Infoceutical Inside

THE EMERGING SCIENCE OF WATER

Can Digital Information Imprinted Onto Water Change Biology and Improve Health?

The ubiquitous nature of water has lead most of us to think there are no more mysteries to unravel about water, but nothing could be further from the truth.Our bodies are over 99% water, making it an essential nutrient, and over 70% of the Earth's surface is covered in water.

The idea that science has discovered everything there is to know about water is a myth. For example, there are at least 72 anomalous properties of water, as detailed by the English physical chemist Martin Chaplin. Read More

Some of the salient ones are the fact that most substances, in their crystal form, have a greater density than their liquid form. With water – this is not so. Ice (crystal form) is LESS dense than bulk water (liquid H20).

Another amazing property is its extremely high surface tension (only mercury has a higher level). This can mean items more dense than water won't sink when placed in it.

Since the beginning of the new millennium, probably the most important contribution to the emerging science of water was made by Gerald Pollack, Professor of Bioengineering from the University of Washington.

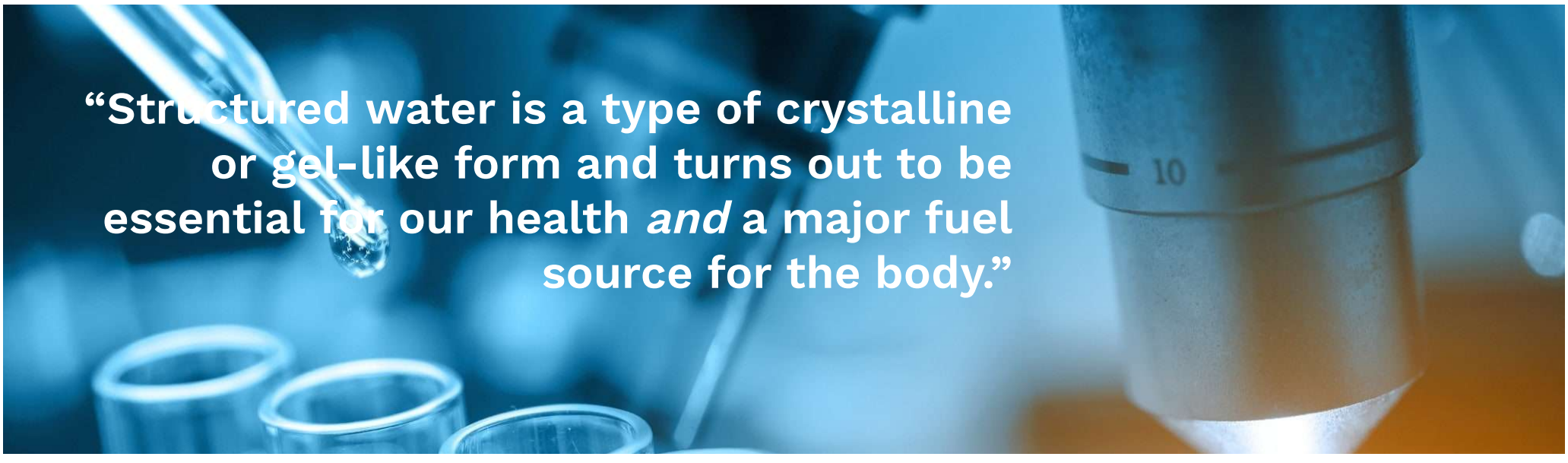
He gained fame in the 1990s as a researcher of the mechanisms of muscle contraction. He was published in the leading scientific journals such as *Science* and *Nature,* then wrote several books on the mechanisms of cell function, including *Cells, Gels and the Engines of Life: A New Unifying Approach to Cell Function* (2001).

The book was intensely reviewed in many scientific journals including *Science*, *Nature*, *Cell*, *Immunology* and others. In 2003 the book won the top prize (Best in Show) by the Society for Technical Communication.

The message in the book was so deeply substantiated and convincing, that some of the reviewers of the book characterized it as a "305 page preface to the future of cell biology."

Pollack's main hypothesis is that water is central to all cellular function including how cells communicate, transport, contract, divide and even how they are powered.

