plain, cold water will help to revitalize me during sluggish periods. Physicians and chiropractors often find that weak muscle response, particularly if *all* the muscles are responding in the same way, may be due to minor dehydration. One glass of drinking water sometimes overcomes this strange, total body weakness. Drinking water also can help reduce a high fever, stimulates one organ to interact with another, and cleanses internally by eliminating unwanted material from the system.

19.2.4. Why Water?

What makes treatment with water so unique is that it is always as available as the nearest running water. Moreover, water therapy is *painless*, and hundreds of different health problems can be treated immediately, naturally, and at little or no cost. Water therapy can stop a cold before it starts, help overcome a sore throat, generate energy, relieve pain, vanquish nervousness, help induce sleep, awaken a fogged brain, reestablish internal good health, and even help us to feel sexier; in short, it can restore and tone the body.

What is exceptional about water therapy is that it works with each person's own nature. Water therapy acts in a positive way, and never destroys valuable internal flora, nor does it deplete the energy of internal organs. Water therapy *creates* circulation and overcomes sluggishness; it also unblocks an energy barrier so that the body can function in a freer and normal fashion. By acting to *detoxify*--that is to rid the body of any accumulated poisons or toxins that may be the start of disease, or linger after a disease--water therapy increases our body's natural defense mechanisms .

Dr. William Kellogg, an early twentieth-century advocate of natural foods and natural healing, noted that in perfect health each part of the body receives its due share of blood. Water can equalize the circulation of the blood, control and equalize temperature, relieve pain, stimulate a sluggish or inactive organ, remove foreign or toxic material from the system, and stimulate or soothe the entire nervous system.

Another reason for using the techniques of water therapy is related to the behavior of bacteria in the body. Scientists have discovered that genetic material can jump from one bacterium to another, making them far stronger and more virulent than prior generations of similar bacteria. Dr. Stanley Falkow, of the University of Washington, calls these "jumping genes," and it is his gloomy prediction that more and more bacteria will leap into a new stage. This has happened to *Haemophilus influenzae*, the causative pathogen in some cases of bronchitis, meningitis, pneumonia, and sinusitis. Penicillin used to be able to destroy this bacterium, but now doctors are dismayed to find many patients no longer respond to penicillin treatment.

Scientists have also discovered the alarming fact that other bacteria have become antibiotic-resistant, the way many insects achieved DDT-resistance. More and more virulent strains of certain deadly bacteria are emerging, for example the recent "Legionnaires' Disease," which is now turning up in all parts of the country and which has been classified as an unknown strain of pneumonia. Another example is a new form of typhoid now unresponsive to the antibiotic chloramphenicol. In Mexico, a recent epidemic decimated 14,000 patients before physicians could successfully switch to another antibiotic, in this case, ampicillin.

There is no doubt that antibiotics are successful, but there is also no doubt that the persistent use of antibiotics poses its own dangers. In the natural evolutionary process, any organism will develop successful mutations which are increasingly resistant to the medicines that previously combated them. In the widely hailed British documentary, The Overworked Miracle, an American scientist, Dr. Sidney Ross, Chief of Microbiology at the Children's Hospital in Washington, D.C., forecast that this overuse of antibiotics all over the world has created new, and more, deadly diseases. In Dr. Ross's words: "I think we will be looking back fifty years hence, at this as being somewhat of a golden era . . . we may be reverting back to the Middle Ages, as far as antibiotic therapy goes!"

If Dr. Ross's statement is true, and we will have increasing trouble controlling many lethal diseases that are now under control, it will be necessary to reacquire all the forgotten wisdom of nondrug healing. Water therapy--as a serious and effective alternative to toxic drug medicine--is an excellent place to start.

19.2.5. Water for Relaxation

I do not discount the possibility that water therapy is partially effective because it is so enjoyable. Some scientists say we feel better in water because the sea is our true ancestral home. Others liken the feeling of relaxation in water to the memory of the amniotic fluid we were suspended in before birth.

Of the many different water therapies, none is more rewarding than the bath for fun and relaxation. What parent can forget the look of pleasure and security on his newborn infant's face when the LeBoyer warm bath technique is used immediately after birth? Dr. LeBoyer insists that if his postnatal system of quiet, low light, and warm bath were universally practiced, most of us would grow up happier.

