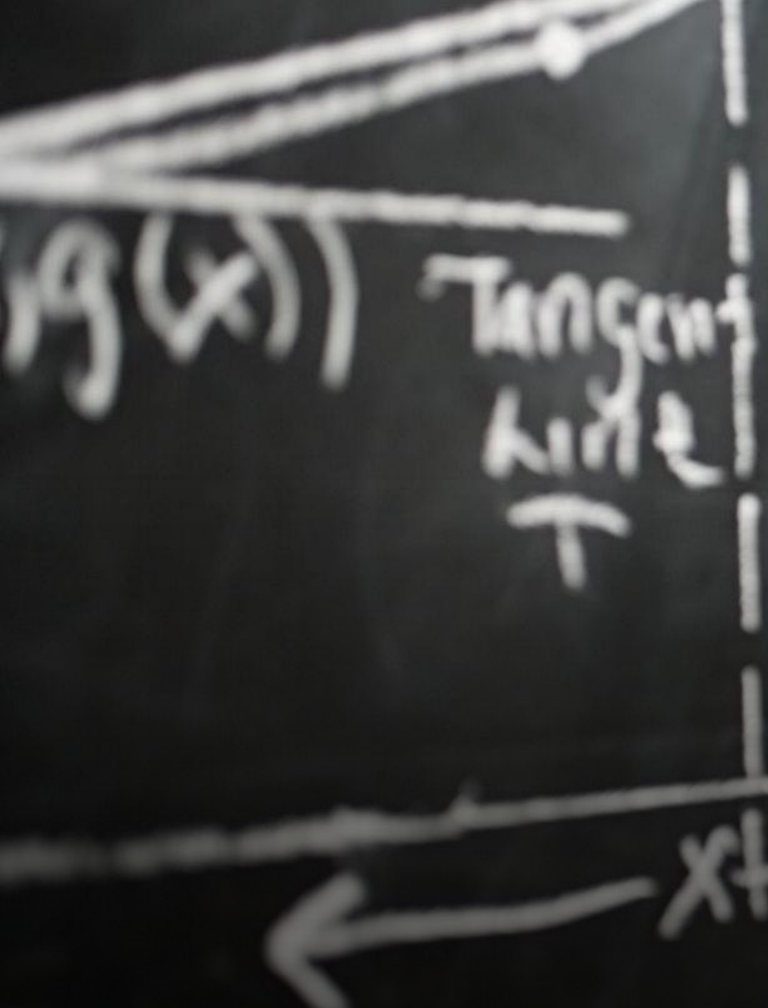




# THE SELF-ORGANIZATION OF LIVING SYSTEMS

by Patrizia Stefanini



Secant Lines

Tangent Line

$x+h$

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

$$f(x) = \lim_{h \rightarrow 0} \frac{(x+h)^2 - x^2}{h}$$

$$= \lim_{h \rightarrow 0} \frac{x^2 + 2xh + h^2 - x^2}{h}$$

$$= \lim_{h \rightarrow 0} \frac{2xh + h^2}{h}$$

$$= \lim_{h \rightarrow 0} h(2x + h)$$

$$= 2x$$

# MAN SEEN AS A QUANTUM MACROSYSTEM.

## Properties...

**The property of coherence** plays a key role in describing the phenomena that characterize life: **the spontaneous emission of biophotons, dissipative processes, and solitonic propagation capacity.**

## ...and implications

**Biochemical processes do not occur randomly, but are the result of a continuously ongoing quantum dialogue with the electromagnetic field.**

Through the analysis and understanding of the main characteristics of the human system (**open, negentropic, self-organizing**), new avenues of treatment open up.

# Man as a Resonating System (L. Brizhik – 2008)



The human organism can be viewed as a highly complex resonating system of pulsating matter and oscillating fields coupled to each other by constantly changing synchronizations



# THE PROTAGONISTS OF LIFE

THE ELETTRICMAGNETIC FIELD

# The protagonists of life

## THE ELECTROMAGNETIC FIELD

**Matter** is not inert; it **is in perpetual fluctuation**.

It is because of the **property of coherence** that fields can oscillate harmoniously with each other in the presence of a large number of atoms—as if **the atoms were dancing** in unison.

This establishes a **dynamic order** that is essential for the health of living beings.