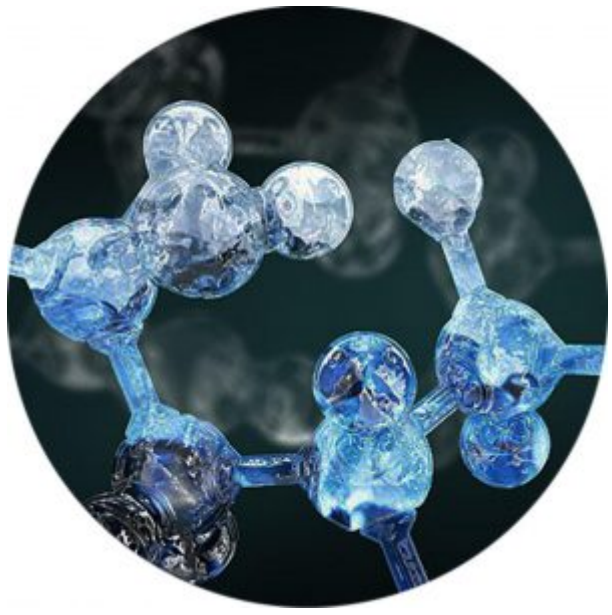
Pollack has highlighted that a fourth "phase" of water is crucial to explaining how water impacts biology. Most of us understand water has three phases: liquid, solid (ice) and vapour (steam).



SOLID (Ice)

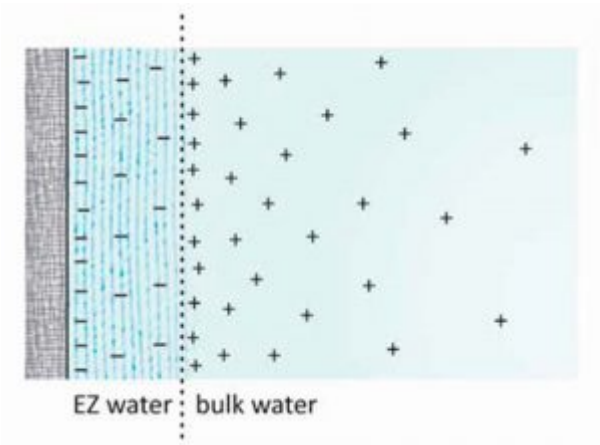
LIQUID (Known as Bulk Water)

VAPOR (Steam)



4. The new kid: Structured or “EZ” water

Structured Water: Exclusion Zone (EZ) Water – How it Works



When you place water into or next to hydrophilic (water loving) substances like cell membranes, it spreads out (rather than “beading” up like you would see water on a Teflon-coated pan for example).

In spreading out it creates “structured water,”which means the water splits into positive and negative charges.

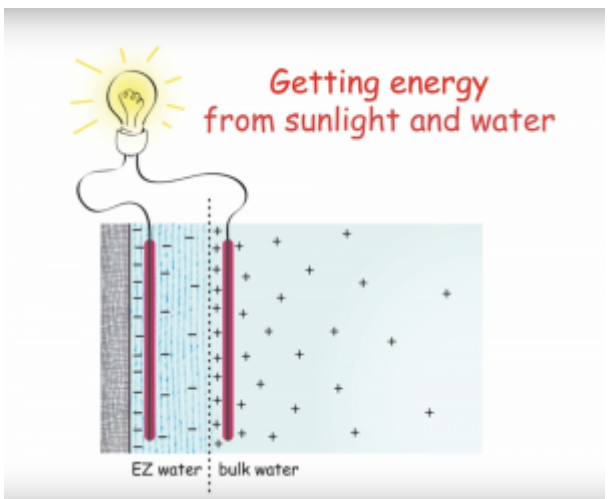
H20 becomes H+ and OH-

The section which is negatively charged is called EZ water – or “4th phase” structured water. This exclusion zone excludes all solutes. EZ water which appears between the hydrophilic material and + charged water is not H20 any more, it is actually H3O2. It pushes out all particles and solutes.

This charge separation is like a battery, and is also similar first step of photosynthesis in plants. The positive and negative charges create potential energy: a “battery” of water.

