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**GUEST EDITORIAL**

**Straws in the Wind**

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**Key Words** - Alternative and Complementary Medicine

Environmental Medicine

Electromagnetic Environment

**Running Head** – Guest Editorial

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### **Straws in the Wind**

**Cyril W. Smith, Ph.D.**

I was surprised to find that four years has elapsed since I last wrote an Editorial for The Journal of Alternative and Complementary Medicine (JACM) (Smith, 1999); I called it “Physicks and Physics”. My thesis then was that Physics hardly enters into Orthodox Medicine or Alternative and Complementary Medicine because biology does not have a theoretical and mathematical basis in physics. In this Guest Editorial, I shall look for straws blowing in the wind of change since then. This time, my thesis is that ‘Environmental Medicine’ and ‘Alternative and Complementary Medicine’ need each other.

Although chemistry is readily comprehended in terms of balls-on-sticks, what is lost is that duality between electromagnetic frequency and the chemical bond which makes spectroscopic analysis possible. Chemistry like spectroscopy is based in “quantum physics” and mathematical chemists can do sophisticated calculations about molecules and their structures. The theoretical basis for chemical changes brought about in living systems by electromagnetic fields is still an open question. One windblown straw is that the microwave cooker frequency (2.45 GHz) can trigger the isomeric transition of L- amino acids to D- amino acids (Lubec et al., 1989). Most such effects are bi-phasic and there will be another frequency which effects the

reverse transition. This suggests that frequency effects can occur at least at the level of tertiary molecular structure and involve enzyme activity.

In the Myth of Achilles and the Tortoise, the choice of the wrong methodology ensures that the instant at which Achilles overtakes the Tortoise is never reached this side of infinity. It seems to me that this describes many aspects of Alternative and Complementary Medicine whereby the wrong methodology is attempted or enforced by critics.

An example of this is the ongoing controversy concerning possible health risks associated with the electromagnetic environment - mobile phones, transmitters, power lines and so on. Official Sources and the Institutions tell us that there are no health problems until power levels are such that thermal effects set in - the “English Muffin Syndrome” - “If it’s not burnt it’s alright!”. This is based on the methodology of classical (pre-quantum) physics within which there is no chemistry or spectroscopy.

My view is that problems involving the electromagnetic environment are only explicable in terms of an Alternative Medicine which recognises that there are those pathways to the body’s regulatory systems that are accessed through acupuncture, acupressure, electroacupuncture, homeopathy and so on, as well as through mind-body interactions.

A *Study* on, “Cancer Incidence near Radio and Television Transmitters in Great Britain II. All High Power Transmitters” (Dolk et al., 1997) concluded that, “....while there is evidence of a decline in leukaemia risk with distance from

transmitters, the pattern and magnitude of risk associated with residence near the Sutton Coldfield transmitter do not appear to be replicated around other transmitters”.

This *Study* contradicted the ‘gut-feelings’ of local residents and I re-examined the published data so far as it allowed (Smith, 2001). Since the *Study* covered 20 transmitters from different parts of the UK, any effects related to geographical or topographical features and antenna design should have averaged out. This only left the physical characteristics of the propagation of electromagnetic radiation from which to seek a mechanism. The results of my observed-to-expected ratio calculation were a good fit to a ‘Normal’ distribution from 1.5 km to 8 km with the mean at 5 km and a standard deviation of  $\pm 1.5$  km whereas any peak in the *Study’s* results was minimal.

Now to a possible mechanism! The radiation from a transmitter will propagate at the velocity of light in the ambient air. The magnetic vector potential (A-field) does not interact with air or matter so it propagates at the vacuum velocity of light. A simple experiment involving a toroid and solenoid connected in series with an oscillator showed that when the magnetic vector potential (A-field) from the toroid and the magnetic (B field) from the solenoid were in opposition ( $180^\circ$  or  $\lambda/2$  phase-difference) its frequency was imprinted into water. When these vectors were parallel (zero phase-difference), that frequency imprint was erased.

At 5 km from a transmitter, there will be a transit time difference of 5 ns between the A- and B- fields. The frequency 100 MHz will give this phase-difference. It could entrain the allergy acupuncture meridian (AD1 in Voll-notation) from its endogenous

frequency of 94 MHz and with chronic exposure 'proving symptoms' will adapt to become indistinguishable from 'disease state'. Effects at other frequencies and distances should be *pro rata*.