Rich or poor, illiterate or scholar, most of us have an inborn instinct about the use of water and stress. An eight-year-old, a battered child, recently confided to a friend of mine that he often took warm baths to relax himself. Once, feeling bereft because his mother had shaved his head as a punishment, he sat in a warm bath for four hours to overcome his seething anger and abject helplessness. He somehow knew instinctually that there was sedation and comfort in that warm bath, just as others instinctively know there is stimulus in a short cold shower. While our feelings about water are to a great extent learned, they may also be part of our collective unconscious, for even the most primitive people used water in a variety of healing ways.

19.2.6. How Water Works in Your Body

Water therapy techniques may be likened to the complex activities in a control tower of a busy airport where takeoffs and landings are a part of a total system whose components must all work together. Some planes land in a center runway. Some are directed to peripheral outlying runways, and still others circle the field, or in bad weather are diverted to other airports. Water can be used in a similar way. It can work directly on the whole body, or it can act on one area to create depletion or congestion.

An example of a direct application of water occurs when you immerse your body in a bath. In this case, the water causes the entire body to feel toned or sedated. An example of an indirect application of water is the use of a hot foot bath, or of a cold, double wet stocking, to decongest the head or chest during a cold. Another example of an indirect application is the use of a shoulder shower, or an ice bag placed between the thighs, to reduce pelvic congestion.

Learning the many techniques of water therapy is somewhat like studying the superimposed illustrations of the human body that can be found in the [World Book Encyclopedia](#). You can view one segment, several superimposed segments, or the total picture, as each celluloid overlay details the circulatory system, the lymphatic system, the endocrine glands, the digestive system, and so on, until the final picture shows the body as we know it.

Water therapy *looks* simple and it is often simple to do, but most of its action is invisible. Water can work in either a simple and direct, or a complex and indirect fashion, and its special therapeutic ability can be employed in its liquid, gas, or solid state.

One of the reasons water is so effective in natural healing is that it stimulates the body by producing an action which in turn produces a *reaction*. An example of this is the effect of ice after an injury. The numbing effect of the ice--the action--not only acts as anesthetic and thus reduces pain, but also reduces fluid movement and build-up--the reaction--and this controls bleeding.

19.2.7. The Reflex Arcs

In 1880, Dr. William Winternitz of Austria discovered the startling fact that water acts on the nerve points of the skin. The skin then delivers messages directly to a nearby organ, or *indirectly* through reflex "arcs."

These arcs connect the skin to muscles, glands, and organs. When water--either hot or cold--is applied to the skin, the reflex arcs stimulate nerve impulses that in turn travel to other parts of the body. This action is similar to the transfer of electricity that occurs when a light switch is turned on, or to the effect on a nerve when acupuncture is applied.

19.2.8. Forms of Water

Because water is such a common substance, we tend to take it for granted, never realizing the great variety of its physical and chemical forms that are as easily available to us as the flick of a faucet, making ice cubes, or boiling water in a pot.

Each of these distinctive physical forms of water--ice, water, and steam--must be used differently, for each has its own specific function in healing and in maintaining good health. Indeed, water's therapeutic action is so complex and varied that if water didn't exist,-and someone were to invent it today, its inventor would become the most respected and renowned scientist on earth!

Depending on its form (liquid, solid, gas), temperature (cold, hot, ice, neutral), and pressure (light to jet), water will have a specific physical and chemical reaction in, and on, the body.

19.2.9. Cold Water

Cold water acts in several different ways. For example, a short cold-water application acts as a tonic, while an extended cold-water application acts as a depressant.

Basically, however, cold water is *restorative*, *reenergizing*, and helps *build resistance* to disease. Cold water can help reduce even the highest fever, relieve thirst, act as a stimulant, diuretic, and anesthetic, relieve pain, reduce constipation, and aid the elimination of toxins from the body.

Cold water is the surprising and needed ingredient in a series of excellent *heating* compresses (cold double compress, and various cold double body packs). Unlike hot compresses, which get colder, cold compresses, when trapped by an outer layer of flannel or wool (or even plastic for that matter), become *hot* from heat marshaled from *within* the body.

19.2.10. Ice and Ice Water

Ice, or ice water, is very helpful in reducing the pain of minor burns. Ice massage, or wrapped ice, is the preferred treatment for injuries, as the cold helps to control the bleeding and reduce subsequent swelling. This is the best of all treatments for all sorts of athletic injuries. Ice is an excellent anesthetic.