How does the water get “charged” and expand the EZ zone?

Pollack discovered that light increases EZ water by accident – his research student shined light on the EZ just for fun under a microscope and saw, amazingly, that the EZ zone expanded.



They experimented with different wavelengths of light and found that **infra red** light was by far the most effective. Infrared light is in sunlight and heat – it is everywhere. Therefore it is a type of *free energy*.

Remarkably, Pollack believes humans are “charged” by light and that it is a major source of energy (besides food) that is driving biology.

TEDx Talk by Gerald Pollack for more info

EZ water induces “flow”

Have you noticed how water moves up a drinking straw placed in water without you doing anything? EZ water may explain the self movement or flow of liquids in narrow tubes – this includes the movement of blood through capillaries. It is the same with the way sap can move up to the tips of very tall trees.

This also means that our heart is not working alone to pump blood through your entire system.. Structured water is also driving the flow.

When you have high levels of EZ water you have energy, your circulation is better and cells have more energy and oxygen.

So how do you increase EZ water in your body?

- Drinking water – this is the raw material/building block for EZ, ie. being hydrated
- Green vegetable juices (from plants that photosynthesize), water in plants is EZ water!
- Infrared sauna, infrared light and infra red heat lamps light are powerful EZ builders
- Turmeric – Pollack has found this can increase EZ water.
- Coconut water – found to increase EZ as well by Pollack’s team
- Grounding – connecting to the ground, negatively charged repository electrons.
- Sunlight – builds EZ
- Two expert Russian scientists who wrote *The Emerging Science of Water* book discussed below, use a filter to structure their drinking water similar to those found at: https://www.greenfieldnaturals.com

What About Water Memory?

How is EZ water linked to the concept of water *memory?* Again there is robust evidence for the fact that it is likely that EZ water can in fact store information.

Pollack says:

> *“People have questioned the idea of water memory, for good reason. The good reason is that the studies have shown that in H20 [bulk water] the molecules are moving around at a very high rate – at a femtosecond rate. So any molecules that are randomly organized and moving around so quickly, it’s hard to imagine it can store any information whatsoever.*
>
> *But now we’ve discovered the EZ water that has a crystal-like structure, it sort of like computer memory. Computer memory is basically silicon dioxide atoms arranged in a regular three dimensional array, EZ water is similar to that. So there’s a possibility the same principle that’s used in computer arrays could be used here, so the possibility exists that EZ water can store information.*
>
> *When we first started working with water, the idea of information and water seemed weird and strange and maybe possible, but now with each passing year and seeing clear experimental evidence that it can exist, it has changed my view alot.”*

Evidence for Water Memory

The technical effects of magnetized water are well known, documented and used in practice.

Magnetized water reduces the buildup of deposits of hard water and lime scale in pipes and technical installations.

The effects of magnetizing water **last long after the magnet field disappears.**

One reason much of the ongoing research behind water memory is unknown is because it is happening in Russia.

Many of these studies are covered and discussed in the book *The Emerging Science of Water* by Professors Voeikov Vladimir, Professor of the Faculty of Biology, Lomonosov Moscow State University and Konstantin Korotkov, Professor of the Department of St Petersburg State University of Information Technologies, Mechanics and Optics.

Studies listed and referenced in major journals show for example: exposure of *Dugesia tigrina planarians* (flatworm) to a combined magnetic field increased the intensity of their motor activity. We shouldn't be surprised by this – there are 1000s papers on pubmed confirming the impact of for example pulsed electromagnetic fields on biology).

The key in this paper is that **water treated with a magnetic field** transferred this effect to untreated planarians.

The use of magnetic water for 3 months resulted in a statistically significant reduction in dental plaque by 44% in a group of volunteers in comparison with a control group. Read more.

A permanent magnet installed on a pipe through which flowed water for chicken feed had a significant effects on chicks. After a month 50 chicks in the experimental group showed an increase in weight by 200g compared with 50 chicks in the control group. Read more.

Magnetized water has a significant effect on seed growth and germination, one study showing a statistically significant increase in seed germination of rice, beans and tomatoes. Read more.

