

III. Applying Quantum Interference to EDST Medicine Testing

In 1945, Dr. Reinhold Voll, the inventor of the electrodermal screening test (EDST, referred to in Voll's writings as EAV, electroacupuncture according to Voll), discovered by accident that medicine placed in contact with a patient's body affects the readings of the electrodermal screening device (EDSD). Voll writes:

"I diagnosed one colleague as having chronic prostatitis and advised him to take a homeopathic preparation call Echinaceae 4x. He replied that he had this medication in his office and went to get it. When he returned with the bottle of Echinaceae in his hand, I tested the prostate measurement point again and made the discovery that the point reading which previously was up to 90 had decreased to 64, which was an enormous improvement of the prostate value. I had the colleague put the bottle aside and the previous measurement value returned. After holding the medication in his hand the measurement value went down to 64 again, and this pattern repeated itself as often as desired" [1].

Dr. Voll studied this phenomenon and found it to be consistent in all of his patients, thus allowing him to develop electrodermal medicine testing [1-3]. Many clinical tests have been done to support medicine testing [4,5], and a variety of related applications have been developed for both diagnosis and treatment [6-9]. These will be discussed in detail in the fourth article in this series by Tsuei, Lam, and Chou. I have researched medicine testing and have come to the belief that the mechanism involved is quantum mechanical quasi phase matching. My previous article in this series addresses the bio-energetic aspects of the meridian system. This present article addresses the bio-informational aspects of the meridian system. The following will concentrate on the mechanism behind EDST medicine testing, though I believe this mechanism to be present in all meridians. Both traditional theory and my work suggest that this type of biological communication is the very "purpose" of the meridian system.



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It has long been suggested that biological self-regulation is not the result of the function of the nervous system and biochemistry alone and that an additional bio-information mechanism must exist. Important work in this area has been done by Fritz-Albert Popp and his associates [10-11]. The main area of disagreement between their theories and mine is the exact nature of the physical mechanism. Popp sees bio-photon emission as the result of delocalized coherent electromagnetic fields within the tissue, while my theory concerns the localized coherent quantum states within tissues or organs. The information itself is expressed through these quantum states. The quantum states trigger various process, including bio-photon emission and reception, which in turn triggers other reactions within the body. Bio-photon emission is critical to the communication process, and the process can be monitored by way of bio-photon emission, but communication by way of quantum states is primary.

In modern electrical systems, such as computer technology, energy is used to carry information. Theoretically they are separable, but in a practical sense this is not possible. In the human body, informa-

tion is carried along the body's "wiring," which includes both the meridian and nervous systems. In the case of the meridian system, one could argue that the information contained in meridian energy is primary and the energy itself is secondary, but this is moot. They are inextricably linked, though they can be analyzed separately by means of their expression. For example, in the EDST, the initial reading is primarily an expression of energy, while the indicator drop (ID) and its manipulation through medicine testing is primarily an expression of bio-information.

Phase Modulation of Electron Waves and the Electromagnetic Potentials of Matter

The chemical and physical properties of matter are nothing but the features of electron populations around their component nuclei. However, the distribution of electrons will result in characteristic potential space surrounding matter with a more or less specific range. All electron populations are dynamic, not static. The oscillatory behavior of electrons is a basic characteristic of matter and is the result of their continuous interactions with the matter that surrounds them. Therefore, the corresponding potential of a given type of matter oscillates according to the atomic characteristics of its components. According to quantum mechanics, even if the spacial derivative of this potential has no effect on electromagnetic fields, the electromagnetic potential is still significant to the quantum states of all systems in a given space.

As long as an electron wave continues to pass through the potential space of matter, it will experience an action $S(t)$, which in principle can be calculated using the following integral:

$$S(t) = e \int (V dt' - \vec{A} \cdot d\vec{r}) \quad (1)$$

The potential space consists of scalar part, V , and vector part, \vec{A} .