19.2.11. Warm (Neutral) Water

Warm water is sedating, relaxes the body, and when necessary It is an effective emetic.

19.2.12. Hot Water

Hot water (as well as cold) can be used internally and externally.

In an injury, heat increases blood flow, and will act to increase any inflammation; as a result, hot water must be avoided in treating injuries. However, heat can sedate, quiet, and soothe the body under many other conditions. A short hot-water application depresses and depletes body and muscle tone, making the body feel more relaxed. And while a long hot-water application both excites and depresses the body, the total effect is one of complete relaxation.

Some of the most important therapeutic uses of hot water are the hot bath to induce perspiration, hot compresses and foot and arm baths to reduce inflammation and pain, and contrasting hot and cold baths to quicken circulation and body reaction. While a *hot* hand bath allays pain and spasm in the hands, a *cold* bath can be used when the body is over-heated, or to control a nose bleed.

19.2.13. Steam

Steam is available by boiling water, using a vaporizer or humidifier, or utilizing either home or professional steamroom, or sauna, installations. Steam increases skin action and creates perspiration, which in turn cleanses the body from within. Steam facials open the pores and keep them clean, and can help prevent skin problems and acne. Hot steam from a vaporizer eases chest congestion. Cool moist air from home humidifiers adds moist air to dry winterized rooms, thus preventing nasal and sinus conditions, and eases a great many airborne allergic problems.

Knowing the correct water treatment, and knowing how to use it, can save you needless pain and expense, and help you to take more active control of your health.

The preceding introduction to the basics of water therapy gives only a glimpse of the vast range of medical uses to which water can be put. In the following chapters we will explore in much greater detail, and with step-by-step, carefully illustrated directions, more than 500 ways that you can use water to improve your health, and to maintain good health for you and your entire family.

19.3. Chap. 3: The Medical Uses of Water (pp. 12-16)

19.3.1. Introduction

Water's three forms--liquid, steam, ice--can be used in a wide variety of *temperatures* and, especially in the case of showers or whirlpool, can be used with different *pressure*. Water can be used *internally* by drinking it, or by forcing streams of water into orifices, as in an enema, douche, bidet or nose or ear bath. And water can be used *externally* in the form of full or partial baths; showers, even on minute spots of the body; single or double compresses, or various body compresses or packs; hot water bottles; frozen ice bandages, or wrapped ice; steam in several different ways; and various simultaneous or alternate combinations.

Because water can be used in so many ways, it has an astonishing variety of health uses. The following are the *general* therapeutic uses of water:

19.3.2. As a Restorative and Tonic

Water not only restores the body's normal circulation and temperature, but intelligent water treatment, especially with cold water, can also act to restore and increase muscle strength, and increase the body's resistance to disease.

Cold water boosts vigor, adds energy and tone, and aids in digestion.

Techniques: Cold water treading, whirlpool baths, cold sprays, alternate hot and cold contrast showers or compresses, salt rubs, apple cider vinegar baths, salt baths, partial packs.

19.3.3. For Injuries

The application of an ice pack will control the flow of blood and reduce tissue swelling in most injuries.

Techniques: Ice bag, plus compression and elevation.

19.3.4. To Relieve Pain

Even when drugs fail, an application of direct moist heat alleviates nervous irritability and reduces pain. Both hot and cold applications may be used to either reduce inflammation, act as a counterirritant, or divert blood to other areas.

Techniques: Hot and cold compresses, ice bags, warm or hot baths, hot packs, enema, paraffin baths, whirlpool baths, hot and warm or alternate hot and cold showers. *Do not use heat on a fresh injury.* it increases blood flow and inflammation, and therefore tissue swelling.

19.3.5. For Minor Burns

Water, particularly cold and ice water, has been rediscovered as a primary healing agent for minor burns, such as grease, candlewick, and hot glass burns.

Techniques: Ice water immersion or saline water immersion.

19.3.6. To Reduce Fever

Water is nature's best cooling agent. Unlike drugs, which usually only diminish internal heat, water both *lowers* the heat and *removes* it by conduction. In reducing fever, water is far more valuable than any medicine, and it is the treatment of choice for fever, sunstroke, and heatstroke.

