About Syntropy

The energy-mass relation ($E=mc^2$) that we all associate with Einstein was first published by Oliver Heaviside in 1890, then by Henri Poincaré in 1900, and by Olinto De Pretto in 1904. It seems that this equation reached Einstein through his father, Hermann, who was responsible for the lighting systems in Verona and who, as director of the *Privilegiata Impresa Elettrica Einstein*, had frequent contact with the Fonderia De Pretto, which produced turbines for electricity.

However, $E=mc^2$ does not account for momentum, which is also a form of energy. In 1905, Einstein added momentum (p), thus obtaining the energy-momentum-mass equation ($E^2=m^2c^4+p^2c^2$). Since energy is squared (E^2) and momentum (p) involves time, taking the square root yields two solutions: negative-time energy and positive-time energy. Positive-time energy implies causality, whereas negative-time energy implies retrocausality and attractors: the future acting back into the past. This possibility was considered impossible and was rejected.

However, in 1941, the mathematician Luigi Fantappiè examined the properties of the two energy solutions and discovered that forward-in-time energy is governed by the law of *entropy*, whereas backward-in-time energy is governed by a complementary law that he named *syntropy*, combining the Greek words *syn*, meaning converging, and *tropos*, meaning tendency.

Entropy is the tendency toward energy dissipation, described by the famous second law of thermodynamics and associated with the concept of heat death. In contrast, syntropy is the tendency toward energy concentration and increasing differentiation, complexity, and structure—the mysterious properties of life! Fantappiè suggested that the physical-material world is caused by the past and governed by entropy, whereas life is caused by the future and governed by syntropy.

The first law of thermodynamics states that energy is a unity that cannot be created or destroyed, but only transformed. The energy-momentum-mass equation shows that this unity has two components: entropy and syntropy. Therefore, entropy and syntropy are complementary parts of the same unity ($1=Entropy+Syntropy$), rather than opposites.

The aim of life is *to increase syntropy*. But syntropy is invisible (since it is caused by the future), making it difficult to increase directly. However, the complementarity between entropy and syntropy tells us that when we reduce entropy, syntropy automatically increases, whereas when entropy increases, syntropy decreases. Therefore, to increase syntropy, we must reduce entropy. When we follow this simple rule, magic is unleashed. Placing the reduction of entropy at the center of our lives increases wellbeing and

wealth.

Furthermore, in the physical world of entropy, achieving a large effect requires increasing the force, or cause, since energy diverges and tends to disperse. Conversely, in the syntropic world, the smaller the force, the more it is amplified by the attractor, producing a greater effect. An example is provided by homeopathy, where remedies are believed to become more powerful as the active ingredient decreases.

In 1963, the meteorologist Edward Lorenz discovered that a small variation could produce an effect that amplifies over time. Lorenz described this situation with the famous phrase: "*The flap of a butterfly's wings in the Amazon can cause a hurricane in the United States.*" For this to happen, the small variation must be aligned with the attractor; otherwise, entropy prevails, and instead of being amplified, the variation dissipates.