Carefully controlled experiments in Australia showed that magnetic water has a stimulating effect on certain kinds of plants and not others – the effect strongly being impacted by the type of water being used.

Many more studies on magnetic are linked here.

The authors of the *Emerging Science of Water* book state:

> *"If electromagnetic effects can really influence the degree of water structuring, they obviously can influence our health, because we consist of over 70% water. Biological effects of electromagnetic waves of Super High Frequency and Extremely High Frequency bands, which are very popular in Russian medicine... prove the effectiveness of the influence of generated fields upon water systems"*

Water Influences Both the Shape and Function of Protein and DNA

There are plenty of studies confirming that the structure of water influences both the shape and function of proteins and DNA.

In a 2016 paper in the *Proceedings of the National Academy of Sciences* observing ultrafast water-protein interactions, Dr Zhong from the Depart of Physics, Chemistry and Biochemistry at the Ohio State University states:

> *"Here, we've shown the final shape of a protein depends on two things: water and the amino acids themselves. We can now say that, on ultrafast timescales, the protein surface fluctuations are controlled by water fluctuations. Water molecules work like a big network to drive the movement of proteins."*

Similarly, German researchers from the Biophysics Division at the Institute of Radiochemistry in Dresden, Germany, discovered that the structure of water impacts the shape of DNA. Read more.

Oscillations of the water bonds in the hydration shell of the double helix can be excited by infra red light. The higher the frequency of the oscillation, the looser the hydrogen bond. This, in turn, changes the geometry of the DNA strand: The backbone of the double helix, which consists of sugar and phosphate groups, **bends slightly.**

> *"The precise DNA structure depends on the specific amount of water surrounding the molecule,"* summarizes study author Dr. Fahmy.

Femtobiology, Water and Quantum Coherence

The research by Dr Zhong referenced above, looking at reactions happening at "ultra fast timescales," was only made possible by the invention of ultra fast laser technology.

Dr Ahmed Zaweil was the first Egyptian Nobel prize winner who won for his work developing this technology at Caltech. Ultra fast lasers led to the development of new fields of science including femtochemistry and femtobiology. These are sciences studying biochemical reactions at the speed of femtoseconds (one quadrillionth of a second).

What was once only in the realm of theoretical physics could now be studied empirically in a lab. Of the many highly important biological reactions occurring at the speed of femtoseconds, just some include:

- Protein and DNA folding and unfolding
- Hydration
- Electron transfer
- Molecular recognition
- Enzyme catalysts

Chemical reactions at this speed and size can be governed by fields according to what we have learned from quantum physics. Remember, in the "weird" and wonderful realm of quantum physics, particles appear not just as discrete particles, but also as waves.

When we remember that 99% of all molecules in the human body are water molecules, the role of structured water in all these reactions, it turns out, may be crucial.

Italian Emilio Del Giudice was an Italian theoretical physicist who pioneered string theory in the early 1970s. Later, he became known for his work with Giuliano Preparata at the Italian Institute for Nuclear Physics (INFN).

He is best known for pioneering the quantum field theory of condensed soft matter, especially water. Del Giudice and colleagues suggest that EZ water studied by Pollack is in fact a giant “coherence domain.” Read more.

Quantum coherence can be visualized when considering laser light. In laser light, all the waves of photons are exactly lined up, peak to peak, trough to trough. Similar to photons in laser light, hydrogen and oxygen molecules in water are so small in a semi-liquid (gel or crystalline state), that they are able to take on a similar type of coherent structure.

It is this coherent structure, as previously discussed, which allows both laser light and EZ water to store and transmit information.

When water is combined with energy from infrared light (as per Pollack’s discovery) it is able to mechanically move amino acids to create protein, from the genetic blueprint, and affect all kinds of reactions occurring at super fast timescales in our bodies.

So in summary water can both provide direction (information) to biochemical processes *and* energy to do the biochemical work.

“The quantum coherence of water is really what makes life possible”

Dr Mae-Wan Ho

Our modern day obsession with biochemistry alone — nutrition, nutraceuticals, pharmaceuticals and more — has truly led us to overlook the profoundly obvious.

Jacques Benveniste and Water Memory

Can the informational signal of a molecule, drug, plant or other substance be imprinted onto water, and used to create biological change?