In this state of coherence, an electromagnetic field develops within the fluid (matter) of the body and cannot radiate outward.

The wave has become a prisoner of matter.



# THE PROTAGONISTS OF LIFE

..... AND THE WATER



## The protagonists of life

### THE WATER

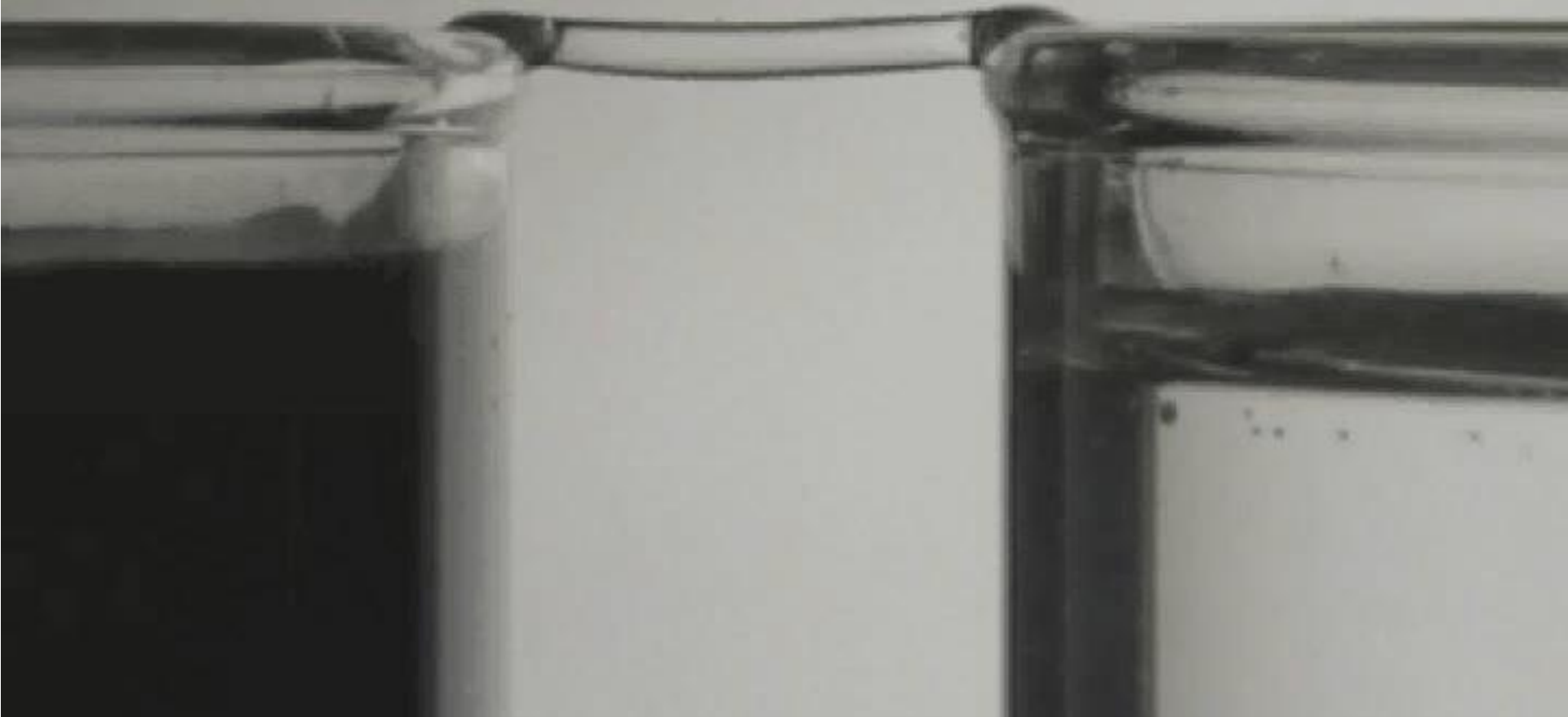
In living systems, **water participates in the dynamics of life**, not only because it represents 99% of all biomolecules in a living being, but also because it provides energy to living matter.

