

The Vital Needs Model

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Abstract

In 1977 the author developed a Vital Needs Model which required an independent property, symmetrical to entropy, which is here named “syntropy”. According to this model syntropy could not be a product of the laws of the macroscopic world, as all the laws of the macrocosm are dependent on entropy. For this reason the author searched evidences of the property of syntropy at other levels, finding, at the quantum mechanic level, equations that always yield a positive solution, retarded waves which move forward in time, and a negative solution, advanced waves which move backward in time. In 1941 the mathematician Luigi Fantappiè demonstrated that advanced waves concentrate energy, produce differentiation and structures, and show qualities which are identical to those which can be observed in living systems. In this way, Fantappiè arrived at the conclusion that living systems are a manifestation of causes originated in the future (retrocausality).

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1. Advanced waves, syntropy and living systems

In the Copenhagen Interpretation of quantum mechanics the collapse of the state vector (the collapse of a wave into a particle) occurs at the same time at all positions in space. This collapse would seem to require faster-than-light propagation of information, violating in this way the limit of the speed of light posed by Special Relativity in the propagation of causality. This was Einstein's original objections to quantum mechanics, which was later formulated in the EPR paradox.

Analyzing the EPR paradox, Schrödinger concluded that the problem lies in the way time is used in quantum mechanics. The Schrödinger wave equation, which was the focus of most of the discussion surrounding EPR, is not relativistically invariant and treats time in an essentially classical way. For example it assumes that there can be a well-defined "before" and "after" in the collapse description.

The relativistically invariant version of the wave equation was produced by Klein and Gordon in 1926. In order to turn the Schrödinger wave equation into a relativistically invariant equation Klein and Gordon had to insert the energy/momentum/mass relation:

$$E^2 = c^2 p^2 + m^2 c^4$$

where E is the total energy of an object, p the momentum, m the mass and c the speed of light

which has a positive and a negative solution, arriving to what is now known as the d'Alambert operator. The energy/momentum/mass relation simplifies in the famous $E=mc^2$ when $p=0$.

The d'Alambert operator, depends on a square root, and yields always a dual wave solution: retarded waves (which propagate forward in time) and advanced waves (which propagate backward in time). The Schrödinger wave equation had, instead, only the retarded wave solution.

The advanced wave solution of the d'Alambert operator was usually ignored as it was considered to be not physical. But, as has been shown by Cramer's Transactional Interpretation (Cramer, 1986), and by Costa de Beauregard's Advanced-Action Interpretation (Costa de Beauregard, 1953), the EPR paradox just disappears when considering the advanced waves to be real physical entities.

The same conclusion was reached, in December 1941, by one of the major Italian mathematicians, Luigi Fantappiè. While working on quantum mechanics and Special Relativity equations, he noted that the retarded waves (retarded potentials) are governed by the law of entropy, while the advanced waves (advanced potentials) are governed by a symmetrical law that he named syntropy.

The following letter, written by Fantappiè to a friend, describes the implications of the law of syntropy:

"I have no doubts about the date when I discovered the law of syntropy. It was in the days just before Christmas 1941, when, as a consequence of conversations with two colleagues, a physicist and a biologist, I was suddenly projected in a new panorama, which radically changed the vision of science and of the Universe which I had inherited from my teachers, and which I had always considered the strong and certain ground on which to base my scientific investigations. Suddenly I saw the possibility of interpreting a wide range of solutions (the anticipated potentials) of the wave equation which can be considered the fundamental law of the Universe. These solutions had been always rejected as "impossible", but suddenly they appeared "possible", and they explained a new category of phenomena which I later named "syntropic", totally different from the entropic ones, of the mechanical, physical and chemical laws, which obey only the principle of classical causation and the law of entropy. Syntropic phenomena, which are instead represented by those strange solutions of the "anticipated potentials", should obey two opposite principles of finality (moved by a final cause placed in the future, and not by a cause which is placed in the past): differentiation and non-causable in a