Perhaps the most famous study in water memory research is that of Jacques Benveniste who was a well known French immunologist.

The full drama of Benveniste can be read widely online, but, in summary here, he was asked by a homeopath to test the biological effect of homeopathic remedies, and his study was published in 1988 in the world-leading journal *Nature.*

In homeopathy a material substance is placed in water which is diluted and shaken until there is no physical matter left in the water.

The understanding is that the electromagnetic or informational signal of the physical substance remains imprinted in the water.

This “frequency” or information imprinted in the water can create biological changes when ingested.

In Benveniste’s experiment, basophils were tested with a homeopathic dilution.

Basophils, a type of white blood cell, will “degranulate” and release their anti-microbial molecules in response to antibodies (proteins which attach to specific pathogens).

In the experiment the antibody IgE was diluted until it contained no physical antibody – and the water containing the “frequency” or information alone caused the physical basophil cell to respond and degranulate, just like it would in response to a physical antibody.

Because science had no framework to explain Benveniste’s findings, he was investigated, they purportedly could not repeat the experiment and Beveniste’s life and reputation were destroyed by the establishment (think Galileo!).

But as Professor Pollack points out about Benveniste’s work

> *“This experiment has now been repeated by many people and confirmed. So there is no doubt about the authenticity of the result.”*

Just a few other examples in a 2015 paper in *Homeopathy* included:

- The informational signal of acetylcholine and histamine increased coronary flow in guinea pig hearts
- The informational signal of the molecule phorbol-myristate acetate causes human neutrophils to produce reactive oxygen species.
- The informational signal of a direct thrombin inhibitor delayed blood coagulation

A Nobel Prize Winner Expands on Beneviste’s Work

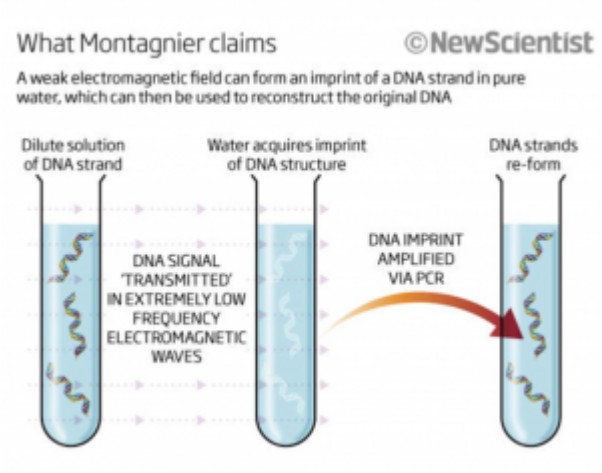
Another important researcher, Dr Luc Montagnier, the 2008 Nobel Prize Winner for discovering HIV virus, showed that he could imprint the electromagnetic frequency of DNA onto water in a paper published in 2015.

Like Benveniste’s work, this was not well received in the scientific community, nor by his Nobel colleagues.

DNA Regenerated from its “Quantum Imprint”

In this experiment, DNA from an HIV patient was placed in a tube of water. It was diluted until no physical DNA was present. Only the very low frequency signal remains in the water. This frequency is recorded by a microphone coil and saved as a 6 second WAV. file in Paris.

The WAV file is emailed to colleagues in Italy. The Italian team emits the EMS signal in the WAV. with a coil for one hour on a sample of distilled water in a sealed metal tube. The distilled water is then placed in a polymerase chain reaction (PCR) machine, in Italy which then produced DNA 98% identical to the original



DNA in Paris.

This is an astounding experiment which shows confirms both DNA has an electromagnetic field or signal AND water can store the signal.

Other research on water memory

Benveniste was not the first researcher to investigate water memory. Much of the early and ongoing research on water memory is occurring in Russia.

