

The conflict between entropy and syntropy: the vital needs model

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Abstract

In this paper the vital needs model, which describes 3 main groups of conditions which living systems need to satisfy in order to survive, is discussed. This model was developed working on the laws of entropy, syntropy and retrocausality.

The conflict between entropy and syntropy

In special relativity the energy-momentum relation relates the energy of an object (E) with its momentum (p), and mass (m), where c is the speed of light:

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

This equation has a dual energy solution: one positive $+E$, which moves forward in time, and one negative $-E$, which moves backward in time. If the momentum is zero then the equation simplifies into the famous energy-mass relation:

$$E = mc^2$$

However, in 1926 Klein and Gordon, in order to generalize the Schrödinger wave equation into a relativistic invariant equation, had to insert the full energy-momentum relation, arriving at a dual wave solution which characterizes the D'Alembert operator: retarded potentials which propagate from the past to the future ($+E$) and anticipated potentials which propagate backward, from the future to the past ($-E$).

In 1928 Paul Dirac tried to solve the unacceptable negative solution by applying the energy-momentum relation to the study of electrons, turning them into relativistic objects. But, also in this case, the unwanted negative solution emerged in the form of electrons ($+E$) and its antiparticles ($-E$).

In 1941 Luigi Fantappiè, noted that the mathematical properties of those phenomena which are determined by past causes (causality, $+E$), such as the physical and chemical processes, are governed by the law of entropy, while the mathematical properties of those phenomena which are attracted towards causes located in the future (retrocausality, $-E$), agree with a symmetrical law which Fantappiè named syntropy. Fantappiè immediately recognized the coincidence between the mathematical properties of syntropy and the properties of living systems (Fantappiè, 1942).

It is important to note that, as a consequence of the fact that the universe is expanding, macrocosm is governed by the law of entropy which forces time to flow from the past to the future (mechanical causation: cause \rightarrow effect). On the contrary, in the microcosm entropy and syntropy are balanced, and time flows in both directions (causality: cause \rightarrow effect and retrocausality effect \leftarrow cause). For this reason, the origin of life seems possible in microcosm, while it seems impossible in the macrocosm, which is governed by the law of entropy.

The vital needs model starts from this consideration, that life originates in the microcosm and that when it grows beyond the dimension of the microcosm it starts conflicting with the law of entropy which governs the macrocosm.

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.

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.

Acquire syntropy from the microcosm: the need of unity.

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 negative energy (syntropy) from the microcosm (Radin, 2006), feeding in this way the vital functions and the regenerative processes of the living system. Negative energy coincides with converging waves which concentrate energy. For this reason, when a good connection with $-E$ is established, feelings of warmth associated with well being are experienced in the areas which are governed by the autonomic nervous system (thorax). On the contrary, when the connection is insufficient, a lack of energy is experienced in the form of feelings of chill and emptiness associated with suffering. These feelings of

suffering experienced in the area of the thorax are usually named anxiety and can take the form of fear, panic, and imminent death. Anxiety is generally associated with neurovegetative symptoms such as nausea, vertigo, feelings of suffocation. The need for a good connection with –E is felt as need of connection, of unity, and attraction, it will therefore be referred to as **need of unity**. When this need is not satisfied feelings of pain are experienced in the form of anxiety and pain in the thorax area. When this need is totally unsatisfied the system is unable to feed the regenerative processes and repair the damages produced by entropy and death occurs.

Solve the conflict between entropy and syntropy: the need of 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 results 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 –E (converging waves). 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.

Chronological order

According to this model a chronological order exists in the satisfaction of these needs. Initially humans have to answer material needs, which are more immediate, and only afterwards they become aware of the needs of meaning and unity. Part of humanity has now satisfied material needs and is now facing the needs of meaning and unity and is undergoing rising feelings of existential crisis and anxiety. Material needs can be easily recognized, whereas the needs of meaning and unity are immaterial, invisible, and more difficult to be recognized. For example:

- in order to give a meaning to their lives, people become obsessed with the way they are judged. They strive for power, success. They become addicted to religion, ideologies and groups;
- in order to overcome anxiety they become addicted to alcohol, and drugs and avoid any moment of silence.

The model of vital needs affirms that all these states are secondary needs which originate from the unsatisfied needs of meaning and unity. According to the vital needs model all behaviours (psychological, sociological and economical) can be traced back to these 3 basic needs.

Empirical evidences

Working as a sociologist for public institutions I am always faced with the centrality of the 3 vital needs which I have just described. For example:

- in a study, just concluded, for IOM (International Organization on Migration) results showed that whilst irregular migrants come to Italy for economical reasons (material needs), a significant number would go back home immediately, because of loneliness (need of unity) and depression (need of meaning), even though their economic situation at home has not changed. It seems that the experience in Italy and the difficulties associated to the integration process lead the migrant to rediscover a set of needs, qualitatively different from the material needs, which were met at home, thanks to the family and friends, but could not be met in Italy, causing feelings of loneliness, and depression.
- In a study conducted in the Abruzzi area of Italy, different theoretical models were compared in order to understand the origins of psychological and emotional suffering in high school students. Results show that items relative to loneliness and worthlessness obtained the highest correlations with items relative to unhappiness and suffering (SERT-Teramo, 1993).
- In several studies conducted with drug addict populations, loneliness and worthlessness emerged as the two main reasons behind drug addiction.

In all these studies the correlation among loneliness (anxiety) and worthlessness (depression) is nearly perfect, supporting the hypothesis of the existence of a mathematical relation between these two needs.

Conclusions

The introduction of advanced waves in science might not be so important in physics as it could be in life disciplines such as medicine, psychology and sociology. These disciplines now approach pathologies, illnesses and crises in a mechanistic way which leads, in an always more alarming way, to inefficiency and to an increase in costs.

References

- Fantappiè L. (1942), *Teoria Unitaria del Mondo Fisico e Biologico*, Di Renzo Editore, Roma, 1991.
- Schrödinger E. (1988), *Che cos'è la vita*, Sansoni, Firenze 1988, pag. 74-75.
- SERT-Teramo (1993), *Studio sul disagio giovanile*, Artigianella, Teramo 1993.
- Szent-Gyorgyi, A. (1977) *Drive in Living Matter to Perfect Itself*, Synthesis 1, Vol. 1, No. 1, pp. 14-26
- Radin D. (2006), *Entangled Minds*, Paraview Books, New York.