



CONSCIOUS WATER



A contribution to the PEACE PLEDGE PROJECT
Organised by the Universal Sufi Council Assisi,
Italy, 26-29 June 2018

*This small booklet is dedicated to the memory
of Professor Emilio del Giudice*

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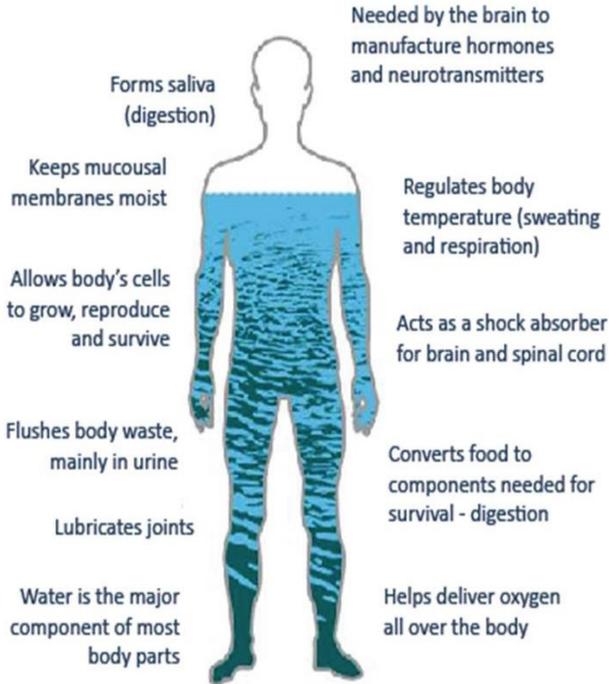
Greenland's Big Ice is melting...



The holy Ganges River has become heavily polluted...

We are water

We all know that we need to drink water every day. We also know that we consist of water for a considerable part. We all realise that



clean water is of vital importance for us.

But there is also still a lot that is less known about water. In the last decades, several important, and new scientific discoveries about water have been made. This booklet aims to share some of these new insights.

Why just 'clean' water is not necessarily clean

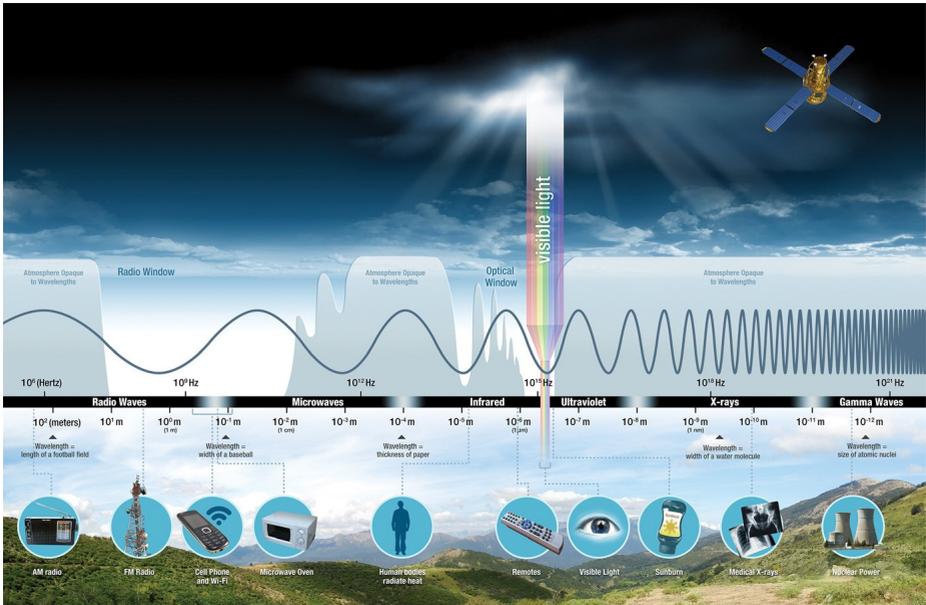
When we think of clean water, most of us think of chemically clean water. And indeed, much - too much - of our water today has become chemically polluted. Chemically polluted with plastics, with heavy metals, with medicine residues and other human and animal waste streams. Chemical pollution, however, is only part of the problem!

The last 50 years man-made electromagnetic energy has become another major problem for water and life. From the origin of life on earth to the beginning of the 20th century the electromagnetic environment of the earth was determined by the sun and other cosmic sources, and by the geomagnetic properties of the earth itself.

