Comments On "Electromagnetic Radiation And The Afterlife"

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Among the traditions of theology we find the concepts of an objective existence for knowledge independent of the human body, and entities, spirit and soul, capable of comprehending that knowledge and acting upon it. At the moment of death, the acquisition of sense information is about to cease, and the body's material information storage locations are about to cease functioning. If this information of a lifetime is not to be lost forever, it must be accessed and "dumped" in a form appropriate to the knowledge-handling facilities of the spirit state. It is to this transition point between life and death that Janusz Slawinski's "Electromagnetic Radiation and the Afterlife" addresses itself.

On the death of an organism, its component body organs do not die immediately. Even after they have ceased to be the heart, liver, and kidneys of the deceased, they may be transplanted and remain viable under the control of another person's body and contribute to its essential vitality.

Nature abhors hard boundaries. If there is any essential complementarity to all knowledge, then the natural sciences and what used to be called the queen of sciences still have much to learn from each other, especially from within their interdisciplinary regions. In the "wet" account of the creation as given in the Book of Genesis, light is given an important role. Slawinski attempts to sketch some of the bound-

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aries between the literal and the figurative in the possible roles for light.

The manner in which electromagnetic fields are ordered is a feature that distinguishes living from nonliving matter. In general, electromagnetic fields are associated with those forces that act over greater-than-nuclear distances, in systems that involve masses too small to be gravitationally significant. Furthermore, there is an essential duality between electromagnetic frequencies and chemical structure. If that were not the case, chemical analysis by spectroscopy would be impossible.

In living systems there is a coherence or ordering that is imposed on the essential randomness of the inanimate. There is now a substantial literature, including that cited by Slawinski, describing the emission of light and other wavelengths of electromagnetic radiation from living systems. It appears to be an essential part of the biocommunication systems that control the homeostatic status of a living organism. Under conditions of stress, such as the time of cell division, there is likely to be an emission of electromagnetic radiation. Emissions in the radiofrequency region around 8 MHz have been detected from dividing yeast cells (Smith, 1984; Smith, Jafary-Asl, Choy, & Monro, in press), and W. Grundler (1985) has confirmed the existence of nonthermal resonant effects of 42 GHz and 84 GHz irradiation on the growth rate of yeast cells. The resonances have narrow line widths of 8 MHz FWHM, which may correspond to the 8 MHz emissions above. A growing mass of evidence has now confirmed effects on living organisms brought about by EM fields too weak to produce even localized heating, thereby virtually ending the debate about whether all effects of fields on organisms are caused simply by heating induced by intense radiation (Lerner, 1984).

When the biocontrol system is faulty, as is probably the case with multiple-allergy patients (Smith, 1984; Smith, Jafary-Asl, Choy, & Monro, in press), then extremes of electromagnetic sensitivity may be observed, and the strong emission of electromagnetic signals is also likely (Smith, Jafary-Asl, Choy, and Monro, in press). It is notable that more women seem to have such extremes of sensitivity than men. Perhaps that is a biological advantage in those more intimately concerned with the life developing processes.

The field patterns around simple cells have been visualized by Herbert Pohl (1985). Mays Swicord and Christopher Davis (1983) observed microwave resonances in DNA in an aqueous environment too sharp to be completely resolved. Suitable controlled conditions for observing death flash radiation from simple cells can be obtained by using the

enzyme lysozyme to attack and lyse susceptible cell membranes, after which the radiation can be detected with suitable apparatus.

The total elecrostatic charge available from the membrane fields of the standard 70 kg man would amount to roughly 1 coulomb of charge, and an energy of 0.1 joule would be available, once only, at death. However, if each cell of the body is able to convert coherently the energy from a reservoir corresponding to its thermal environment at 310°K into electromagnetic radiation, then a man would be capable of emitting 100 watts/m^2 of radiation, about the strength of sunlight in temperate latitudes and comparable to the basal metabolic rate. Ronald Pethig has done a different calculation (1973) considering the total electron transport along each metabolic pathway in the body, and concluded that a total current of 200 amps is involved. Since the energy band gap of a protein is about 5 eV, this represents an electrical power of about 1 kilowatt, again comparable to a possible level of metabolic output.

F. A. Popp (personal communication, 1985) estimated that a living cell needs a communication channel with the bandwidth provided by a coherent optical carrier in order to be able to communicate, in real time, all the information necessary for its detailed housekeeping.

Another point, which Slawinski touches on by implication, is the question of whether the ordering that appears in coherence can have an existence independent of the particular material or radiating system that exhibits the property of coherence. In diffraction experiments at very low photon or neutron flux levels, the question would be posed as: Can the wave trains for single quanta, for which the coherence length is less than their spatial separation, still arrive in phase coherence with the previously arriving quantum?

In the situation where the whole entity of the carrying field with its "attained" information field becomes separated from the body, as at the death flash or other out-of-the-body experience, there is the possibility that the information could be written into environmental water, such as that retained in the stone or brick of a building, by the necrotic radiation, if that is indeed an electromagnetic field phenomenon. The effects corresponding to the frequencies of electromagnetic fields can be precisely retained by water for extended periods (Smith, Choy, & Monro, 1985). If that is the case, then reacting hypersensitive allergic subjects should be able to "read out" this information at a later time, just as if they were accessing a magnetic tape or a hologram. That information might then be interpreted as an actual presence at that point in space and time; that is, the person might "see a ghost." That is close to Slawinski's coherent, noncorporeal consciousness field, with

the innate creative action of light, creating a substantial replica or apparition, and with his considerations of the exact re-creation of the performance of an actress.

The more one studies nature, the more clearly one sees the physical laws being used with greater precision and more sophistication. Much more than we suspect of the universe may be run by secondary causality, without the continual intervention of a deity, thereby making the original light-mediated creation the more wonderful.

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