There are leukaemia clusters in the villages Cesano and Formello about 5 km from the Vatican Radio transmitters at Anguillara Sabazia (North of Rome). In an attempt to stop Italy from cutting off its electricity supplies over a dispute involving these radiation hazards, it was planned to reduce the 300/600 kW, 1530 kHz medium-wave transmissions. My argument suggests that its FM transmissions on 93.3/103.8/105.0 MHz should be investigated instead. However, blaming leukaemias on power levels does keep the paradigm conveniently within classical physics and away from quantum effects. Even passive resonators can produce effects in water and where the power level involved is that of the ambient thermal radiation (Cardella et al., 2001). The correct phase conditions for frequency imprinting can occur near overhead power lines.

In their paper "A Pilot Study of Functional Magnetic Resonance Imaging (fMRI) of the Brain during Manual and Electroacupuncture Stimulation of Acupuncture Point (LI-4 Hegu) in Normal Subjects Reveals Differential Brain Activation Between Methods" Kong et al. (2002) report that electroacupuncture mainly produced fMRI signal increases while manual needle manipulation produced prominent decreases respectively within specific regions of the brain. The timings of the two modalities were matched, 3 Hz manual rotation and 3 Hz electrical pulses with 1 minute stimulation then, 1 minute of rest and continued for 5 minutes.

Work I presented at the “Man and His Environment in Health and Disease” International Symposium in Dallas TX in June 2000 (Smith, 2000) described the endogenous frequencies on the acupuncture meridians and how they can become entrained or synchronised to exogenous frequencies of homeopathic potencies or chemical signatures. The endogenous frequencies of the LI meridian are 0.055 Hz and 2.70 MHz. The frequency corresponding to 1 minute is nearly 0.02 Hz which is probably sufficiently close to entrain that meridian. Their 3 Hz was probably irrelevant but the possibility of effects from any frequencies in the region of 2.7 MHz emanating from the MRI should have been eliminated. This shows that Nature is not being investigated with anything like adequate precision or bandwidth in respect of coherent frequency effects. The endogenous frequencies occur in at least two bands for which the frequency ratios taken over all the Ting acupuncture points are constant to within a standard deviation of  $\pm 3\%$  and these frequencies range from 0.5 milliHertz to 300 GigaHertz.

The multiple frequency effect is a very important consequence of coherence. A coherent system bounded within its coherence length has this as its constant parameter. Frequency becomes proportional to the velocity with which the coherence propagates. There can be many velocities and proportionate frequencies. All frequency bands from optical to ELF can interact in producing effects on (coherent) living systems. The frequency imprinting effect seems to involve line-splitting in the far-infra-red rotational spectrum of water. The multiple frequency effect then extends the chemical spectra interactions to lower frequencies. One can be sure that if there is a useful phenomenon in physics or chemistry then Nature will be making use of it.

In the recent JACM paper, “Can the Q Link Ally<sup>®</sup>, a Form of Sympathetic Resonance Technology (SRT<sup>™</sup>), Attenuate Acute Mobile Phone-Related Changes to Neural function?” Croft et al. (2002) report on a single-blind, fully counterbalanced crossover study in which subjects’ resting EEG and phase-locked neural responses to auditory stimuli were assessed under conditions of and active mobile phone without and with the Q Link. They found mobile phone related changes in the EEG some of which were attenuated by the Q Link. This device they describe as a “black box” emitting low-dose continuous waves at 7377 MHz plus harmonics. The developer is said to argue that this frequency acts as a carrier for subatomic “information” but not to have made available critical details. Commercial secrecy is something which has long bedevilled basic research into Alternative and Complementary Medicine.

In his book “Conscious Acts of Creation”, Tiller (2002) refers to experiments and theory relating to ‘Intention Imprinted Electronic Devices’ (IIED). On page 17, one reads, “...These devices were designed to be almost identical to a commercial device\* that is readily available so that other investigators might more easily attempt to reproduce our experimental results.....” It is of great significance that for the processing of Tiller’s IIED’s, four people all accomplished meditators with decades of regular practice, coherent, inner self-managed and readily capable of entering an ordered mode of heart function plus sustaining it for an extended period of time, sit around a table and at a signal focus an *intention to imprint* the IIED and then to seal the imprint into it.