For hundreds of millions of years, we humans, and almost all living organisms, grew up surrounded by the natural daily rhythms of life. These *“circadian rhythms are embedded within the genomes of almost every plant, animal, fungus, algae and even cyanobacteria”*. Our biological clocks make sure not everything is happening within our organisms at the same time, thus ensuring that biological processes occur in the appropriate sequence all our daily patterns of sleeping and waking, of eating and drinking basically depend on these internal biological clocks.¹

¹ For further reading see: Russell G. Foster & Leon Kreitzman. 2004 Rhythms of Life. - The Biological Clocks that Control the Daily lives of every Living Thing. Also see: Russell G. Foster & Leon Kreitzman. 2017. Circadian Rhythms – A Very Short Introduction.

When electric power and communication were introduced, growth was relatively slow at first. Since World War II growth has been increasing considerably. Today, humanity has filled almost the entire electromagnetic spectrum with man-made radiation. Man-made electricity has actually become the most dominant factor in the earth's electromagnetic environment.²



In the beginning we thought that all this electricity and radiation could not harm us, as long we were not exposed to electrical shocks or to extreme heat.³

² Madl, Pierre. 2015. Why QFT matters! Towards a Biophysical approach of Health and Disease. URL: https://biophysics.sbg.ac.at/talk/Why_QFT_matters.pdf

³ For further reading see also: Madl, Pierre, and Stephane Egot-Lemaire. 2015. The field and the photon from a physical point of view. Accessed June 20, 2018. <https://biophysics.sbg.ac.at/talk/FoC-2012.pdf>

Today we are finding more and more evidence how man-made radiation impacts on our health in different negative ways.

To understand why and how we are affected by radiation and by polluting chemicals, we need a much deeper understanding of our basic building block – **water**.

Why and how is water affected by radiation?

In the old days the mysterious powers of water were often described intuitively. Water was described as a Metaphor for Life, for Knowledge, for Love, for Purification, and for Consciousness. Quoting the Qur'an, the great philosopher and poet Ibn 'Arabī (1165-1240) writes how we living beings are all “watered with one water”.⁴

Unfortunately, most of our “Classical” Western scientific thought seems to have obscured our understanding of the many wonders of water. Focussing on the study of the behaviour of the single parts and the individual components, we seem to have forgotten to look at the behaviour of the whole. In his Introduction to Universal Sufism Murshid Karimbakhsh H.J. Witteveen wrote:

“Western science has developed a materialistic causal-deterministic theory quite opposite to mystical and religious visions. But in the present extraordinary time in which we live, these lines again converge and begin to touch each other in certain fields. Accordingly, some scientists have found parallels between the vision of earlier mystics and some aspects of modern science, which is becoming more organic, more holistic and begins to see creation as an indivisible dynamic whole.”⁵

⁴ Qur'an, Sura 13, The Thunder, verse 4, cited 3 times in the Futūhāt by Ibn 'Arabī. See: Jaffray, Angela. 2008. "Watered with One Water": Ibn 'Arabi on the One and the Many Journal of the Muhyiddin Ibn 'Arabi Society, 43, 2008.

⁵ Witteveen, Hendrikus Johannes. 1997. Universal Sufism. Element Books Limited, 1997. Chapter 5. The Philosophy of Sufism: Science and mysticism: Western and Eastern thought.

Looking specifically at water, the great Italian quantum physicist Emilio del Giudice has offered one of the most comprehensive views on water. We now understand how water actually is the great energy converter, the most important carrier of electromagnetic energy on earth. Such renowned scientists as Luc Montagnier, Gerald Pollack, and Emilio del Giudice offer new explanatory models for the 'miraculous' behaviour of water.

Water is the great ‘broadband absorber’

Water is the main absorber of the sunlight in our atmosphere. Water absorbs around 70% of all the electromagnetic energy in our atmosphere, making water the most important electromagnetic energy carrier on Earth⁶. Water absorbs light – visible and the invisible light of UV and Infrared spectra. Except for the absorption rates in the visible light spectrum, these absorption rates are very high.

And water not just absorbs electromagnetic light waves: it can carry warmth, and all other forms of electromagnetic energy, and moreover water can also carry sound.

To phrase this in a more exact way: water absorbs, and/or reacts to electromagnetic waves of 10^6 Hertz with wavelengths of about 100 metres to waves of 10^{21} Hertz with wavelength sizes of atomic nuclei.

Luc Montagnier discovered that for many of the remarkable properties of water in living systems, stimulation by the electromagnetic background of very low frequency is essential. All life on earth evolved in the presence of such a background, including e.g. the Schumann resonances which start at 7.83 Hz, generated and excited by lightning discharges in the cavity formed by the Earth's surface and the ionosphere.

