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Invalidation of the Second Law of Thermodynamics

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1. Summary

General relativity leads to the invalidation of the second law of thermodynamics.

1) The problem of the reversibility

According to today's theory, a thermodynamic set, although able to increase the order coming from the outside in the form of an energy flow, if the latter has certain structural characteristics, unidirectionality and energy intensity [1], is unable to organize itself independently. The system always leads to a final condition of homogenization of microstates throughout the system, defined as maximum entropy, a condition in which it is not possible to create any form of organization (second law of thermodynamics).

In order to evaluate the validity of this approach we consider a thermodynamic set in conditions of thermal balance and suppose to introduce in it to a quantity of energy in the form of a thermal differential, therefore far from the orderly shape capable of producing the development of the order in it. We can therefore give rise to an irreversible transformation.

However, if the quantity of energy entered goes below certain levels, the transformation increasingly approaches the reversible form up to a maximum level that cannot be overcome when the energy intake assumes the infinitesimal dimension.

The approach is represented by the appearance of rigid fragments in the trajectory of the transformation determined by components linked in dissolublely to each other. Such fragments are formed in the thermodynamic set to a very low extent, we speak of a process that proceeds for infinitesimal and that the chaotic movement existing as a whole prevents us from appearing, which instead happens when the energy introduced takes on, for its infinitesimal dimensions, therefore linear, a ordinatory feature. Evidently, the more numerous the components linked the more the transformation is approaching the reversible form.

General relativity clarifies the fundamental point constituted by the origin of the bonds of the components that make up the rigid fragments of the transformation trajectory. They are mass bonds that have well defined trajectories that can be traveled between the components in both senses without friction, with the transmission speed of the information higher than that of light, conditions that involve the full reversibility of the processes [2].

As is known, these links are the product of contraction processes, i. e. transformation of energy into mass that take place between bodies equipped with opposite directions of attraction. Consequently, the presence of a convergence towards a reversible limit form involves that there are particles of the thermodynamic set which, instead of following the gravitational attraction (centripetal component of internal energy), follow an opposite anti - gravitational attraction (expansionary component of the internal energy). The two types of particles set themselves in a dialectical position giving rise to contraction phenomena with the development of mass bonds that lead to the merger, a fundamental ring of the organization processes, in the specific case represented by the clips of the reversible trajectory.

The low frequency of the reversible bonds of mass in thermodynamic transformations is therefore a consequence of the low frequency of formation of particles following the expansionary component of internal energy. It is therefore necessary, to our purposes, determine how these particles are trained and positioned [3].

2) Location of contraction processes.

A gas under pressure will expand spontaneously into a predisposed void: the heat flow and the gearbox in the temperature can be negligible. In this case, a certain type of energy associated with pressure operates without any need to be accompanied by a phenomenon dependent on a temperature gradient.

The internal energy in perfect gases is defined by the pv product (where p and v refer to pressure and volume). We must therefore distinguish the pressure that gives rise to expansion for its particular feature that adds to that of being a member of internal energy.

The pressure is defined as the force transmitted by the kinetic energy of the molecules to a unit of the area. If we have to ignore the differences in the temperature and therefore in the kinetic energy of the molecules to the various points of the system, the only further possibility of distinguishing the pressure is that it varies in accordance with the position in the system of the reference area considered, equal being the kinetic energy.

As is known, the bike directions that the molecules can take are completely random, determining a homogeneous distribution of the kinetic energy of molecules in a system in thermal balance.

Therefore, if the system is infinite, the conditions and therefore the pressure carried out on a unitary area will be identical in every part of the system. If, however, we take a finite system and its interactions with its surrounding environment we must consider the fact that the pressure operates on both sides of a surface located inside the system, but on one side of the superfix at the edges of the system.

Conditions of symmetry for peripheral surfaces are therefore not obtained and a driving force, expansionary component of internal energy, is therefore produced, which produces a condition of permanent expansion (see the ordering action of the elimination of symmetry constraints according to Prigogine [1])

The particles that are part of the expansional current are in a dialectical position towards the particles bearing the gravitational attraction and therefore enter into contraction with them. This phenomenon also occurs in the context of an isolated thermodynamic system in which it induces the organizational structures produced by peripheral contractions.

2. Conclusion

The statement according to which the thermodynamic set would be devoid of the self - organization ability is therefore without foundation. All components of the universe, whatever their shape and size, always have the opportunity to interact with the other components in terms of destructive action and constructive contraction in order to obtain a change in the drawing of being. Παντα ρεϊ, **everything changes.**

References

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