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\*The “Ally”, Clarus Products International, LLC, 1330 Lincoln Avenue, Suite 210, San Rafael, California 94901

If an imprinting has taken place one must ask, “Is possible that all the electronics is irrelevant and that wearing a pendant of water imprinted by a healer would function equally well as a surrogate healer?”. The oscillator will provide a flux of radio-frequency photons. Coherence (bio-information) can propagate in *either* direction along a beam of photons. This would increase the range of these devices beyond the body aura. In laser acupuncture, stress from the patient can hit the operator by travelling along the laser beam in the reverse direction.

These IIED devices do warrant further study. On page 405, Tiller (2001) remarks that, “... Although utilizing a different device processing technique than the IIED’s discussed in this book, there is a commercial device on the market which purports to do this....” and that, “...Most of the supporting data for the Q link is in the form of testimonials...”. “....Because of this, Dr. C. Norman Shealy and one of the authors have conducted a double-blind clinical test and they report that their preliminary data suggests that wearing the Clarus Q link beneficially moderates the influence their particular EM stressor on the subjects’ EEG’s”.

There are a number of devices on the market which purport to reduce stress from the electromagnetic environment. Some absorb the electromagnetic radiation e.g. carbon or ferrite loaded cements or ceramics, metal mesh screens for VDT’s and microwave cookers. Others, make use of certain frequencies which can alter the form in which an environmental frequency imprints itself into water or body tissue so that the body does not recognise it so readily. Yet others use a single strong resonance or radiation frequency which most persons can tolerate. The 7.8 Hz of the heart meridian and chakra is commonly used. A meridian under stress may entrain to this frequency and

ignore the environment. Frequencies which become imprinted into the body function like some un-characterised homeopathic potency or toxic chemical signature with 'proving symptoms' effects.

Frequency appears to be the formal link between acupuncture, homeopathy and other therapies. Exogenous frequencies, whether environmental or the frequency patterns of homeopathic potencies or chemical signatures, can entrain or synchronise nearby endogenous frequencies. The result may be either stressful or therapeutic. Near to a mobile phone, entrainment of its frequencies usually only persists while the source of oscillation is switched-on, and soon relaxes after it is turned-off (Smith, 2002).

However, these frequencies can acquire a permanence in the body. They may be imprinted by the classical methods of homeopathic 'potentisation'. They also can be imprinted by other methods (Smith, 1994), one of which requires a train of 7-unidirectional voltage pulses. These are adequately provided when the dialing code goes out from a mobile phone and this will potentise or imprint its frequencies into any water or body tissue within 3 cm of the case of one particular mobile phone. Such an imprint made into my hand took about ½ hour to decay, I did not try to imprint my head!

Chemicals with traces of water each have a pattern of characteristic frequencies which can be similarly measured but, unlike water imprints and homeopathic potencies, these cannot be erased by removing the geomagnetic field by placing inside a closed steel box. Reference to my 1995 measurements of a reference collection of environmental toxins made at the laboratories of AccuChem, Dallas TX, showed that

6/9 of the frequencies of endosulfan sulfate matched 6/11 of the frequencies imprinted by a certain mobile. These gave a paired-values correlation coefficient of 0.9996152. Endosulfan is an insecticide, acaricide for use on crops. It is Toxicity Class I (tech.) and is a central nervous system stimulant with no specific antidote. On the basis of the “proving” of homoeopathic remedies, I would expect that mobile’s imprint in a healthy body to mimic the CNS symptoms of endosulfan and chronic exposure or imprinting would result in adaptation until “proving” symptoms become indistinguishable from ‘disease state’.

The magnetic vector potential of the radiation field affects the phase of a wave function in a quantum system. This cannot be *shielded* but being a wave phenomenon it can be *cancelled* by another signal 180° different in phase. Placing two tubes of water with anti-phase imprints one on each side of this mobile seemed to prevent imprinting during dial-up. In general, it is advisable to avoid holding a mobile phone close to the ear as it dials-up and to avoid acquiring a sensitivity to toxic chemicals which happen to mimic its pattern of frequencies, lest this makes the body think it is under chemical attack.

In “Quantitative Analysis of Reproducible Changes in High Voltage Electro-Photography”, Russo et al. (2001) have attempted to investigate the existence of electromagnetic fields associated with biological systems using newly available image analysis techniques to analyse Kirlian photographs of a finger tip produced under controlled conditions. They found a correlation between change in the electromagnetic emission from the body and the conscious desire of five energy practitioners to change their energy state. Five controls were unable to reproduce

statistically significant changes. Jerman et al. (1999) have described this computerised Kirlian photograph analysis in detail.