⁶ See amongst others Martin Chaplin. Water Structure and Science. Absorption Spectra of Gaseous, Liquid and Solid Water
http://www1.lsbu.ac.uk/water/water_vibrational_spectrum.html#comp

Emilio Del Giudice provided an explanation from Quantum Field Theory to explain why many of the most remarkable properties of water require this background, i.e. experiments cannot be reproduced in some laboratory settings when this natural background is completely shielded away.⁷

Let us now turn to the ways in which water behaves as the great *'energy converter'*.

⁷ Montagnier, Luc, J. Aissa, E. Del Giudice, C. Lavalley, A. Tedeschi, and G. Vitiello. "DNA waves and water." In *Journal of Physics: Conference Series*, vol. 306, no. 1, p. 012007. IOP Publishing, 2011.

How does water actually absorb energy?

Water has the unique ability to interact with and react to electromagnetic frequencies, by constantly adapting its molecular structures. Beyond its ‘simple’ chemical composition ‘H₂O’, water has a dynamic and self-organizing structure.

When it absorbs energy, water doesn’t simply contain and transport the received energy. Any interaction with electromagnetic frequencies whether electromagnetic radiation or the interaction with the frequencies emitted by chemical substances, all this interaction will have its effects on the physical structure of water.

This actually means that – through our water structures – living beings are ‘constantly’ in contact with each other and are “influencing” one another!^{8 9}

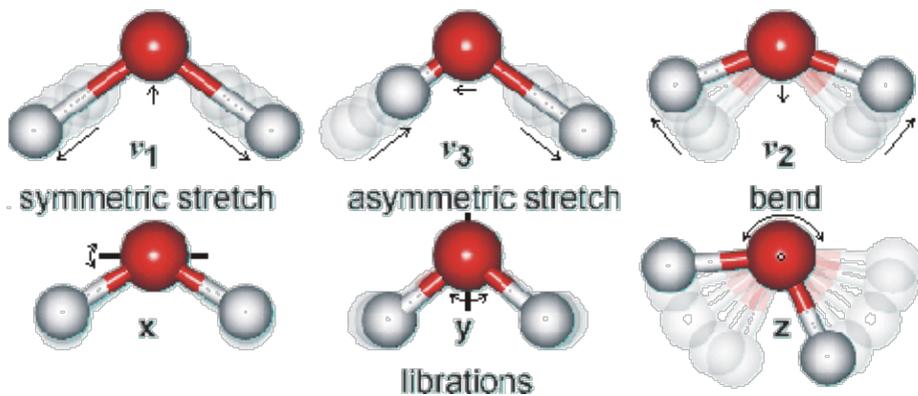
Martin Chaplin has been one of the first to describe the different movements of water molecules. The movements illustrate the flexibility of water-structures.¹⁰

Water owes many of its unique properties to the polarity of its molecules and, specifically, to their ability to form hydrogen bonds with each other and with other molecules.^{11 12}

⁸ See e.g. Serge Kernbach’s talk at the 2017 Conference on the Physics, Chemistry and Biology of Water in Sofia, Bulgaria: Nonlocal quantum phenomena in macroscopic systems: 1k replication experiments with Electrochemical Impedance Spectroscopy in water. <https://vimeo.com/ondemand/waterconf2017/>

⁹ See also Presentation made by Dolf Zantinge on behalf of “Water and Light BV” in Assisi -June 2018 <https://vimeo.com/279599033> password: water

¹⁰ See also presentation Dolf Zantinge Assisi June 2018, at 7 min 18 sec.: <https://vimeo.com/279599033> password: water



And all these connections unfortunately also mean, that with ‘normal’ chemical cleaning of water, polluting chemicals can mostly be removed, but the stressing frequencies and radiation, which came with the chemicals, and which the water has absorbed, will remain: water will hold these unhealthy structures.

With all the intensified exposure to chemical and electromagnetic disturbances today, even chemically pure water and mineral waters are vulnerable, and are becoming more and more affected by mostly man-made radiation.

¹¹ A short introduction of how this hydrogen bonding works can be found at: <https://www.khanacademy.org/science/biology/water-acids-and-bases/hydrogen-bonding-in-water/a/hydrogen-bonding-in-water>

¹² A deep introduction to the hydrogen bond by Marc Henry, a Professor of Chemistry, Materials Science and Quantum Physics at the University of Strasbourg, is available at: <http://inference-review.com/article/the-hydrogen-bond#endnote-19>

Some people have argued that the emerging new science of water is controversial after seeing beautiful water structures at Martin Chaplin's website. They argue that such structures can only survive for a couple of picoseconds.