In fact Russian researchers had discovered findings similar to Benveniste's 60 years before him. Indeed in 1922 Dr Nikolai Pavlovich Kravkov, the Russian Scientific School of Pharmacology studied the informational effects of highly diluted poisons on blood vessels concluding:

> *"we can assume that poisons at extremely high dilutions become something like special protoplasmic stimulators, making it vibrate in one or another direction, with specific energy within its physiological life. Obviously, the molecule of poison in such dilutions gradually and infinitely seems 'to melt' and inform the solution with some special properties common to all the investigated substances. Thus, we are dealing here with the transformation of matter into energy, which is sensed by the living protoplasm."*

Many thousands of these studies can be found at the *International Journal of High Dilution Research* at http://www.highdilution.org/index.php/ijhdr

Russian academian Alexander Konovalov has stated:

> *"Today, thousands of examples are known, obtained in different laboratories of the world and relating to all levels of biological organization, where is it shown that aqueous solutions of biological active substances are able to display bio-effects at different concentrations..."*

Significant aspects of the work in Russia is further discussed in the *Emerging Science of Water* book previously mentioned.

Hasn't Research in Homeopathy Debunked Water Memory?

The overall research on homeopathy in pubmed is at best mixed.

Dr Ted Kaptchuk and his team at Harvard recently published a positive review study in 2016 in the *American Journal of Public Health* noting that prior studies of homeopathy "suggest potential public health benefits such as reductions in unnecessary antibiotic usage, reductions in costs to treat certain respiratory

diseases, improvements in peri-menopausal depression, improved health outcomes in chronically ill individuals, and control of a Leptospirosis epidemic in Cuba."

The study also found that homeopathic medicine, while still only used by a small fraction of the U.S. population, has jumped 15% in use. In addition, most users put homeopathy among the top 3 complementary and integrative strategies they use in their health care. The data was gleaned from the 2012 National Health Interview Survey.

The authors noted the use of homeopathy in the US is lower than in many European countries. For instance, they stated surveys have found rates at 8.2% in Italy and nearly 15% in Germany. It may be even higher in Russia. Other large meta studies have been less positive.

A recent meta study by the National Health and Medical Research Council of Australia in 2015 reviewed 57 systematic reviews (on 68 conditions), which contained 176 individual studies, and could find no discernible convincing effects beyond placebo.

The Limitations of Homeopathy

Homeopathy was created by Samuel Hahnemann in 1796. Given the research on structured water and water memory, of course he was on to something. However it is likely that homeopathy is just the first iteration of using informational signals and water memory for health.

Although there is mounting evidence for "highly diluted aqueous solutions," as the Russians now refer to this much wider concept of water memory, homeopathy has some inherent limitations which may explain no discernible effects found beyond placebo.

Hahnemann created homeopathy based on the idea that "like cures like." Substances which cause similar symptoms to the disease, will cure the person. For example, in 1789, Hahnemann used bark from the Peruvian cinchona tree to create a fever similar to the fever of malaria, in order to cure malaria.

This indirect method for creating a healing response, often by giving the informational signature of a toxin may be an unnecessary limitation. Why not, for example, see if the digital imprint of a drug can be imprinted on water conferring the benefits when ingested without side effects?

Or what if the informational signature of a healthy organ can be imprinted onto water and positively affect biology ? This is exactly what researchers and other innovative natural medicine companies are doing.

Dr Luc Montagnier on Homeopathy:

> *"I can't say that homeopathy is right in everything. What I can say now is that the high dilutions are right. High dilutions of something are not nothing. They are water structures which mimic the original molecules. We find that with DNA, we cannot work at the extremely high dilutions used in homeopathy; we cannot go further than a 10–18 dilution, or we lose the signal. But even at 10–18, you can calculate that there is not a single molecule of DNA left. And yet we detect a signal."*

Researchers from Mexico found the informational signal of metronidazole (an anti-parasite drug) imprinted onto water inhibited the growth of two parasites on Entamoeba histolytica and Trichomonas vaginalis published in *Experimental Parasitology* in 2011.

The same researchers found that informational signal of the anti-fungal drug Amphotericin B imprinted on to water inhibited the growth of Candida albicans.

The informational signal of the antibiotic drug Vancomycin imprinted onto water inhibited the growth of resistant Staphlococcus aureas bacteria.

Other researchers found that the informational signal of Ampicillin (a prescription penicillin-like antibiotic) imprinted onto water inhibited the growth of *E Coli* in 2018.

