Medical hypothesis:

Human intelligence: The Brain, an electromagnetic system synchronised by the Schumann Resonance signal.

NJ Cherry, O.N.Z.M., B.Sc. (Hons), Ph.D., M.R.S.N.Z., M.I.S.E.E.

Human Sciences Department
Lincoln University
New Zealand.

Correspondence: NJ Cherry, O.N.Z.M., B.Sc. (Hons), Ph.D., M.R.S.N.Z., M.I.S.E.E. neil.cherry@ecan.govt.nz, tel: 64 3 348 9420; fax: 64 3 343 3693. P.O. Box 84, Department of Human Sciences, Lincoln University, New Zealand.

Word count:

Abstract: 89 words
Text: 576 words

---

[1] No financial interest

[2] NJC is Associate Professor of Environmental Health who gives evidence on behalf of occupationally exposed workers and residents who have developed exposure related health effects.

Abstract:

The human brain is a biological organ. On one hand it is soft, flexible and adaptive, but on the other hand is relatively stable and coherent with well developed intelligence. In order to retain intelligent thinking in a soft and adaptive organ there needs to be a constant, globally available, synchronization system that continuously stabilizes the brain wave activity. Rapid intelligence and reactions requires an electromagnetic signalling system, supported by a biochemical system. The Schumann Resonance signal provides a brain frequency range matching electromagnetic signal, providing the synchronization needed for intelligence.

Text:

The intelligent brain has developed over hundreds of millions of years in the environment that has contained in the Schumann Resonance signal for over 3 billion years. The human resonance signal is a globally and continuous available the ELF modulated, radiating signal sourced from tropical thunderstorms and propagating around the world in the resonant cavity created between the ionosphere and the earth's surface. Human, mammal, animal, fish, bird and reptile brains had involved in a global environment containing the Schumann Resonance signal.

Cherry (2002) shows that there is strong and robust scientific evidence of the human brain detects and responds to the Schumann Resonance signal. The absorption occurs by the classical physics process of resonance matching of frequency. The reaction of the brain causes altering the melatonin/serotonin cycle balance. This produces modulating of human population's cancer, cardiac, neurological and reproductive

health effects and mortality rates in human populations. This provides the plausible biophysical mechanism to causally connect and explain how solar activity can modulate human health effects on earth. The solar activity has illustrated by the sunspot number, which is physically connected and correlated with the Geomagnetic Activity (GMA) indices, which are correlated with over 120 studies showing homeostatic modulation of human health. The evidence relates to an optimum melatonin level related to the mean Schumann Resonance signal strength. The moving of melatonin away from its optimum level by Solar/Geomagnetic Activity altering the Schumann Resonance signal strength, produces adverse human health effects correlated with period of lower than average S-GMA and higher than average S-GMA.

The physical connection starts from the solar activity showing sunspots, producing radiation and plasma that flows in the solar wind to the earth. When it reaches the earth it compresses the earth's magnetic field, altering the GMA and the ionized particles enter the ionosphere and enhance the ion concentrations of the ionosphere including the lowest layer, the D-Region. The D-Region forms the top of the resonant cavity in which the Schumann Resonance signal exists. The daily variation of the D-Region produces a daily variation in the Schumann Resonance signal. In the same manner a Solar Storm produces a variation in the Schumann Resonance signal strength.

The brain uses a range of frequency patterns monitored by the EEG system. The frequency range of the EEG rhythms coincide with the frequency range of Schumann

Resonance signal (0-45Hz). The brain has developed an ELF isolating ion system, primarily using calcium-ions, to control the neurotransmitters, Adey (1990). It is well established, Blackman (1990), that external electromagnetic ELF signals induce altered neuron calcium ion effluxes in brain tissue. The stable synchronizing of the brain's electromagnetic systems has led to thinking, emotion, memory and intelligence. In order to carry out these functions the brain has developed electromagnetic transmitters and receivers in the neurons. The receivers including a phase locked loop system, Ahissar et al. (1997). The phase locked loop system is used in FM radio receivers. In the human brains it provides an FM radio receiver that non-linearly resonantly interacts with the Schumann Resonance signal. In addition to having a strong diurnal pattern that assists the sun to maintain the circadian rhythm, the Schumann Resonance signal continuously synchronises the brain wave ELF patterns in a set range of grouped frequencies. This stabilises the brain's electromagnetic system and has enabled intelligence and stable thinking to evolve to the point where this complex understanding of the biophysical environment interacting with the human brain can be reasoned, understood and appreciated.

Adey, W.R., 1990: "Electromagnetic fields and the essence of living systems". In "Modern Radio Science", J Bach Anderson Ed., Oxford University Press, 1990, pp 1-37.

Ahissar, E., Haidarliu, S. and Zacksenhouse, M., 1997: "Decoding temporally encoded sensory input by cortical oscillations and thalamic phase comparators". Proc Nat Acad Sci USA 94:11633-11638.

Blackman, C.F., 1990: "ELF effects on calcium homeostasis". In "Extremely low frequency electromagnetic fields: The question of cancer", BW Wilson, RG Stevens, LE Anderson Eds, Publ. Battelle Press Columbus: 1990; 187-208.

Cherry, N.J., 2002: "Schumann Resonances, a plausible biophysical mechanism for the human health effects of Solar/Geomagnetic Activity". Natural Hazards 26: 279 – 331.