This is a misunderstanding of what actually happens at a quantum level. As early as in 1935 Linus Pauling described the so-called flickering between two cyclic arrangements of hydrogen nuclei in ice.¹³ The Quantum Field Theoretic interpretation by Emilio Del Giudice introduced later on in this document, essentially describes the energy fluctuations between such flickering structures from a modern point of view.

¹³ Pauling, Linus. "The structure and entropy of ice and of other crystals with some randomness of atomic arrangement." *Journal of the American Chemical Society* 57, no. 12

We are “Cucumbers with issues”

You may ask “So what? Why is this so important?” All the above is of vital importance because the statement that “we consist of water for a considerable part” is a really big understatement! We humans consist for 99% of water-molecules!

The amount of water inside us is indeed between 60 and 70 percent by weight. However, given that the water molecule is light and that our biomolecules are heavy, when we look at the number of molecules we consist of, we are for 99% water-molecules!

We are actually “more” water than the average tomato, that is “only” 94% water!



A quote from the last interview given by the great scientist Emilio del Giudice is in order:

“One of the mysteries to which conventional science should respond: Why we are a diluted solution?”

Why, if we almost entirely consist of water, do we not form a puddle on the ground? If I compare <ourselves> to a bottle of seawater, there the water molecules are 96% not 99%. So, we are water, purer than seawater! But if I take seawater, and put it in a bottle, and break the bottle, the water spreads. In our case the bottle is not there, which makes me wonder why the world is not one big puddle?

What does it mean that the water molecules of our body are linked to each other more than the water molecules that are in a bottle? And what does it mean that the physics of living water differs from the physics of a bottle of water? This is because of the coherences...”¹⁴

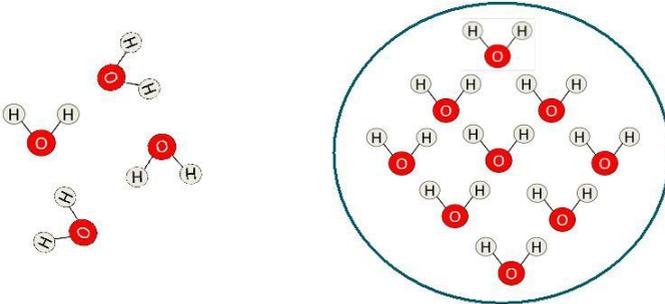
Based on general Quantum Field Theory Prof. Emilio del Giudice has explained how the molecule structures of water are actually not homogeneous. Water is composed of a mixture of two entirely different types of molecular order: so-called ‘coherence domains’ and incoherent regions.

¹⁴ Prof. Emilio Del Giudice - Ultima intervista. Interview by Luca Poma. 2014. Copy of the original YouTube video with English subtitles added. <http://bit.ly/coherencedomains> password: water. To see the subtitles, please click the greyed-out CC button in the bottom right of the movie. (32:15 min)

Coherence in water

For a long period, scientists never considered the possibility that water could be a mixture of two entirely different types of molecular order. But indeed, recent scientific insights show that the water in our cells is not just regular water, but highly structured water with special properties. Based on Quantum Field Theory, Emilio Del Giudice explains how water is composed of two fundamentally distinct molecular configurations.

Within water there are so-called 'Coherence Domains' and there are surrounding incoherent regions. In the incoherent regions, the quantum oscillations of water molecules are independent from each other, which means the oscillations produce little energy (left image).



In Coherence Domains the molecules are ordered and display collective quantum oscillations with high energy (right image). These sets of molecules move in phase, like synchronised swimmers.

But unlike synchronised swimmers, the quantum nature of this coherence means that the individual molecules become indistinguishable from each other. The Coherence Domain behaves as one indivisible entity.

Almost free electrons

To once again quote Prof. Del Giudice:

“This means in water there occur a configuration in which the electrons of the water molecules are all strongly bound to the nuclei and another configuration in which one electron per molecule is almost free, which means that it takes just an infinitesimal small amount of energy to release it.”

So, we truly are at a coastline, a borderline between the world of insulators and the world of conductors.

The coherent hierarchy of life

Prof. Del Giudice further explains how Coherence domains can create a hierarchy of different levels:

“This can generate, starting from Coherence Domains at the size of a tenth of a micron, super-domains several microns large, super-super-domains at millimetre size, super-super-super-domains at centimetre size, finally arriving at elephants and baobabs. So, we have a hierarchy of levels, each level having its characteristic oscillation frequency.”

