

Wellness

PART 3: The Living Matrix; An Excitable Medium David Prescott, MA, JD, DC, FIAMA

*“The most exciting property of the **living matrix** is the ability of the entire network to generate and conduct **vibrations**. Modern biophysical research is revealing a wide range of properties that enable the body to use sound, light, electricity, magnetic fields, heat, elasticity, and other forms of vibrations as signals for integrating and coordinating diverse physiological activities, including those involved in tissue repair”*

Oschman, J.L. *Energy Medicine in Therapeutics and Human Performance*, p. 281

*“The systems that biochemists have studied so diligently actually take place in the context of a three-dimensional architecture (the **living matrix**) that is vitally important and participates in all living activities.”* Oshman, p. 70

As we have in two prior articles dealing with **wellness-early intervention**, I will once again draw upon the work of James L. Oschman, PhD and his above-cited text. We will focus here on Chapters 8 and 9 of that text. These two chapters alone are supported by 182 references to the scientific literature. The book has 25 chapters and obviously we are only scratching the surface. Therefore, I once again suggest that every chiropractic educator, student and practitioner would be well served to read the whole book.

The information in the prior articles (briefly reiterated, in part, here) and the concepts addressed in this and the following article will thereafter be correlated with assessment and therapeutic modalities used in Europe for **wellness-early intervention** care through the mechanisms of the **living matrix**.

The Sexy Paramicium

We previously addressed evidence demonstrating that the living matrix is a **continuum** that extends from the extracellular compartment through each cell membrane of the body and into the intracellular and nuclear matrices. Thus, the **living matrix** extends and pervades tissues not under the control of the nervous system. This fact raised critical questions in the minds of some research scientists discussed in the Oshman text: are there excitable (synapse free) components similar to nerves in single celled animals? are such components similarly excitable in cells that are part of the human body?

To cut a long story short, the single-cell paramician, “swims gracefully, avoids predators, finds food, mates, and has sex, all without a single synapse.” (Oschman, p. 219, Fig. 15-2) There is a building consensus that the microtubules and other intracellular components serve a similar intracellular regulatory function to nerves. (Oshman, p. 282) We will return to this subject after a brief look at another issue that has stimulated extensive research into the excitability of the component tissues of the **living matrix**.

Speed of Life

Oshman frequently references the work of Nobel prize-winning biochemist Szent-Györgyi who, among many other things, was a co-definer of the Krebs cycle and did much of the pioneer work on muscle contraction physiology.

One day Szent-Györgyi was riding his motorbike when he ran into a fly. He did not see the fly before it struck him but he realized that when the fly hit his eyelashes it caused his eye to close **before** the fly hit his cornea. He made some calculations and determined, based upon the known speed of the action potential (including spinal reflex action) that what he had experienced was *impossible*. The reaction had simply been too fast. Therefore, he surmised that some other phenomena must have been involved. In

sum, “although a sophisticated electrophysiology has been developed around the study of the fluxes” of sodium, potassium, calcium, and chloride across membranes, “we now know that there are more subtle and far more rapid flows of charged particles in the form of electrons, protons, and other subatomic particles/waves.” (Oschman, p. 71)

Semi-Conductor Tissues

For a long time it was thought that proteins and the other components of the **living matrix** are insulators rather than conductors or semi-conductors. That perception arose due to performing experiments with only de-hydrated protein samples. When experiments were finally performed on hydrated proteins (as found in the body) virtually all components of the **living matrix** were found to be semi-conductors of electrons, protons, and other subatomic particles/waves. This is due, in part, to the architecture of the living matrix; the components (including the myelin sheath of the nerves) are organized into very regular parallel arrays. Indeed, “the living matrix is best described as a *liquid crystal*.” (Oshman, p. 87)

Crystalline structures are used extensively in computers for their semi-conduction capacity. Nature beat us to it. Semi-conductors have important abilities not shared by ordinary conductor materials such as copper wire. “Conductors convey information (as in your telephone line) **or** energy (as in the cord to your toaster).” Semiconductors can convey **both** energy **and** information. “In addition, they (semiconductors) have the ability to process energy and information in sophisticated ways, that is, to switch, store, delay, modulate, amplify, filter, detect, or rectify (allow to pass in one direction but not in the other).” (Oschman, p. 93)

In a prior article I referred to an April, 1975 article [Chiropractic Economics 17(5), pp. 18-21] by Ron Watkins, D.C. where he questioned the adequacy of the “all-or-nothing” concept of the action potential-synapse theory. As I have mentioned in prior articles, Dr. Watkins is one of my favorite chiropractic authors. He was one of the founders of Life Chiropractic College and a former director of the clinics at both Canadian Memorial and Cleveland Chiropractic College. Clearly, he was correct to point out the limits of the action potential-synapse theory.

Of course, the critical factor to your practice and the concept of **wellness-early intervention** being addressed in this series of articles is whether any means can be developed to use this basic science for purposes of patient assessment and treatment. Fortunately, extensive work has already been accomplished in this arena, especially (from my perspective) in Germany, and I will return to that subject in a future article.

Continuum Revisited

In a prior article we presented a picture of the living matrix as a continuum that included the connective tissue of the extracellular compartment, the cellular membrane and its structural proteins (integrins), and the cytoskeletal structures that extend beyond the cellular matrix into the nucleus of the cell itself. These structures “create a veritable symphony of oscillating electric fields that travel a certain distance through the living matrix. The cells and tissues then use this information to adjust their activities concerned with maintenance and nourishment.... The fully ‘integrated’ body (wellness) may be a body that is entirely free of restrictions to the flow of signals.” (Oshman, p. 92)

However, there is more to the “symphony” of the living body than just the biomolecular components of the **living matrix**. In the following article we will address two more critical factors: water and vibratory signaling.

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