**Water has the capacity to achieve an extensive form of organization.**

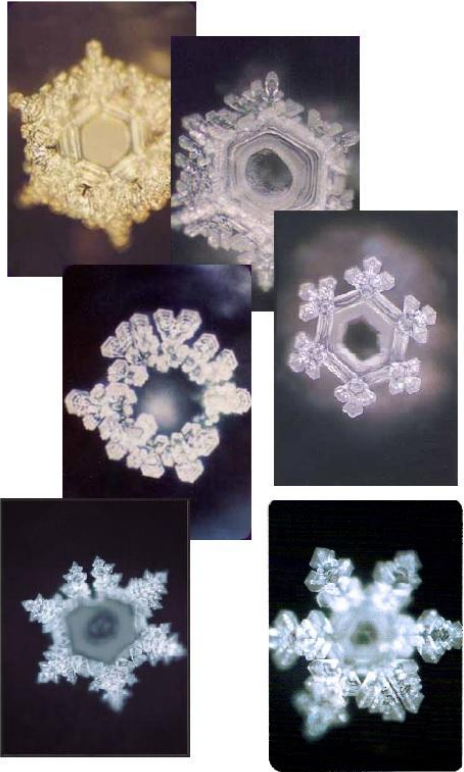
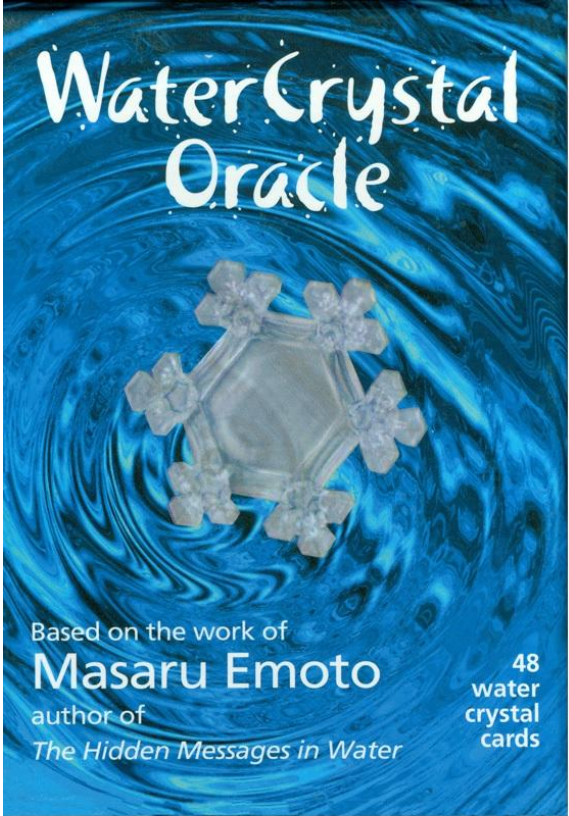
This "coherence of coherence" of biological water in living systems corresponds to a kind of superior organization.

In living matter, the transfer of biochemical energy necessary for the maintenance of life cycles is thus ensured.

Water structure stiff enough  
to keep bridge from collapsing



(J.Pollack – 2008)





QUANTUM HEALING

# QUANTUM HEALING

It is **not the quantity of energy**, but **its coherence**, that allows it to flow through our being.

**A human being is in good health** when **this flow occurs consistently**.

**Being healthy does not require much energy:** an excess could extinguish the coherence of the system, its dynamics rapidly shifting from a movement of order to a movement of chaos.

**Disease can arise** when, with the **loss of coherence in the system**, the energy is unable to move and becomes blocked..

*Seek a state of body/mind/spirit alignment that supports the coherence of your system*





# MERIDIANS AS QUANTUM PROCESSES



# MERIDIANS AS QUANTUM PROCESSES

Initial hypothesis: the organism can be represented as a continuum of **crystalline liquid**, similar to **liquid crystals**.

This opens the possibility of describing meridians as optical pathways along which electromagnetic signals propagate in the form of soliton packets.

**Meridians are like a particular form of coherence domain** within connective tissue, a sort of aqueous sheath enclosing molecular chains.

It is within this fluid that the **energy captured by the molecules is channeled**.