We can only understand all life-processes when we realise that structured water creates these intelligent¹⁵, coherent structures. The functioning of all our biomolecules is completely dependent upon these structures:

“Thus, Water has the possibility to produce extremely sophisticated electromagnetic fields i.e. over the course of time the system changes from one configuration into another, which it can do with tiny leaps of energy. From where can water take this energy? From the environment!

[...] Water can take energy from the environment, from ambient noise that is chaotic, and turn it into very precise vortexes of electrons: by means of an ordered excitation water thus generates a spontaneous decrease in entropy.”

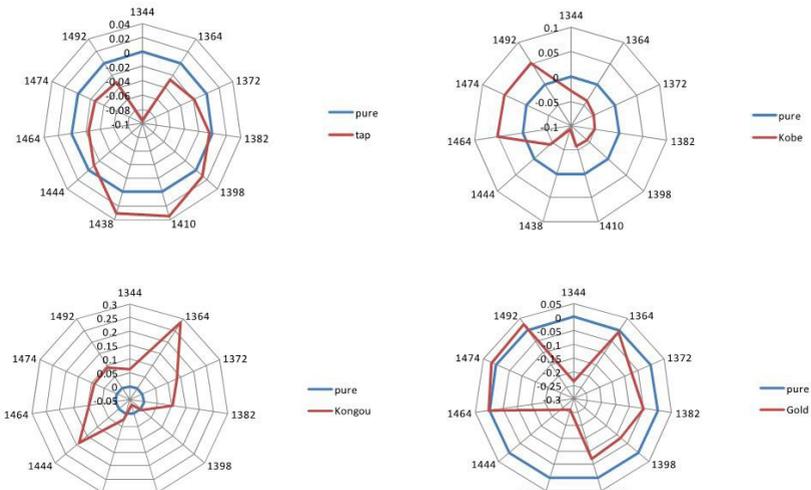
Coherence turns out to be vital for homeostasis: the tendency of organisms to auto-regulate and maintain their internal environment in a stable state. The stable condition is the condition of optimal

¹⁵ We believe it is appropriate to call the hierarchical coherent self-organization of water “intelligent”

functioning for the organism, and is dependent on many variables, such as body temperature and fluid balance, being kept within certain precise pre-set limits.

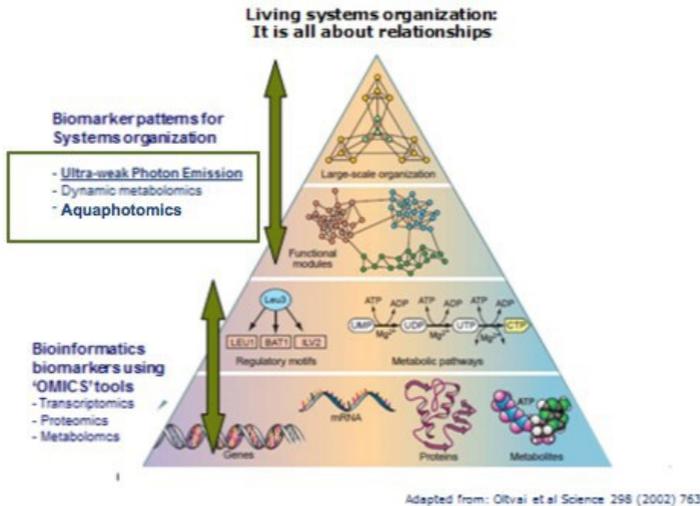
Today, science can measure how water absorbs waves

As mentioned above, until rather recently, it was impossible to scientifically measure the exact way, in which water absorbs electromagnetic waves. Today we can measure these structures with so-called Near Infrared Spectroscopy and “Aquaphotomics”. We can also measure the abovementioned homeostasis within living organisms by looking at ultra-weak Photon Emissions.



With “Aquaphotomics” these measurement techniques can show spectral patterns of water samples. First so-called ‘raw spectra’ in the NIR ranges 1300-1600nm are established. Based on these spectra so-called ‘Aquagrams’ are drawn. In this way wave-absorbing patterns can be used to compare waters from different samples.