According to quantum mechanical significance of gauge transformation, an

Quantum mechanical quasi phase matching may be the very purpose of the meridian system

electron wave in such a potential space is transformed by a phase shift:

$$\exp[iS(t)/\hbar] \quad (2)$$

In the above, i is the imaginary unit and \hbar is Planck's constant h divided by 2π . When a beam of electron waves passes through the potential space of matter, the beam will be phase modulated. Therefore, this beam dynamically carries characteristic information of the matter in its shifted phase.

The beam-like electron wave traveling along an EDS circuit, including the effect of matter placed within a circuit (i.e., medicine testing) can now be expressed as:

$$\varphi_m(\vec{r}, t) = M(\vec{r}) \exp[i\theta_m(\vec{r}, t)] \quad (3)$$

$M(\vec{r})$ is a real amplitude determined by the driving voltage of the circuit, and $\theta_m(\vec{r}, t)$ is the phase of the modulated electron beam. The time dependence of the phase is determined by the sample of matter in the circuit, i.e., the medicine being tested.

Organ and Tissue Condition

All physiological and pathological phenomena can in some manner be viewed as an expression of characteristic distributions of resident electrons over any volume of organ or tissue mass. These distributions oscillate and evolve according to life processes and environmental interactions. Within the limited time interval used in the EDST, it is reasonable to assume that such electron distributions will change appreciably at some point, \vec{r} . The oscillating distribution of electrons at \vec{r} can now be expressed using a state function:

$$\varphi_s(\vec{r}, t) = B(\vec{r}) \exp[i\theta_s(\vec{r}, t)] \quad (4)$$

$B(\vec{r})$ is a real amplitude and $\theta_s(\vec{r}, t)$ is its corresponding phase function.

This expression can be used to denote normal or abnormal physiological states of the human body, i.e., it can describe a state of health or of disease. When it denotes health, the electron distribution over the organ or tissue is correct. In an unhealthy state, the distribution is physiologically wrong. When the strength of the improper electron distribution is greater than the intrinsic tolerance of a human body, one begins to feel uncomfortable or ill. If the strength of the improper electron distribution is weaker than bodily tolerance, then one would still feel fine and may have no evident symptoms.

Quantum Interference and Medicine Testing

When a medicine sample is put on the metal plate of the EDS circuit, the electron waves passing through the plate will be phase modulated. When these waves later pass through the patient's body, a given signal is transported to the proper organ or tissue by resonant absorption. The signal waves mix with local electron waves resident in organs or tissues according to the principle of superposition. The resulting wave is:

$$\Psi(\vec{r}, t) = \varphi_s + \varphi_m = B \exp(i\theta_s) + M \exp(i\theta_m) \quad (5)$$

According to quantum mechanics, the probability density of electrons existing in such a state is related to the intensity of $\Psi(\vec{r}, t)$. However, the intensity is proportional to the time average of the absolute square of resultant wave $\Psi(\vec{r}, t)$, i.e.:

$$\langle |\Psi|^2 \rangle = B^2 + M^2 + 2BM \frac{1}{T} \int_0^T \cos(\theta_s - \theta_m) dt \quad (6)$$

where T is the test duration. The last term of the above equation is the interaction of electron waves entering and already existing within the body.

The phase difference, $\theta_s(\vec{r}, t) - \theta_m(\vec{r}, t)$, can now be divided into time dependent and independent parts:

$$\theta_s(\vec{r}, t) - \theta_m(\vec{r}, t) = \Theta(\vec{r}) + \delta(\vec{r}) \quad (7)$$

In order to obtain a non-vanishing interaction term for Eq. 6, it is clear that the time dependent part of phase difference $\Theta(\vec{r}, t)$ must tend to zero.

Under this requirement, Eq. 6 becomes roughly:

$$\langle |\Psi|^2 \rangle = B^2 + M^2 + 2BM \cos \delta(\vec{r}) \quad (8)$$

If the constant phase difference $\delta(\vec{r})$ is zero, then Eq. 8 can be rewritten:

$$\langle |\Psi|^2 \rangle = (B + M)^2 > B^2 \quad (9)$$

This is the result of constructive interference. In this case, the body electron distribution wave $\varphi_s(\vec{r}, t)$ is enhanced by phase modulated electron wave $\varphi_m(\vec{r}, t)$. If the phase constant $\delta(\vec{r})$ is equal to π , then Eq. 8 will become:

$$\langle |\Psi|^2 \rangle = (B - M)^2 < B^2 \quad (10)$$

which is an expression of destructive interference. The body electron distribution wave $\varphi_s(\vec{r}, t)$ is now depressed by the phase modulated wave $\varphi_m(\vec{r}, t)$.