# Quantum Physics sheds some light on Hado Shiatsu

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## Background

Quantum effects are present in human organisms on a macroscopic scale. The living organism can be considered a macroscopic quantum system, where the fluctuations of the elementary components are tuned together in a global macroscopic fluctuation. This property is named "coherence". Matter therefore is not inert, is in a perennial fluctuation. Vacuum fluctuates too, being full of fluctuating fields. Coherence establishes a dynamic order which is fundamental for equilibrium in living beings. In the coherent state, an electromagnetic field, produced by the common fluctuation of molecules, is trapped within the fluid (matter). The wave becomes therefore prisoner of matter. The electromagnetic field cannot be irradiated outwards, but the potential of the field can leak out. (the so called Aharonov - Bohm effect). This originates different phenomena:  
 "Intriguingly, recent work has documented that light-absorbing molecules in some photosynthetic proteins capture and transfer energy according to quantum-mechanical probability laws instead of classical laws at temperatures up to 180 K."<sup>[1]</sup>  
 In coherence domains of living matter, atoms and molecules share a dialogue because the various coherence domains are in phase one with another, or rather they are correlated. We can consider the degree of coherence in a living system as a measurement parameter for health, it being related to the efficiency of energy transfer and use of the system's resources to carry out its vital functions. Given the particular properties of coherent domain chains, strongly linked with the special nature of biological water, energy can travel through them and is available for the body's vital activities. A human being is in a healthy condition when this flow occurs consistently. To be healthy does not require much energy, given that an excess would extinguish the system's coherence, its dynamics passing rapidly from one of ordered movement to chaos. Illness may ensue when, on losing coherence in the system, energy fails to move and becomes blocked.  
 Let us consider the basic equations:

$$\varphi = \frac{x}{h} \int_p A \cdot dx$$

$$\varphi_t - \varphi_0 = - \frac{qV}{h}$$

The phase, connected with these travelling excitations, is characterized by spatial and temporal derivatives. So potentials are generated and they create themselves phase variations. Therefore, there is a possibility of interactions among organisms based on the phase, so without significant energy exchanges.  
 Molecules do not have to touch each other to interact. Energy can flow through the e.m. field. The e.m. field along with water forms the matrix of life. Water can form structures that transmit energy - A.S. Gyorgyi  
 We learned much by studying the separate parts of life's fabric, but there exist profoundly important properties that cannot be discovered this way. These properties are consequences of relations rather than of parts. The most significant of these relations are transparent, invisible to our senses. But their outcome is our essence. The hand-on therapist is daily and quietly and deeply immersed in every aspect of the system we are describing, and is therefore the cutting-edge explorer of this domain- James Oschman - Energy Medicine in Therapeutics and Human Performance.



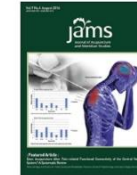
## Hado Shiatsu

In the Japanese tradition Hado is the innate transforming power of each thing and each living being. The literal translation of its ideogram is " wave - like movement, vibration ". The word "Shiatsu" means "finger pressure". It is a discipline developed in Japan and connected with Traditional Chinese Medicine, martial art and meditation.  
 Hado Shiatsu is a therapeutic approach based on "empathic connections", that means phase resonance not energy exchange. A sort of " meditative state", where phase is no more chaotic, will allow both givers and receivers to be in phase with healthy environments. A better life quality will be supported, enhancing the coherence of the system.



In accordance with Weber and Fechner law, which applies to all living beings, slighter the stimulus bigger the inner reaction of a system. In Hado the approach is a "whisper" : a light, gentle touch to relate to the field trapped into the matter, supporting the creation of solitons and leaving a sort of informed print into the biological water.  
 Hado Shiatsu uses a new meridian model inspired by Quantum Physics: "Here we suggest that self-organization of the living organism implies the appearance of an array of quasi-

one-dimensional coherent domains that behave as the pathways where a flow of matter, energy and information is self-confined... This array can be linked with functioning of energetic channels known as meridians in the Eastern medicine."<sup>[2]</sup>  
 "Moreover, the organism can be represented as a liquid crystalline continuum, which can carry the signals for intercommunication in a way, similar to liquid crystals. ....Such systems are highly nonlinear optical media and can support the existence of specific pathways for the propagation of electromagnetic signals."<sup>[3]</sup>  
 In this context, the network of connections takes on relevant importance. When we envisage the meridians as a particular form of coherence domain in the connective tissue they are a sort of watery sheath encasing molecular chains. It is here where energy captured by the molecules arrives. Energy is brought to the molecule by a soliton, a localized wave packet that does not dissipate energy in its movement. When it encounters a "metabolic situation" requiring just the amount of energy it holds, the soliton gives up its own and ceases to exist.  
 Several scientific studies support the hypothesis that a "therapeutic" touch on the human body produces electricity that goes into ideal transmission pathways, the aforementioned Meridian-like channels. The stimulated meridian "lights up" and produces "coherent photons"<sup>[4-6]</sup>.