The Brand Cold Bath technique, or cold baths, should be re investigated as adjunct therapy in typhoid and typhus fever.

Techniques: Short cold baths, prolonged tepid baths, dousings, sponging, cold mitten massage, high enema irrigation, damp sheet packs.

19.3.7. To Induce Perspiration

The skin is the largest organ for elimination, and simple immersion in a long hot bath or a sauna or steamroom visit can stimulate excretion of toxins from the body through the skin. The inducing of perspiration is useful in treating acute diseases and many chronic health problems.

Techniques: Hot baths, epsom salt or common salt baths, hot packs, dry blanket packs, hot herbal drinks.

19.3.8. As a Diuretic

The application of water can effect kidney action to increase urine production as high as 100%, and can also help maintain the normal pH balance of the urine.

Techniques: Ice water for drinking, diuretic herbal teas, hot moist compress applied to lower back, various cold sprays, alternate hot and cold sprays, cold trunk pack, sauna, full and partial blanket pack, and other perspiration inducing therapies.

19.3.9. As an Eliminative

Water is a *perfect* eliminative agent. It can dissolve excrement as well as foreign elements of the blood through irrigations and through induced perspiration through the pores of the skin.

Techniques: Warm water colon irrigation, genital irrigation, drinking water, kidney stimulation applications, vapor, sauna, or hot baths, damp sheet packs, dry blanket packs, hot moist packs.

19.3.10. As an Antiseptic

Boiling water can be used to cleanse food and clothing in viral and bacterial diseases.

Techniques: Immersion in boiled and then cooled water, immersion in chamomile or calendula (pot marigold) steeped tea, cleansing with soap and water.

19.3.11. As a Laxative

Drinking water is generally necessary for proper elimination of waste materials, and can be used for specific laxative and purgative effect to flush material from the bowels.

Techniques: Two glasses of cold water on arising. enema.

19.3.12. As an Emetic

It sometimes is necessary to eject poisons (viral, food, etc.) from the digestive system.

Techniques: Drink copious amounts of warm water, salt water, or mustard water. No other vomiting agent is needed.

19.3.13. To Raise Body Temperature

Hot water transmits heat and warms the body.

Techniques: Hot full baths, hot water bottle, hot foot bath, salt blanket packs, cold friction massage.

19.3.14. As a Stimulant

Water applications can revitalize, awaken, or arouse parts of the entire body.

Techniques: Hot or cold baths, sponging, damp sheet packs, enema or colon irrigation, whirlpool baths, salt rubs, salt baths, hot or cold showers, alternate hot and cold showers.

19.3.15. As an Anesthetic

Water can dull the sense of pain or sensation.

Techniques: Ice to chill the tissues.

19.3.16. As a Sedative

Water is a very efficient, non toxic *calming* substance. It soothes the body and promotes sleep.

Techniques: Hot and warm baths to quiet and relax the entire body, salt baths, neutral showers to certain areas, damp sheet packs.

19.3.17 As an Antispasmodic

Water effectively reduces cramps, and can help overcome both hysterical and infantile convulsions.

Techniques: Chamomile enema, cold water or hayflower dipped shirt, hot compresses (depending on the problem), herbal teas, abdominal compress.

Water therapy does not replace the need for immediate medical care in the case of convulsions.

19.3.18. To Relieve Thirst

Drinking copious amounts of water assuages the thirst and restores the alkalinity of the blood.

Techniques: Drinking pure (glass bottled) water, distilled water with lemon juice, water plus fruit juice.

19.3.19 For Buoyancy

Bedridden patients will feel better, and avoid bedsores, when the body is buoyed by special "strip" water mattresses. In burn centers, badly burned patients are placed in tubs of sterile water so that nurses can gradually remove the burn scabs. Temporarily disabled or paralyzed accident victims, and those with severe muscular and skeletal problems, always feel better and move better when immersed in a pool of warm water. Often those who cannot walk at all may be able to move freely in water because of the buoyancy.

Techniques: For bedsores: water mattresses, and frequent sponging. For muscular or skeletal rehabilitation: use the physiotherapy facilities in your local hospital, as electric equipment is necessary to deliver the patient on a stretcher into the pool.

19.3.20. For Mechanical Effects

Different pressures of water can exert a powerful mechanical effect on the nerve and blood supply of the skin.