Diagnosis and Treatment

The condition $\Theta(\vec{r}, t) = 0$ for the interaction term in Eq. 6 means that both the phase-modulated electron waves emitted by the EDSD and the electron-distribution waves existing within the body must have similar and approximately equal phase spectra, excluding their DC components. (It is very possible that this relationship is the scientific basis for the similarity principle in homeopathy, though that is a complicated matter that must be discussed separately.) In other words, what we have here is quasi phase-matching between these two electron wave groups. In practice, it is impossible to find a medicine which has a phase characteristic spectrum identical to that of the disease. Only similar ones can be found for treatment of a disease. This principle holds true for all types of medicine, including traditional, herbal, and allopathic.

Constructive interference results in the enhancement of body wave $\varphi_s(\vec{r}, t)$ by the phase modulated electron beam $\varphi_m(\vec{r}, t)$, while destructive interference depresses it. If the physiological state of the body is acceptable, constructive interference is a supplement mechanism and destructive interference is one of reduction. On the other hand, if the state of the body is pathological, the condition will be intensified by constructive interference (Eq. 9) or weakened by destructive interference (Eq. 10). Both kinds of interference can be employed in diagnosis and treatment. For example, samples of bacteria or virus that

have been treated to reverse these signals are commonly used in the EDST. When a point with an indicator drop is located, the point is retested with various such samples placed on the medicine testing plate. If bacteria sample X improves the reading, it is very possible that the patient is suffering from a condition caused by or marked by the presence of bacteria X. One could then test various possible antibiotics to find the one that best improves the point reading. It is also possible to test the antibiotic against other points to test for possible side effects. For example, in most cases, antibiotics will cause a drop on some points associated with the digestive track because of their effect on the "good bacteria" needed for proper digestion.

Disease can be treated quite well by using the signals of the material collected from the body. The reason is that the signal from such a sample is very similar, perhaps even identical, to the signal of the disease present in the patient. A theoretical treatment for cancer is a good example of this (this method has yet to be thoroughly tested; I use it here as an example only). A sample of the cancer tissue is taken and its signal is inverted. The inverted signal is administered to the patient by way of a small DC current, similar to that emitted by the EDSD. This current can be administered directly to the site of the cancer, to the cancer site by way of the meridian system, or to the entire body by way of hand-held electrodes. The results should be similar, no matter how the DC current is administered. The inverted signal will conflict with the cancer's signal (quantum interference, Eq. 10), either diminishing or removing the signal. This might have a negative effect on the cancer cells, either killing them or slowing their growth. At the very least, it should im-

Both constructive and destructive interference can be employed in diagnosis and treatment

prove the patient's feeling of well being because the treatment countereffects a large portion of the cancer's effect on the rest of the body, hopefully also strengthening the body's natural defense and repair systems.

Conclusion

Both traditional meridian theory and modern applications such as the EDST demonstrate an essential link between bio-information and meridian phenomena. From the theoretical and clinical work thus far performed by many researchers, it is clear that meridians and bio-information are essential elements of the functioning of the human body. There are many possible clinical applications of the human meridian system and the body's bio-informational processes, including differential diagnosis and therapy to individual patients which is practicable, systematic, and effective, even in the case of complex, multi-faceted medical conditions.

Although this article is almost entirely theoretical, it is in complete agreement

with and helps illuminate numerous clinical studies (see the following article in the series by Tsuei, Lam, and Chou). It is my hope that because of this agreement between theory and practice, we are much closer to realizing a broad scientific acceptance of all facets of the meridian theory and the EDST, including medicine testing.

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