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)**Journal of Acupuncture and Meridian Studies**journal homepage: [www.jams-kpi.com](http://www.jams-kpi.com)**Perspective**

## Modeling Meridians Within the Quantum Field Theory

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Available online ■ ■ ■

# MODELING MERIDIANS WITHIN THE QUANTUM FIELD THEORY

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## Abstract

We present here a model of meridians in the formalism of the gauge theory paradigm of quantum field theory with spontaneous breakdown of symmetry. We discuss the origin and **dynamic self-focusing propagation of the electromagnetic field in coherent states and the role it plays in our meridian modeling**. Within this frame, we consider the formation of **solitary waves** on proteins and anatomical filamentary structures and discuss non dissipative energy transport. Finally, we analyze the relation of meridians with anatomical filamentary structures, the **reciprocal actions between meridians, and biochemical activity** and the key role played by free energy, internal energy, and entropy.

## SOLITONS AND INFORMATION TRANSFER

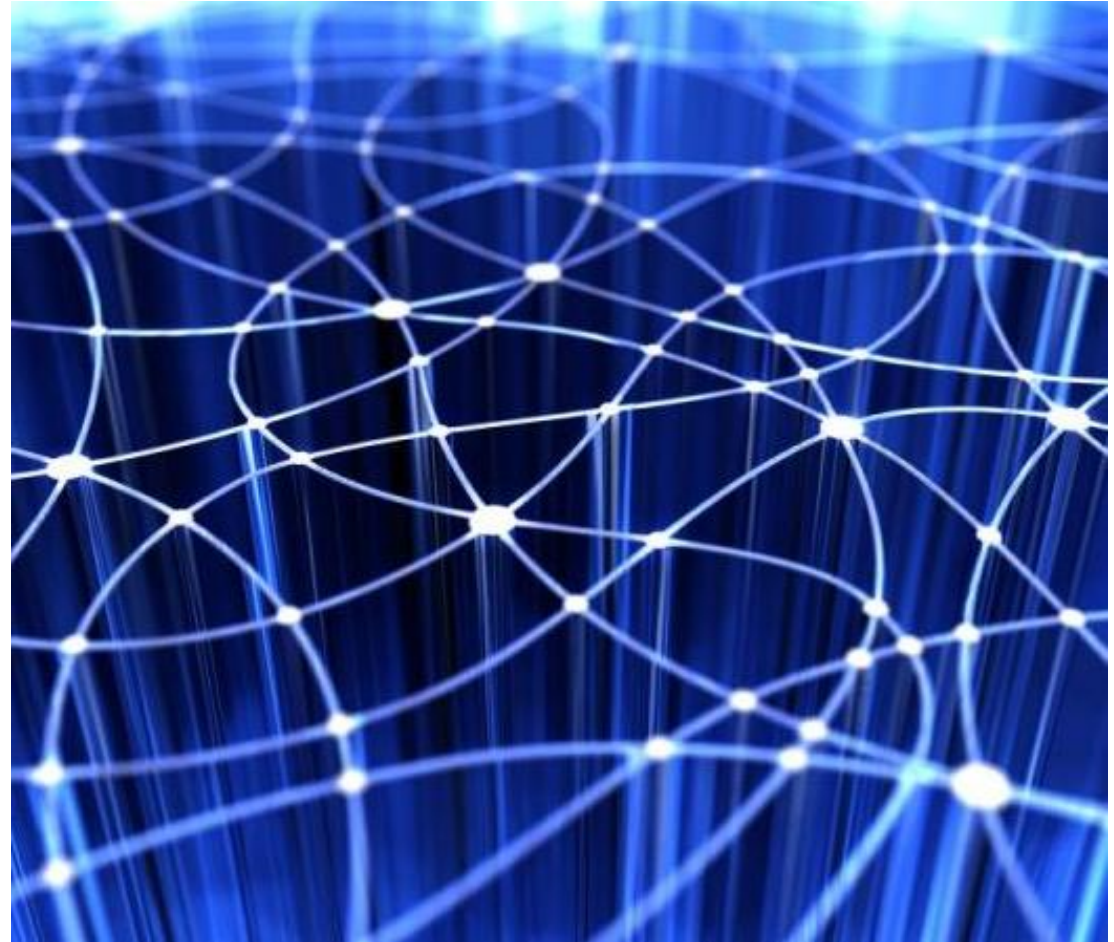
- Total EMF is the sum of the components from all cells. It has a set of **characteristic frequencies**
- In nonlinear media (in nonlinear optical crystals, in liquid crystals, etc) electromagnetic field can be self-focused and propagate in the form of **solitons (e.g., optical fibres)**
- It has been suggested that living matter can be also described as a meso-phase liquid crystal in which **water and liquid crystalline collagen fibres of the connective tissues play very** essential role