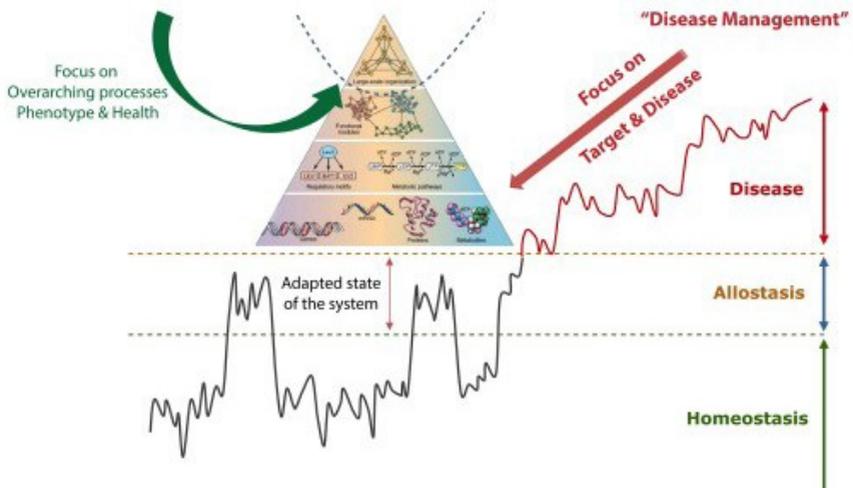
These new insights and measurement-techniques have also made it possible to “cross the boundaries” of looking at “health” in living systems. Looking at so-called ‘biomarkers’ in living organisms, the latest insights of modern science today can show us the vital role of Coherence for homeostasis. Modern science thus arrives at a new vision and a new focus on how to promote health: from pathogenesis



to focus on the overarching processes.

By integrating ultra-weak photon emissions with Metabolomics – the large-scale study of small molecules within cells – modern science starts to monitor the underlying biochemical activities in cells of living organisms. This enables new insights in how homeostasis is maintained.

The “life pyramid” view represents the notion of how biological systems are interconnected at different organizational levels and how the biopsychosocial environment acts dynamically within the system and therefore reflects the information at the lower levels.¹⁶



In his work about the coherence in water, Prof. Del Giudice speaks about how “water learns by itself “: how water has these abilities of “self-movement” and how water can thus recreate whole chains of life and will rebuild or even construct ex novo DNA from the raw materials:

¹⁶ See: Burgos, Rosilene C. Rossetto, Eduard van Wijk, Roeland van Wijk, Min He, and Jan van der Greef. "Crossing the Boundaries of Our Current Healthcare System by Integrating Ultra-Weak Photon Emissions with Metabolomics." *Frontiers in physiology* 7 (2016): 611. <https://doi.org/10.3389/fphys.2016.00611> and/or <https://openaccess.leidenuniv.nl/handle/1887/47922>

“So, the right word would be knowledge, not information, because the water is not “informed” by it, but rather like a person that gets hinted three notes of a song and instantly understands which song it is.”



Water can be energetically cleaned

In view of all of the above, the importance of ‘energetic cleaning’ of water, and restoring water to its ‘natural order’ should be considered of increasing importance.

In old traditions such ‘healing’ practices were already practiced. Until the second part of the last century the results of these practices could not be measured with Western scientific measurements. The idea that polluted or disturbed water could be restored with natural frequencies was therefore not accepted by Western scientific thought. Today it has become clear that generating natural, restorative frequencies will allow water to reorganise and restore its structures.

There are a number of possible principles that can be applied. One of these works in the following way. Minerals, mineral clays, crystals, and precious stones all emit weak electromagnetic waves. Very often these minerals and crystals also radiate old, undisturbed water structures that are still stored in their structures. These emitted natural electromagnetic waves are amplified by constructing a sound box or ‘cavity resonator’, in which the waves are amplified, and the emitted waves thus will resonate sufficiently in order for new water to ‘hear’ them. As the new water flows through the cavity resonator, the water can adjust and restore its natural structure.

In the laboratories of Water and Light BV in the Netherlands energetically clean and stable water has been developed based on these latest scientific insights.

What does truly clean and stable water do?

Looking at ourselves through the eyes of quantum physics we are solving the mysteries of molecular biology. Being 99% water, we are able to turn the non-coherent energies of the environment into coherent energy. This is what we do as living organisms!

Looking at the impact of energetically clean and stable water at Water and Light BV a number of remarkable findings have been made:

Photons emitted from germinating seeds

Seeds that were grown with energetically cleaned and treated water show more Biophotons as compared with seeds, grown with the same water, which has not been treated. Biophotons (from the Greek meaning "life" and "light") are photons of light in the ultraviolet and low visible light range that are produced by a biological system. They are non-thermal in origin, the broader field of "Biophotonics", studies the general interaction of light with biological systems.¹⁷

Symbiosis at the roots of plants

Soil irrigated with treated water develops more Mycorrhizal Fungi in the soil.

Resilient soil

Soil, with treated water, restores its balance and remediates itself.