laboratory. This last characteristic explained why this type of phenomena had never been reproduced in a laboratory, and its finalistic properties justified the refusal among scientists, who accepted without any doubt the assumption that finalism is a "metaphysical" principle, outside Science and Nature. This assumption obstructed the way to a calm investigation of the real existence of this second type of phenomena; an investigation which I accepted to carry out, even though I felt as if I were falling in a abyss, with incredible consequences and conclusions. It suddenly seemed as if the sky were falling apart, or at least the certainties on which mechanical science had based its assumptions. It appeared to me clear that these "syntropic," finalistic phenomena which lead to differentiation and could not be reproduced in a laboratory, were real, and existed in nature, as I could recognize them in the living systems. The properties of this new law, opened consequences which were just incredible and which could deeply change the biological, medical, psychological, and social sciences."

2. The vital needs model

The vital needs model is based on two considerations:

- That at the macrocosm level entropy prevails.
- That at the quantum level entropy and syntropy are balanced and syntropic processes can take place.

Albert Szent-Gyorgyi (Nobel Prize 1937 in Physiology) stated *"It is impossible to explain the qualities of organization and order of living systems starting from the entropic laws of the macrocosm"*. This is one of the paradoxes of modern biology: living systems show properties opposite to the law of entropy which governs the macrocosm.

The hypothesis on which the vital needs model is based is that life originates at the quantum level. But, when life structures grow beyond the quantum level and enter into the macrocosm level, where entropy prevails, life starts conflicting with entropy.

The conflict between life and entropy is well known and has been discussed continuously by biologists and physicists. Schrödinger, answering the question about what permits life to contrast entropy, concluded that life feeds on *negative entropy* (Schrödinger, 1988). The same conclusion was reached by Albert Szent-Györgyi when he used the term syntropy in order to describe the qualities of negative entropy as the main property of living systems (Szent-Györgyi, 1977).

This hypothesis, of a basic conflict between life (syntropy) and the environment (entropy), leads to the conclusion that living systems need to satisfy 3 vital conditions:

- acquire syntropy from the microcosm;
- combat the dissipative effects of entropy;
- solve the conflict between entropy and syntropy.

2.1 Combat the dissipative effects of entropy: material needs

In order to combat the dissipative effects of entropy, living systems need to acquire energy from outside and protect themselves from the dissipative effects of entropy. These conditions are now referred to as **material needs**, and include:

- In order to combat the dissipative effect of entropy: the need to acquire energy from outside, for example with food; the need to reduce the dissipation of energy, for example with a shelter (housing) and clothes.

- In order to combat the continuous production of waste, which is the consequence of the destruction of structures under the effect of entropy: the need for hygienic and sanitary standards and waste disposal.

When these needs are partially unsatisfied, pain is experienced in the forms of hunger, thirst, sickness, and, when they are totally unsatisfied, death is the consequence. The total satisfaction of material needs leads to a state of well being which is characterized by the absence of pain linked to material needs.

2.2 Acquire syntropy from the microcosm: the need for love

Satisfying material needs does not stop entropy from destroying the structures of the living systems: cells die, and structures are destroyed; the living system is therefore continuously called to repair the damages caused by entropy. In order to mend these damages the living system needs to feed on syntropy, which is the only property which allows to create order and organization, and to counterbalance the destructive effects of entropy.

Experiments on retrocausality show that the autonomic nervous system, which supports the vital functions of the living system, should be the neurophysiologic structure which acquires syntropy (-E, negative energy) from the microcosm (Radin, 2006), feeding in this way the vital functions and the regenerative processes of the living system. Syntropy behaves as an absorber of energy, therefore:

- when a good connection with syntropy is established, energy would converge in the autonomic nervous system (mainly in the thorax region) producing feelings of warmth associated with feelings of well being, which would be the outcome of the satisfaction of the need to feed on syntropy. These feelings would match what is now generally described with the word *love*;

- when the link to syntropy is insufficient, energy diverges, causing feelings of chill and emptiness in the autonomic nervous system (thorax) associated with feelings of suffering, caused by the dissatisfaction of the need to feed on syntropy. These feelings of suffering would coincide with what is now usually named anxiety and could take the form of fear, panic and neurovegetative symptoms such as nausea, vertigo, and feelings of suffocation.