Techniques: Friction rub with sponge or wet mitten, dousing, streams of hot or cold water directed at various parts of the body.

19.3.21. Types Of Water Application For Health Purposes

Water can be used in many different ways depending on the health need and condition of the patient, as well as the facilities available for therapy. Among the most effective techniques are direct *localized* applications, water streams, full or partial baths, sponging or other friction techniques, steam for cleansing and detoxifying, neutral washings, wet cloth wrappings, or cloths impregnated with various healing substances. A special water therapy technique devised in the early nineteenth century is a cold compress or pack with a dry outer wrapping which creates internal heat.

Local heat: Apply heat to specific area of the body such as joint, chest, throat, shoulders, spine. Use hot moist compress, hot water bottle.

Local cold: Apply cold to a specific area of the body. Use cold compress, ice bag, ice pack, ice hat, frozen bandage.

Cold compress that heats the body: A cold wet cloth covered with a dry cloth, or a water resistant covering, will create internal heat, and warm up the area from within. This is called the cold double compress. It can be applied to any area of the body, or used as a complete body pack.

Tonic friction: Water sponging, and washing combined with some form of *friction*, from a hand to a rough wash cloth, produces a tonic effect in the body. Use cold mitten massage, cold sponge rub, wet sheet rub.

Sponging: Use alcohol or water or witch hazel applied to a sponge to wash the body.

Baths: The body is immersed in cold, hot, or tepid water. Use foot baths, sit baths, full baths, herb baths, or pharmaceutical baths. Any part of the body may be partially bathed, as in arm bath, eye bath, finger bath.

Pack: A pack is a larger form of the double compress, or may consist of a poultice of clay, flaxseed, or mustard. An example is the hot blanket pack, damp sheet pack, hot leg or hot hip pack, mustard pack, mud pack.

Showers: Several kinds of water streams can be directed against the body. Alternate streams can also be directed against the body, or large quantities of water can be poured from a height. Use dousing, jet, fan, or alternate hot and cold Scots shower.

Shampoo: When soap and water are used together on one or all parts of the body, it creates a shampoo. Use to cleanse hair, or after sauna or steam room.

Steam: A vaporizer can cleanse the upper respiratory system, and a steam room or sauna increases body perspiration and releases many stored toxins. Cold steam, as from a humidifier, moistens dry rooms in winter and is important in preventing colds and sinus headaches.

19.3.22. General Areas Of The Body

To Help This Area	Use Water Therapy on Skin In This
BRAIN	Face, scalp, hands, back of neck
PHARYNX and LARYNX	Neck
Mucous Membrane of NOSE	Back of neck, hands
LUNGS	Chest--front and sides, across shoulders
HEART	Nerves around the heart
LIVER	Lower right chest
SPLEEN	Lower left chest
KIDNEYS	Lower third of breastbone (sternum), lower dorsal and lumbar spine
STOMACH	Mid-dorsal spine
INTESTINES	Lower dorsal and lumbar spine, abdomen, especially umbilical region
PELVIC ORGANS (ovaries, bladder, rectum)	Lower lumbar and sacral spine, shoulder, lower abdomen, groin, upper inner surfaces of thighs, from navel to breast bone (center)
HANDS	Head (brain), mucous membrane
FEET and LEGS	Brain, lungs, pelvic organs
LOWER ABDOMEN, GROIN, and Upper Inner THIGH	Pelvic organs
UTERUS	Spine of lower back, lower abdomen, inner surface of thighs, breast, feet
BLADDER	Inner surface of thighs, feet, lower abdomen

19.4. Chap 4. Drinking Water (pp.17-20)

19.4.1. Therapeutic Uses

Bathe internal organs
Dilute fluids of the body

Purify cells
Eliminate waste materials
Increase the movement of blood through lungs, help absorption of oxygen
Lower fever

Eliminate toxins in arthritis
Remove unoxidized sugar in diabetes
Overcome constipation
Flush system at onset of illness
Stimulate liver

Stimulate kidney action

Drinking water is such a natural and necessary activity that we tend to forget that it also has many health functions. Whenever you feel sick, it is a good idea to greatly increase the amount of water you are drinking. I know that when I feel sluggish or over tired I tend to crave large quantities of

two of my favorite bottled waters: Evian and Mountain Valley Water. Both are pure, taste good, and have excellent mineral ingredients.