¹⁷ Madl, Pierre. 2012. Introduction to Biophotonics or The Light of Life. Embedded in Prof. KW Kratky's Lecture Series "Physics in physiologic Processes. URL: biophysics.scb.ac.at/talk/Why_QFT_matters-BP.pdf

Healthier mitochondria producing more ATP

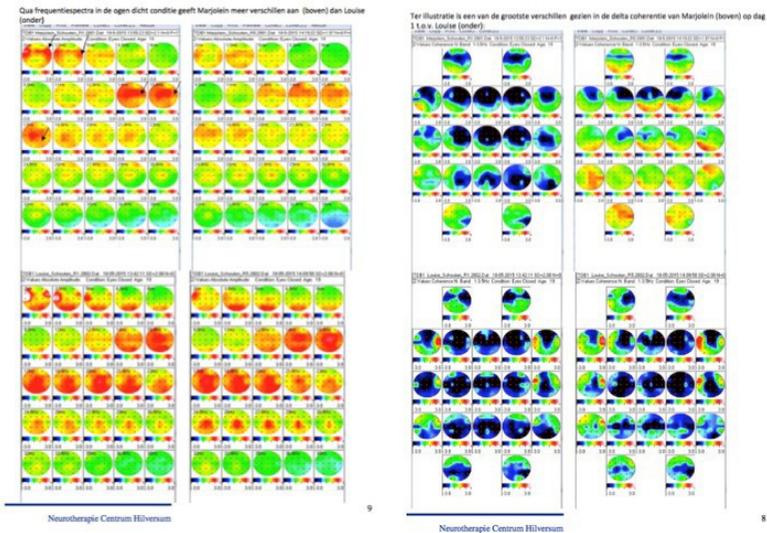
Plants, vegetables grown with treated water, contain more ATP: Adenosine Tri Phosphate: the most common energy “currency”. In humans the mitochondria are the power plants of our cells and they produce our ATP. Originally, Mitochondria were bacteria with their own genes, but during our human evolution they became part of our cells. Our Mitochondria age throughout life, which reduces their ATP production. The aging of mitochondria thus plays the most important role in our overall aging process and in chronic diseases.¹⁸

Though still many years of Research and Development lie ahead, to expand on all of these recent scientific insights and findings, more than ever before, there has become sound evidence that, clear and stable water makes and keeps us healthier.

¹⁸ See Presentation by Dolf Zantinge Assisi June 2018 - <https://vimeo.com/279599033>
password: water

Vital water makes us more conscious

Looking directly at our human brain activity: recent research findings show more coordinated (coherent) brain activity when we drink energetically cleaned and treated water. Comparing QEEG measurements with identical twins show more coordinated brain activity for the half that is drinking energetically cleaned water.¹⁹



In the end it does look like that energetically cleaned vital water also makes us more conscious! We might also say: energetically clean, “stable” water is ‘knowledgeable’ and its self-learning abilities are shown in our resulting brain-activities...

¹⁹ See: STICHTING NEUROTHERAPIE CENTRUM HILVERSUM Rapport Wateronderzoek Evaluatie effect gevaliseerd water op QEEG – Mini-Pilot, Hilversum oktober 2015

Endangering water = endangering life

Today we humans have more impact on our environment than ever before. We truly live in the Anthropocene.

Our industrial production, the construction of large dams, the large-scale chemical interventions in our agriculture, but also the achievements of radio, television, internet and mobile telephony, all have a dramatic impact on the water we consume, and on the water, that is our main building block.

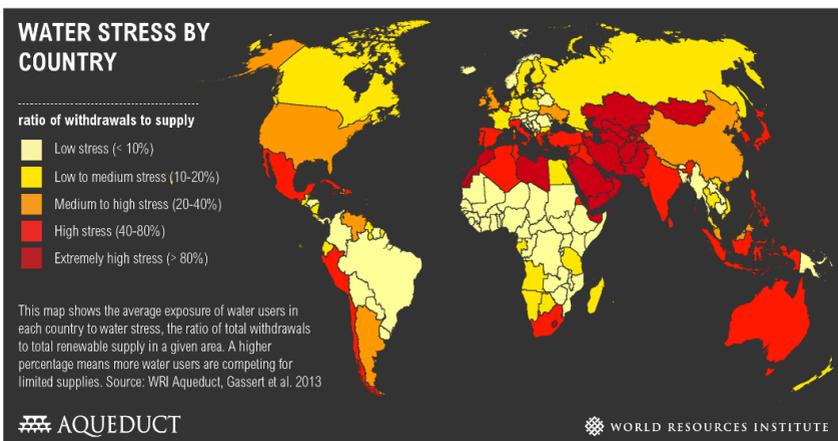
The preservation of truly clean water equals preservation of ourselves as conscious beings. Creating a peaceful world means helping to save and restore and stabilise our water. Valuing life is all about preservation of truly conscious water.

