

Comments On "Electromagnetic Radiation and the Afterlife"

Evan Harris Walker, Ph.D.

Walker Cancer Research Institute, Aberdeen, MD

Janusz Slawinski's thesis is, briefly, that electromagnetic radiation is associated with living beings, and that at death that radiation may in some manner carry away and embody the conscious identity of an individual, either as a code capable of regenerating that identity, or as that conscious identity itself. There are several difficulties with the thesis, including identifying consciousness with electromagnetic phenomena, the ability to encode or decode such information, the possibility that such electromagnetic radiation might embody consciousness, and that such an electromagnetic existence or record of one's consciousness might have any consequential permanence.

As Slawinski has stated, "all living matter . . . creates electromagnetic fields." But so does any chemical activity, any movement of objects through the air or other medium, or any contact or separation between objects. Indeed, all events one way or another can be associated with the production of electromagnetic radiation, as this involves the actual or virtual production of photons. Indeed, it is so ubiquitous that one must ask if the idea conveys any tangible significance.

The author does not tie down just what region of the electromagnetic (EM) spectrum is critical to encoding or embodying the data representing the soul. However, there is no region of the EM spectrum that would be likely to serve as a carrier of the conscious identity. All the radiation produced as a byproduct of chemical or direct neurological activity involves energies greater than 0.07 eV (radiation at 1.69×10^{13} Hz or higher, or 17.7 microns or less), but less than even soft x-

Dr. Walker is a quantum physicist with the Walker Cancer Research Institute. Requests for reprints should be sent to Dr. Walker at the Walker Cancer Research Institute, Inc., P.O. Box 69, Aberdeen, MD 21001.

rays. Thus, there is no range of energies related to brain activity involved in the sort of data processing that we experience as consciousness that can even penetrate body tissues. The radiation would simply leave the body as thermal radiation, no more characteristic of any basic personality trait than of skin color.

Even were that radiation to penetrate the skin, it would last only about ten picoseconds before being absorbed by the walls of the dying man's room. To say that anything more is going on, we would have to replace the laws of physics with too much hypothesis. In that case, there would be no reason to call the hypothetical radiation light, or electromagnetic radiation. True, in the frame of reference moving with the speed of light, clocks do not advance: there is no time. But that conveys no sense of eternal existence, merely that the time the photon would measure before absorption would be infinitely short.

Longer wavelength radiation, as that associated with the beating of the heart or muscle activity, can give rise to exceedingly feeble electromagnetic radiation. That radiation is detectable at the body, but at any significant distance, it would be entirely lost in the random background thermal radiation coming from rocks, dirt, water, air, etc. Such radiation would not provide information that could ever allow any but the most omniscient to know its origin. It does not even in principle store in a physical form any information concerning the conscious life from which it came. The effects of absorption and dilution are too great.

The death flash hypothesis, as actual rather than perceived light, does not alter the fact that such a radiation would simply not last as a distinguishable signature of the conscious entity for any consequential duration. The barriers of skull, skin, clothes, walls, and atmosphere are all too close to let us speak of any survival in the guise of electromagnetic radiation. Only at the lowest frequency is there any opportunity for the radiation to escape into space, and, as stated above, for that radiation, dilution and mixing with thermal radiation would make it irrelevant.

More than that, though, the fact that EM fields are simply additive makes unreasonable any expectation that EM radiation could embody any aspects of conscious existence. Each photon is independent. It would be like scattering grains of sand into empty space and saying, "It's alive!" There is no entity "it;" there are merely individual grains of sand. If I were to draw stick figures on separate pages and flip through them, the figures would appear to move. But who could I convince that those figures were alive and conscious? The pieces of paper are totally independent, just as photons are.

But what of this theory of electromagnetic consciousness? What characteristic of consciousness has this hypothesis explained? Where is the substantive scientific proof of the electromagnetic hypothesis of consciousness? Does that hypothesis explain the contents of our consciousness? Does it explain why some neural events are part of conscious experience, while others are instead subconscious activity of the brain? Does it explain how we can be unconscious during sleep, when the brain itself is still active? There is no such confirmation of the hypothesis.

But if consciousness were to be identified with EM activity, then why would the content of our conscious experience not be dominated by the strongest EM activity in the body, the activity in the nuclei of atoms? The electromagnetic energy there is a million times stronger than that in the chemical energy of the body. The chemical processes that maintain body functions and life in the brain are all much more extensive, and involve greater energetics, than those involved in the brain's data-handling processes, and at that only a portion of the brain's data-handling activity figures in the ongoing stream of consciousness. The electromagnetic hypothesis simply cannot account for the basic characteristics of the phenomenon of consciousness.

Slawinski also alludes to other particles and fields: gravity's gravitons; the mythical tachyons, which do *not* travel back in time; hypothetical twistors; and a "psi field," which has not explained any data regarding psi phenomena. These conjectures do not help the author's hypothesis, and merely represent unfruitful digressions.

Slawinski's statements about quantum theory are simply uninformed. What does the Planck length of 10^{-33} cm have to do with anything? That is not the basis of quantum mechanics. This is especially annoying when the author goes on to quote and use essential concepts from quantum mechanics.

Under the heading "Necrotic Radiation and Its Interpretation," Slawinski discusses the "well-established" phenomenon of necrotic radiation. His arguments against the death flash simply being chemical breakdown of the highly ordered living system are not at all convincing. Nor are his treatment and discussion of the necrotic radiation data itself convincing; some review of that data should have been provided. That there might exist some process to compensate for that entropy change is not an argument against a process that must be present. The body's chemical system is highly ordered. If dying disrupts that order, which it does, then over the interval of time corresponding to the time required for the individual cells to die, there must exist some corresponding dissipation of energy as that disruption occurs. Slawinski gives no satisfying argument against this interpretation.

Example 3 under "Inevitable Emission of Information" is either inappropriate or misleading. The only evidence for a magnetic field about the brain is for that associated with brainwave activity. Brainwave activity produces a very weak EM radiation all the time. There does not exist evidence of energy in electromagnetic oscillators that could lead to a giant EM pulse when the brain stops. The RLC circuit concept doesn't fit. The magnitude of magnetic brainwave fields can be understood as due to synaptic and neural EM noise alone. The neurons do not form electrical circuits. The author does not develop any arguments justifying anything more than the usual process of brainwave activity, which when interrupted does not result in a giant EM radiation pulse because there is no stored energy in such systems.

As for the relativity argument, Slawinski has taken the wrong slant on that. Time stops for the frame of reference moving with the speed of light. That means that if the photons never encountered any obstacle, an infinity of our time would still be an infinitesimal instant for the photons. To put in another way, from the standpoint of the photons, the photon is emitted and, in the next instant, it is absorbed, no matter how distant the wall or even interstellar debris with which it finally collides. It has no immortality. Light's existence is as fleeting as its speed is fast. And in that fleeting time, nothing happens.

Slawinski freely talks of another dimension, yet such talk is not of any scientific value unless handled in a formal and specific manner. Most of the rest of the section on relativity is also too poorly handled to serve as anything but general speculation.

In summary, I think there are ample grounds for rejecting the author's hypothesis.