19.4.2. Filtering Water

The question of pure water is an urgent one throughout the world. I keep a carbon filter on my kitchen tap, and I feel that it does help to filter out some impurities, especially chlorine. If you intend to use such a filter, remember to *change* it often. Although these filters will take out some gross impurities, they cannot filter out carcinogens, and an alarmingly high percentage of local waters contain toxic and disease-producing chemicals.

19.4.3. Bottled Water

Should you use bottled water? In some states, such as California, a large percentage of people buy their drinking water in the supermarket. But I have discovered that some bottled waters in America are only reconstituted, distilled, or deionized tap water. Also, water is often sold in plastic bottles, which sometimes leech their petrochemical base into the water. This defeats the purpose of buying bottled water. Glass bottles are a safer choice, but be careful choosing what brand of water you buy. Some of my favorites are Mountain Valley Water, Evian, and Perrier. Other good brands are San Pellegrina, Poland Water, Fiuggi.

19.4.4. Allergy to Water

Lately, physicians have noted the fact that many people are increasingly *allergic* to their local water. Most patients never realize that it is the water that is causing their mild bouts of depression, slight or major headaches, diarrhea, or even arthritis. Various allergists report that as many as 50% of their patients are sensitive to local water, and prescribe one of the eighteen or so international and local pure mountain or spring waters.

Because this is such an important problem, I list in the Resource List in the Appendix (page 230) a national distributor for many of the top bottled waters around the world. Perhaps, like Michelangelo, you will discover a bottled water that will help you overcome a specific health problem. In 1559, he drank the Italian water, Fiuggi, and it helped him to overcome a kidney stone problem.

Some naturopaths prescribe demineralized, *distilled water* which can be obtained by the gallon from drugstores. Because of the absence of minerals, such water is said to act as a cleansing magnet by attracting unnecessary minerals in the bloodstream. Distilled water is alleged to be helpful in arthritis as well as some other health problems. *However, the absent minerals must be replaced through food intake or through judiciously selected supplements.*

19.4.5. Drinking Water Therapy

Some of the many health problems that respond favorably to drinking water therapy include: fever, diabetes, rheumatism, arthritis, constipation, common colds, gallstones, edema, smoking, alcohol drinking, drug intake, digestive problems, athletic cramps.

Fever: Drinking 2-3 pints of cold water (about 40 °F) can reduce a high fever from one-half to two degrees in ten minutes.

Cold water lowers temperature, absorbs the heat of the fever, and dilutes the blood. It also helps the skin and kidneys to eliminate the very toxins that have caused the fever reaction. It also increases evaporation of fluids and this also reduces the fever.

Fever patients should drink from 6 to 8 quarts a day.

Diabetes: Diabetic patients should drink copious amounts (6 to 8 glasses a day) of pure water and fluids to remove, via the skin and kidneys, all the unoxidized sugar from the body.

Rheumatism-arthritis: It is helpful for rheumatic and arthritic patients to drink large quantities of water in order to dissolve and eliminate uric acid and other waste materials, and to stimulate skin and kidney function.

Constipation: Drink 2 glasses of cold water before breakfast to help overcome constipation.

Common colds: Folk wisdom, as well as orthodox medical practice, advises drinking "lots of fluids" before the onset of a cold, and during such an attack. Drinking pure, room temperature water, and copious amounts of hot herbal teas, will flush the system and help to restore normal functioning.

Gallstones: Drinking 8 to 12 glasses of water a day will greatly dilute the bile secretion, and flush the liver.

Edema: When the tissues of the body--especially in the feet--are swollen, it is necessary to drink several quarts of pure water a day. But it is advisable to drink only early in the morning and in the evening--not in the intervening hours. If additional water is necessary, drink it in ounce quantities only.

Smoking: Heavy smokers should drink copious amounts of water to eliminate the cigarette toxins from the body and to stimulate the liver in its detoxification activities.

Alcohol drinking: Drink copious amounts of water to flush the alcohol from the system and to help the liver eliminate the foreign toxins deposited by the alcohol.

Prescription drugs: It is helpful to drink copious amounts of water while on a regimen of prescription (or hard) drugs. This flushes the drug out of the system after it is "used," and helps the liver detoxify the substances.

Always take yogurt, or acidophilus tablets or liquid, when on a prescription drug. This restores the necessary intestinal flora, helps more normal elimination functioning, and may help to prevent a yeast infection following long-term drug use.