Therefore, the need to feed on syntropy would be felt as need for love. When this need is not satisfied feelings of pain would be experienced in the form of anxiety and pain in the thorax area. When this need is totally unsatisfied the living system would be unable to feed the regenerative processes and repair the damages produced by entropy and death would occur.

2.2.1 *The healing power of love*

As a consequence of the assertions that love is felt when the link to syntropy is strong and that syntropy is the property which rebuilds, heals, what entropy destroys, a role of love in healing is expected.

This last statement might seem contradictory. According to the vital needs model, love is a consequence of *retrocausality*, so how can love also *cause* healing? It is important to note that, in the entropy/syntropy model, life is the meeting point of causality (macro level) and retrocausality (quantum level) giving way to a new type of causality, which Chris King named supercausality (Chris King, 2003). Love is here considered to be the most important form of supercausality.

Fantappiè stated that nowadays we see written in the book of nature - which Galileo said was in mathematical characters - the same laws of love that we find written in the holy books of the major religions: *“The law of life is not the law of hate, the law of force, or the law of mechanical causes; this is the law of non-life, the law of death, the law of entropy; the law which dominates life is the law of finalities, the law of cooperation towards goals which are*

always higher, and this is true also for the lowest forms of life. In humans this law takes the form of love.”

2.3 Solve the conflict between entropy and syntropy: the need for meaning

In order to satisfy the material needs, living systems have developed cortical systems which show their highest complexity in human beings. These cortical system produce representations of the environment which permit the comparison of the living system with the environment. This process initiates the conflict between entropy and syntropy: while entropy has inflated the universe towards infinite (diverging waves), syntropy (converging waves) forces living systems to be finite and localized. Comparing the infinite of the environment (entropy) and finite of the living system (syntropy) produces a result which tends to zero:

$$\frac{1}{\infty} \rightarrow 0$$

In this equation 1 symbolizes the living system which is finite (syntropy), while *Infinite* symbolizes the environment (entropy). The comparison between the living system (1, finite) and the environment (infinite) tends to zero. In other words, comparing ourselves with the environment which is infinite we become aware of the fact that we are equal to nothing. But to be equal to nothing is equivalent to death, a fact which is incompatible with the feeling of life. It is therefore necessary to solve this conflict between being (1) and not being (0), a conflict which consumes energy and increases entropy. This conflict is generally felt as the ***need to give a meaning to life***, for example:

- increasing our own value (through richness, power, achievement, etc.);
- finding a purpose in life, a finality (through ideologies, religion, etc.).

In living beings with highly complex cortical systems, this need is vital because, when it is not solved, it leads to the dissipation of energy, and in the most serious cases to death. The existential crisis associated with this conflict is accompanied by feelings of being useless, purposeless, reduction of energy (dissipation of energy, entropy), usually named depression, felt in the cortical area in the form of tension, and usually strongly correlated with anxiety and feelings of pain in the thorax. This strong correlation between depression and anxiety is suggested by the fact that, from a mathematical point of view, the conflict between being and not being is solved when:

$$\frac{1 \times \infty}{\infty} = 1$$

Where the operator x coincides with union, which is the property of syntropy, love (converging waves, -E). In other words, when we unite ourselves (1) to the environment, comparing ourselves to the environment, we find our identity (= 1).

This last equation permits to state that:

- when the need of meaning is answered increasing the value of the numerator (power, richness, achievement), the identity conflict is not solved, because whichever is the value at the numerator compared to infinite it tends to zero;
- perfect correlation between anxiety and depression must be observed, because when the unity (x) is weak, anxiety increases and also the identity conflict and depression;
- only through love we can solve the identity conflict between being and not being, and experience the meaning of life. Uniting ourselves with the universe is a property of syntropy, converging waves.

