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Electromagnetic and magnetic vector potential bio-information and water

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This work developed over the past 40 years starting from dielectric measurements on enzymes and the subsequent finding that the measurements were affected by electric, magnetic, electromagnetic fields and quantum fields. A request for help in the diagnosis and therapy of chemically sensitive patients who had become sensitive to their electromagnetic environment came in 1982. The same symptoms could be provoked by a chemical or a frequency challenge and this led to an appreciation of the synergy between chemical and frequency environmental sensitivities.

Experimental cooperation with theoretical physicist Herbert Fröhlich FRS and others led to an understanding of the physics of coherent water in living systems and a mechanism for the memory of water for coherent frequencies. In a coherent system there are interacting frequencies proportionate to any velocity the system will support, in particular the velocity of light and the velocity of coherence diffusion. Thus, there can be biological interaction between the optical, microwave and ELF spectral regions. Frequency modulation of light scattered by bio-fields and its retention in recorded images is discussed. A 'nil-potent' frequency can erase a frequency signature and thence affect a biological system.

Homeopathy is interpreted through the biological effects of coherent frequencies derived from the frequency signature of the 'Mother Tincture' and developed through dilution and succussion. A homeopathic potency has a frequency signature therefore it must be able to have a biological effect. *Homeopathy* (2015) **104**, 301–304.

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Background — 1974—1994

Before my chapters in Ultra High Dilution[1] there was already 20 years of work directed towards an understanding of the physics of water and living systems in respect of electromagnetic interactions. In 1974, measurements of the dielectric properties of biological materials gave results which attracted the interest of theoretical physicist Herbert Fröhlich FRS and work in cooperation with Fröhlich continued until his death in 1991. This and subsequent work up to 2006 is presented in the Fröhlich-Fest-Schrift.[2]

Fröhlich suggested measuring the diamagnetic susceptibility. For an active enzyme system this gave an enhancement of 10^5 over the value for water. This can only occur if the equivalent of a superconducting current loop exists. This indicated the presence of a long-range order of the type giving rise to low-temperature superconductivity and thence to the finding that cell culture growth was sensitive to a single quantum of magnetic flux linking the measured cell cross-sectional area. This was followed by finding evidence of the Josephson Effect which gives a voltage-frequency inter-conversion determined by the ratio of Planck's Constant to the electronic charge ~500 MHz/μV. Sensitivity to the magnetic vector potential (A-field) which affects the phase of a wave function supports the conclusion that living systems must be considered as macroscopic quantum systems.[3] Living systems were shown to be sensitive to proton-NMR conditions even at geomagnetic field strengths[4] and highly coherent radiation emission was detected at yeast cell mitosis.[2]

In 1982, the physician Jean Monro sought my help in treating electrically hypersensitive patients.[5,6] This condition is found in patients who already have on-going

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chemical sensitivities. The symptoms triggered electrically and chemically were identical suggesting the same body system was involved in both. It was found possible to treat electromagnetically hypersensitive patients using Miller's Provocation/Neutralisation Technique. There were specific frequencies which would provoke or neutralise the patients' symptoms. Frequency imprinted water was as effective as that frequency from a coil connected to an oscillator.

Extremely sensitive patients could not tolerate frequency challenge from an oscillator. Their body field had frequencies which could be measured and used for diagnosis and subsequent therapy. Matching frequency signatures could also be found in homeopathic potencies and used for therapy. These were considered to relate to bio-information as frequency patterns from the 'Mother Tincture/Triturate' developed during their potentisation and 'read' by the body following clinical application. It was remembered that Hahnemann had potentised *electricitas* and *magnetis*.

Evidence that 'Electromagnetic Hypersensitivity' actually does exist was elicited under environmentally controlled double-blind conditions[5] with 100% reactions to an active frequency and 0% to the placebos for 16% of subjects tested at a frequency to which the subject happened to be sensitive, there was no point in using any other frequency. Of the rest, 50% were not ES and 34% gave false positives or negatives on test. These would have been in a state of mathematical chaos[7,8] rather than a stable state of health or disease.

Ultra High Dilution 1994

In my contributions to UHD 1994, I considered the phenomena of bio-information and water in relation to electromagnetic fields in "*Electromagnetic and Magnetic Vector Potential Bio-Information and Water*".[1] The frequency measurements[9] on potencies of thyroxin from D5 to D30 showed no discontinuity at the Avogadro (Loschmidt) Number. There were comments on the electronic information transfer to tadpoles from thyroxin.[10,11]

Order and coherence were related to structured water, coherence domains[12] and the bandwidth of frequency resonances in imprinted water was related to the signal-to-noise ratio. The sensitivity of living systems to the magnetic vector potential component of the magnetic field (**A**-field) was discussed[10] with particular reference to it as the carrier of frequency bio-information. A magnetic field (**B**-field) or succussion can 'format' the water to accept these frequencies. The thresholds for electromagnetic effects in water were discussed. The sources of bio-information and the methods available for the detection, erasure and measurement of frequencies imprinted into water and living systems are summarised in Table 1.

Developments 1994—2014

Between 1994 and 2014, over 60 publications trace the development of these concepts. A list of my publications in this area is archived at Hpathy Ezine[13] which also contains my work on the physical basis of homeopathy.

The physics underlying 'frequency memory'[2] requires that coherent protons satisfy proton-NMR conditions independently of the imprinted precession frequency. This requires 6.3×10^{12} protons to form a coherent domain. For frequency imprinting in metals the corresponding ESR condition is involved.

Measurement of these frequencies was discussed in Ultra High Dilution.[1] Measurements can only be done over a limited frequency range by instrumentation. Frequencies can be measured by dowsing[14] from microHertz to TeraHertz, a method which is no more subjective than drawing what is seen looking down a microscope.

Any chemical which can H-bond to vicinal water develops a characteristic frequency signature in the low frequency region. This is a consequence of coherence. In a coherent system, the constant parameter becomes the coherence length, the distance over which the coherence persists. This gives a frequency proportional to any velocity the system will support. The result is a multiple

Table 1 Bio-information — sources, imprinting into water, erasure, measurement

Sources of frequency bio-information	*Imprinting a frequency into water*	*Erasing a frequency imprint in water*	*Measuring a frequency imprint in water*
1 Whole Body Field 2 Acupuncture Meridians 3 Chakra Points 4 Chemical Signature 5 Scattered Light & Images.	1 Proximity 2 Succussion 3 Momentum Impulse 4 Permanent Magnet 5 Ferrite Toroid(s) 6 Toroid (A-field) 7 Solenoid (A-& B-fields) 8 Caduceus and Möbius coils (torsion & radial A-fields) 9 Vortex (angular momentum) 10 Digitally (7-voltage impulses) 11 Chirality (L-& D-) 12 Light scatter. 13 Arithmetic & Logic Functions 14 Chemically 15 Heart Chakra 16 Qi — Intention.	1 Closed Steel Box. 2 Imprinting 'nil-potent' Frequency 3 Prime Number Dilutions.	1 Pair of electrodes to differential amplifier. 2 Single electrode (detects A-field). 3 Dowsing Response (μHz to THz) 4 Modulated light scatter & its images.