Greenland: Connecting the dots

Greenland's Big Ice is melting on a completely unprecedented scale. On average 280 Gigatons tons of fresh water melt away. This is more than 750 billion litres per 24 hours, almost 9 million litres of fresh



water per second. At the same time there is an increasing shortage of drinkable water in many parts of the world. Not just in many of our rural areas; also more and more of our Megacities face acute water scarcities.

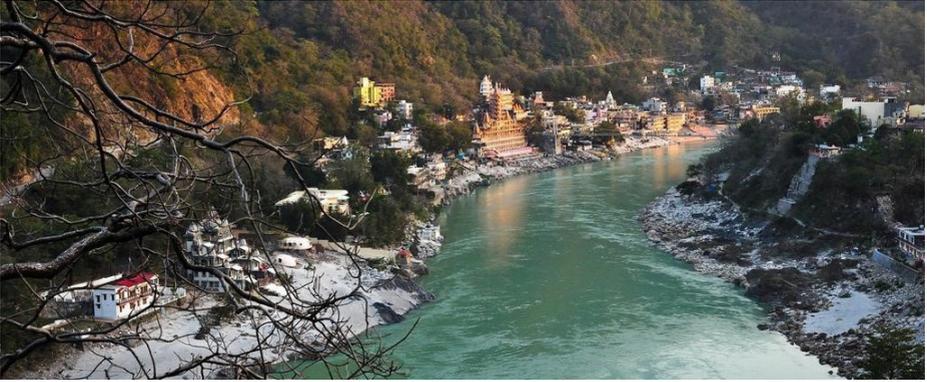


Greenland: Creating a global win

The vision and purpose of the Greenland Water Program is to start addressing the following challenge: to avoid that Greenland's fresh melting water gets lost in the oceans, and to bring it to places, where humanity lacks clean and healthy water.

The program also aims to make indigenous cultures stand tall, and consciously address climate change. The Greenland global water program aims to become a global game-changing program to start harvesting, cleaning, transporting and using the melt water from Greenland's Big Ice to realise a more peaceful and stable world.

There will certainly be a need to assess the water quality of the vast amounts of all sorts of different melt water. Not all the water will just be clean or 'pristine'. As we by now understand, water constantly reacts to its environment. Since the beginning of our history Greenland has been at the centre of the "Great Conveyer Belt" the great interconnected ocean & gulf steams around the globe: this means that Greenland Big Ice literally represent a lot of Ice Wisdom: most of it beautiful, but some it less beautiful: in certain parts and/or layers of the Big Ice the lead frequencies from industrial activities in the days of the Roman empire are still traceable. Chemical and energetic assessment of the water will be an important consideration for the project.



India: Bringing clean water in Rishikesh

Untreated sewage, industrial waste and pesticides have polluted India's most important river Ganges.

Over the years the river has become affected by the changes in its water quality and its flow regime. In the Himalayan region, until Rishikesh the flow in the river has been threatened by water abstractions for existing or proposed hydropower projects. With many dams and barrages the river has become lean over the years, with over 50% of its water being diverted before it enters the plains. Every day, more than 10 billion litres of wastewater are released into the river. 80% of this wastewater is untreated. Also, in this case pollution would seem much to be both of a chemical and of a 'structural' nature.

For these projects the need to assess the water quality of the vast amounts of water will be an important consideration for the projects as well.

Conclusion

In a peaceful world we will need to bring water to people that lack it. Water is life. We need to bring not just any water - we need to provide the world with clean, stable water. Water that can stand for Life, for Knowledge, for Love, Purification, Cleansing and Consciousness.

We are all watered with one water

ACKNOWLEDGMENTS

This small booklet has been written as a contribution to the Peace Pledge Pilgrimage 2018.

Elaborating on the ideas expressed in the Conference Keynote, the booklet aims to give some broad sketches on the latest scientific insights about the beautiful nature of water and the vital importance of energetically clean and robust water for all of us.

It is based on the scientific field and desk research done by Water and Light BV in the Netherlands. Without the insights from the great researchers working at and with Water and Light BV - Everine van de Kraats, Yu Yan, Roel van Wijk en Eduard van Wijk - this booklet could not have been written.

We feel grateful and honoured to be given the chance to share some of our ideas with the Universal Sufi Council and the participants of this Assisi Conference.

With kindest regards,

Dolf Zantinge, Eric Laarakker, Harald Kerres and Frans Versteeg

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