Digestive problems: Drinking cold water acts as a tonic to the digestive system, but it is hot water that aids and relieves chronic gastritis, hyperpepsia, and colic.

19.4.6. Drinking Water, Fluids, and the Athlete

Professional and Olympic athletes know that they must drink water consistently in order to perform well. That is why many athletes travel with cases of their favorite bottled water, or have it sent on ahead to every training camp and game. Muhammad Ali always drinks the French water, Evian, in this way.

Drinking water has an important role in sports. In normal life, we must drink a certain amount of water simply to exist, but this amount must be greatly increased when we engage in sports, especially competitive sports. This is due to the 2-3% body water depletion in such activity, and also because internal water intake affects both *calf cramps* and the *fatigue level* of the body.

Sports physicians note that it takes about ten playing days in hot weather for the body to accommodate its salt conserving capacity and therefore advise athletes to drink large quantities of water before, and during, every playing break. They also *advise adding* salt either directly to the drinking water in the amount of a one-half teaspoon to a quart, or by swallowing 2-3 salt tablets, and flushing them down with large amounts of neutralizing water. Such salt replenishes the supply excreted through urine or sweat, and greatly *lessens* the possibility of *heat prostration*. A former professional baseball player, amateur boxer, and jujitsu teacher, Dr. Jose Rodriguiz, feels that such salt and water intake also helps in the necessary production of adrenaline and sometimes "acts like magic" in sports.

Dr. Rodriguiz also notes that before-game abdominal jitters are often helped with an increase in the drinking of acid drinks, such as tomato juice. *Avoid* taking *antacids* for such spasms, he urges, since such substances contribute to the perpetuation of the cramps.

In addition to salt-laced water, or high potassium drinks, such as organic vegetable soups, etc., *herb drinks* are useful. *Chamomile* tea will also reduce stomach spasms and quiet the body, *linden* tea will quiet the nerves and help ensure restful sleep the night before a game, and *peppermint* tea is delicious, refreshing, and stimulating, and is easily prepared in large quantities and served cold before, during, and after games.

Cayenne pepper, in very tiny doses, will also help to settle digestive rumblings, and provide a small boost in energy. For digestive disturbances, add a few *grains* of the powdered cayenne pepper to a hot herbal tea: chamomile, peppermint, or linden are excellent. For energy, add a tiny pinch or several grains per glass, or about 1/4 teaspoon to a quart of pure *grape* juice, and sip as needed.

19.4.7. Drinking Water for Newborns

I have often been asked if newborn infants should be given purer water than the adults. The answer is definitely yes. The newborn child is susceptible to dehydration, and needs water that is almost mineral and sulphate free. Because infants are susceptible to gastrointestinal upsets, it is also very important to have a water source that has a low bacteria count, and no toxic deposits. Certainly, in the first weeks, the infant needs help in getting the kidneys to function normally, and fresh, pure water is essential in activating kidneys, causing perspiration, and maintaining internal heat balance.

If you live in an area with a poor water supply, or high mineral and high sulphate content, you should definitely use one of the better bottled waters. Evian bottled water, highly regarded by French mothers and their physicians, is available throughout the United States.

As the baby grows, it should drink the same water that you drink, except in exceptional circumstances of illness or severe diarrhea. In these cases, use bottled water again.

20. DRINK WATER, THE NUMBER ONE DE-STRESSOR AND BODYMIND INTEGRATOR.

If you have no medical limitations then health and fitness experts suggest 1/3 ounce per day for every pound of body weight, and more if you are physically active or undergoing stress. Compared to other liquids, water goes straight to work, totally bypassing the digestive process. In the words of Dr. John Thie, author of [Touch For Health](#), "We can't substitute other liquids for water any more than we would want to fill the battery in the car with milk, the steam iron with tomato juice, or wash the walls with coffee."

Water is essential to proper lymphatic function which nourishes the cells and removes waste and toxins from the body. Water provides the hydration necessary for electromagnetic impulses to flow through the body. It heightens energy, improves concentration, mental and physical coordination, and academic skills. It is especially helpful while working with electrical machines (computers etc.) which can negatively affect your body. Much water is used when you're under stress and must be replaced.

Hold water in your mouth and under your tongue for maximum absorption.