The middle finger was selected for measurement based on conversation with practitioners stating that the intensity of the energy emitted from the middle finger is greater than the other digits in the hand. It has long been suggested that the acupuncture meridian activity is one factor which shows up in a Kirlian image. The tip of the middle finger is of course the end of the pericardium (Pe) acupuncture meridian. The Ting electroacupuncture points on the middle finger are Ci9 and AD1. These might not have shown up in these experiments as the finger was held vertically relative to the photographic emulsion. The electrophotographic (Kirlian) apparatus was excited with a unipolar square-wave of approximately 20 kV at  $7 \text{ kHz} \pm 350 \text{ Hz}$ . These frequencies should not entrain the pericardium meridian.

Excitation is a **dark** process. The photographed light comes from relaxation and recombination of excited and ionized molecules of gas or vapour surrounding the finger tip. In the case of moist air there are innumerable possible pathways some radiative others non-radiative whereby the ground states of the molecules can be regained; body fields and resonances from chemicals or homeopathic potencies should increase further the number of possible pathways so, the emitted radiation will be characteristic of all the energy gaps and materials involved.

The endogenous frequencies on the pericardium meridian are about 0.25 Hz and 13.4 MHz. The energy practitioners participating in the above experiments considered that one minute was sufficient time to alternate between a relaxed "OFF" state and a

healing energy “ON” state. In order to check this (Smith, 2001), I measured my endogenous frequency at acupuncture point Pe9, then turned “ON” healing energy for one minute and re-measured. I then relaxed for one minute and re-measured again. I concentrated on healing and on trying to push the frequency of the pericardium meridian from its 0.25 Hz up to the 7.8 Hz of the heart chakra and heart meridian (He9) as shown in Table 1. Not only is 7.8 Hz a general healing frequency but also one that has unusual effects on water. This showed that it was possible for the energy practitioners in the above experiment to have changed the frequencies on their Pe9 acupuncture points under the conditions and time available to them. There have been many recent papers in the JACM concerned with mind-body interactions. Healers and others seem to be able to alter the randomness of the output of random event generators by mental intention as described by Tiller (2001) with a probability which would not be acceptable in space technology.

**Table 1**

**Results of Self-Test**

1.	Initial endogenous frequency on Pe9	0.2542 Hz
2.	Frequency on Pe9 after concentrating on healing for 1 min.	6.732 Hz
3.	Frequency on Pe9 after relaxing for 1 min.	0.2012 Hz
4.	Frequency on Pe9 after concentrating on healing for 1 min.	7.575 Hz
5.	Frequency on Pe9 after relaxing for 1 min.	0.2762 Hz

Things are changing albeit slowly. When “The Lancet” first published a paper on Alternative Medicine, the orthodox were heard to mutter, “It is not the Journal it was, it will publish anything!”. Now, even the BMJ (Donnelly, 2002) has an article explaining the general concepts and training for being both a healing practitioner and a general practitioner. Perhaps practitioners with such dual capabilities will be able to appreciate the problems of the hypersensitive patient and be better able “To comfort always!”.

In the course of working with electrically hypersensitive patients who are mostly also highly chemically hypersensitive, I occasionally came across an electrically hypersensitive person who additionally had problems of affecting nearby electrical apparatus, such as TV’s, microwaves, electronic automobile systems, security detectors, robotics and so on. This usually occurred when the person had already been stressed by some chemical(s) in the environment and it caused considerable embarrassment to all concerned.

Unfortunately, hypersensitive persons get little or no help from their medical practitioners. It seems to me that what is needed is a register of medical practitioners prepared to take electrical hypersensitivity seriously. So far as I can see, the problems of health effects due to the electromagnetic environment will remain until they have a World Health Organization International Classification of Diseases Code (ICD-number). Diseases do not exist in modern medicine until they have an ICD-number against which they can be reported. Germany has now got as far as adding “Chemical-Sensitivity-Syndrome Multiple” #T78.4 to its ICD coding framework. A world-wide ICD code is urgently needed both for health problems and for legislation

related to the electromagnetic environment. When I ask lawyers how they equate *equality under the law* with *biological individuality*, the reply I get is, “We don’t!”.

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