**Meridians** are the optical pathways for the propagation of the corresponding electronic excitation in the body similar to optical waveguides along which electromagnetic pulses are propagated in the form of **solitons**



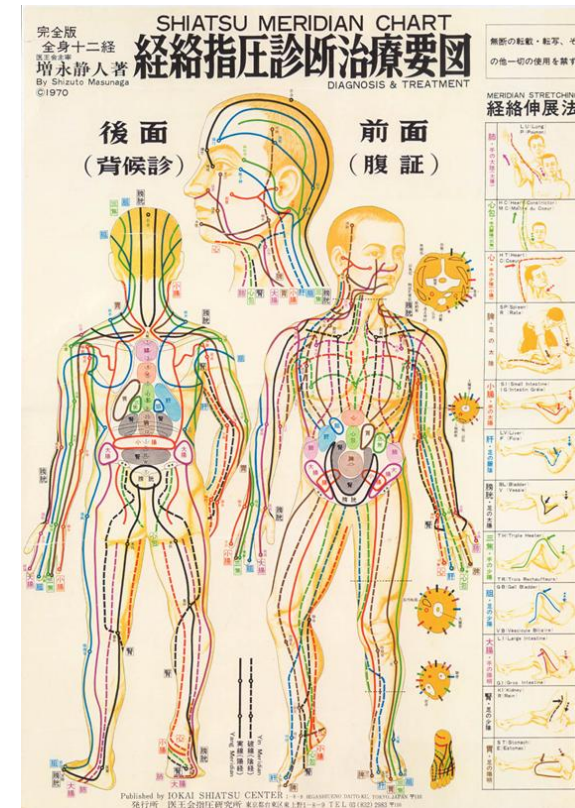
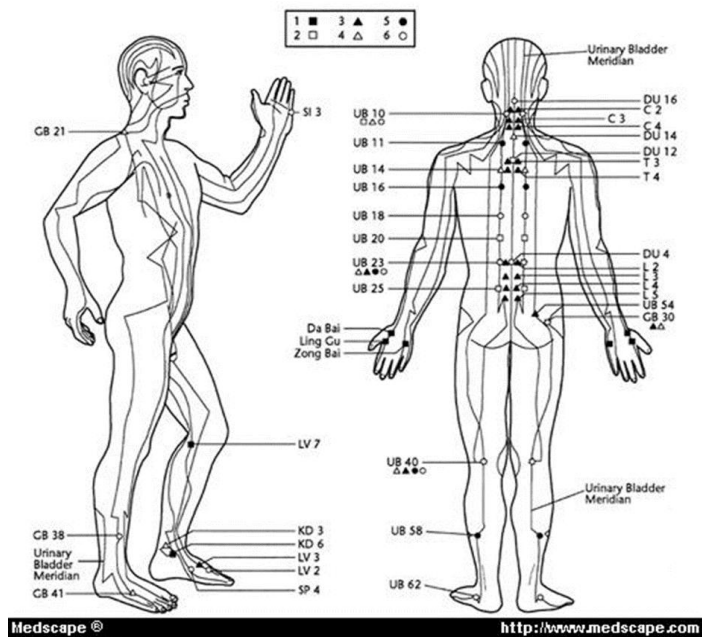
**.A net of living light  
where everything  
happens ...**

**... to carry global  
information into the  
dynamics of reality**



# MERIDIANS

Dynamic formations, not anatomical structures, present only in living systems. They disappear as soon as the coherence breaks down and the consequent propagation of the self-focused electromagnetic field



The life processes and the global organization of the body as a living system depend on the meridian network