The informational signals of antiviral and immunostimulant drug Arbinol and the immunosuppressant drug Dexon imprinted onto water respectively stimulated or inhibited the immune systems in mice.

This research suggests that will we soon move on from pharmaceuticals and nutraceuticals to "infoceuticals," as the next evolution in medicine.

An Informational Copy of the Human Body

If all chemical, bioactive and living substances have an "informational copy" this entails that of course our human bodies have an "informational copy" as well.

Innovative companies in complementary and alternative medicine like NES Health have been researching how to identify the informational signal from healthy meridians, organs and bodily systems, imprinting this onto water for ingestion and health improvement since 2005.

The late Professor of Acupuncture Peter Fraser and his business partner Harry Massey detailed this research in their book *"Decoding the Human Body-Field: The New Science of Information as Medicine.*"

NES's infoceuticals are really like Homeopathy 2.0. Where as homeopathy entails imprinting the signal of a toxin on water to trigger a healing response, NES infoceuticals directly correct your field back to normal with optimum information for your body field. NES believes this is why Homeopathy isn't as effective as it could be and only works for 4 out of 10 people (a little better than placebo).

You might be wondering how Peter Fraser figured out the energy field information to improve upon homeopathy. This is covered in our second paper following on from this one called **Part II: Resonance Matching.**

Human Intention and Water

A final intriguing question is: can human intention and emotion impact the structure of water?

Many people have seen the amazing photographic gallery gathered by Masaru Emoto, the Japanese author and entrepreneur who claimed that emotions and human intention impacts the structure of water crystals. However, Emoto was not a scientist.

You can have fun looking at Masaru Emoto's water gallery showing the effect of praying to water, and positive and negative words on the crystals of water here:

For those who may wonder about this, it is useful to be aware of fascinating research discussed in Lynn McTaggart's best selling book *The Field* done by the Princeton Engineering Anomalies Research (PEAR) at Princeton University. This was overseen by Professor Robert Jahn Dean Emeritus of the School of Engineering and Applied Science at Princeton University.

The researchers created machines called Random Event Generators (REGs) which produce a type of white noise – a tiny roaring surf of free electrons. These provide a mechanism to send out a randomly alternating string of positive and negative pulses. The results are displayed on a computer screen and then transmitted on-line to a data management system.

Essentially they produce 1 or 0 randomly 50% of the time. However, when human volunteers are asked to INTEND for the results to be more zeros or ones, human intention clearly impacts the results. Read more.

Many labs have since repeated the REG experiments. In a meta-analysis of 372 publications between 1959 and 2006 with 90 principle investigators across 20 laboratories, the conclusion was that human intention has a small but highly statistically significant effect on the REG output. Read more.

If thoughts and emotions are also informational – i.e. they are not nothing, then of course there is the possibility that they could be imprinted onto water.

Scientist Konstantin Korotkov has been working on this exact hypothesis with New York Times Bestselling author of *The Field* and researcher Lynne McTaggart showing that human intention directly changes the structure of water for over 10 years now.

You may want to bear this in mind the next time you drink water!

Conclusion

Pollack says "Water, I never could have imagined ten to fifteen years ago that this would be the case, but now I've seen seen enough evidence that certain kinds of water can actually reverse pathologies...this is the future...I think there's a lot of promise out there."

Despite Pollack and other similar views, skepticism is likely to continue for years to come in some circles.

Dogmatic thinking and ignorance is difficult to break. Consider this statement by Dr Ron Atlas in 1999, the President of the American Society for Microbiology made just 20 years ago:

> "Probiotics may be today's snake oil, the liquid concoction of dubious or worthless medical value fraudulently peddled...as a cure for innumerable ills"

In response to this Dr Gregor Reid, considered the world expert on probiotics replied

> "Ron Atlas showed a level of ignorance about the field that was difficult to believe. By then, I alone had over 50 publications on the topics including clinical data. There are still sceptics and critics, including in the American Academy of Microbiology, but the evidence is overwhelming. They just need to accept it."

We believe the same will happen soon enough in the science of informational medicine as the evidence continues to grow, people will indeed, just need to accept it.

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