3. Conclusion: choosing between the brain and the heart

According to this retrocausal model of life, living systems would constantly receive:

- stimuli from the past, in the form of information received by the 5 senses: sight, hearing, smell, taste, and touch;
- stimuli from the future in the form of feelings mediated by the autonomic nervous system.

It is common experience that whilst stimuli coming from the past can easily be detected by our 5 senses and understood and processed by our brain, stimuli coming from the future are more difficult to understand and process as they are experienced in the form of feelings, such as anxiety, pain in the chest, happiness, love and heat in the thorax region, but with no information associated to them. Often, these feelings are experienced in the form of anticipation: something which is going to happen, but of which we do not have any information. Generally they are experienced as attraction or repulsion, but towards something about which we have little or no information.

As a consequence of this constant sensing of stimuli coming from the past and stimuli coming from the future, we are faced with bifurcations, composed of the following two components:

1. what is known and certain: coded information, coming from the past, which tell us what to choose (brain);
2. what is unknown and uncertain: feelings of attraction and repulsion, coming from the future, which suggest what to choose (heart).

It is common experience that what is suggested by the brain generally does not coincide with what is suggested by the heart. Usually people choose what the brain suggests, as it is based on information which is known, certain, and seems to be more reassuring. But, doing so, they restrict their lives to cause-effect, entropic-logic, which usually are incompatible with the syntropic nature of life, causing dissatisfaction and suffering. This process of suffering has

lead a significant number of people to understand that it might be wiser to follow what the heart suggests. As a consequence, a growing number of people are now interested to learn how to listen and understand what the heart tells them.

Many strategies help to enhance the perception and the understanding of the feelings of the heart. Generally these strategies are based on a simple consideration: choices which decrease entropy and increase syntropy favour the perception of the heart and enhance the understanding of the feelings of anticipation. In any moment of our life we are faced with choices: the way we eat, we work, we live, we consume, we socialize. When we follow the less entropic choices and/or increase the syntropic alternatives, we enhance our ability to feel and understand the heart - enhancing our ability to use, in a constructive and positive way, the feelings of anticipation and attraction that come from the future.

References

- Bierman D.J. (1997) and Radin D.I., *Anomalous anticipatory response on randomized future conditions*. Perceptual and Motor Skills, 84, 689-690.
- Costa de Beauregard O. (1953), *Comptes Rendus* 236, 1632-1634.
- Cramer J. (1986), *The Transactional Interpretation of Quantum Mechanics*, Review of Modern Physics 1986: 58, 647-688;
- Fantappiè L. (1942), *Teoria Unitaria del Mondo Fisico e Biologico*, Di Renzo Editore, Roma, 1991.
- Jahn R. (2005) and Dunne B.J., *The Pear Proposition*, Journal of Scientific Exploration, Vol. 19, No. 2, 195-245.
- King, C. (2003), *Chaos, Quantum-transactions and Consciousness*, NeuroQuantology 2003; 1: 129-162.
- Radin D. (2006), *Entangled Minds*, Paraview Books, New York.
- Schrödinger E. (1988), *Che cos'è la vita*, Sansoni, Firenze 1988.

- Spottiswoode P. (2003) and May E., *Skin Conductance Prestimulus Response: Analyses, Artifacts and a Pilot Study*, Journal of Scientific Exploration, Vol. 17, No. 4, 617-641.
- Szent-Gyorgyi, A. (1977) *Drive in Living Matter to Perfect Itself*, Synthesis 1, Vol. 1, No. 1, 14-26
- Tressoldi P. E. (2005), Martinelli M., Massaccesi S., and Sartori L., *Heart Rate Differences between Targets and Nontargets in Intuitive Tasks*, Human Physiology, Vol. 31, No. 6, 2005, 646–650.
- Wheeler J.A. and Feynman R.P. (1949) *Classical Electrodynamics in Terms of Direct Interparticle Action*. Reviews of Modern Physics 21 (July): 425-433.