



*Note to the attention of
the Most Holy Father
H.H. Pope Francis*

From the greatest disorder to perfect order

The standard model of the Big Bang admits that an extraordinarily hot needle point is at the origin of our universe. Cosmologists teach us that from this singularity, photons of light violently colliding made appearing matter. Matter and light were studied separately until the beginning of the twentieth century when special relativity could finally connect them.

It is only when matter appears that the laws of physics can be applied to mass systems, whether to a star like the Sun or to a tiny virus. The laws of the physics of material bodies obviously do not take into account the photons of light since they are devoid of mass.

In the nineteenth century, a new branch of physics combining heat and motion, which for this reason was called thermodynamics stipulated that energy was conserved but that it was deteriorating. It is the second law of thermodynamics which takes into account the degradation of energy, characterized by entropy, which can be more simply called disorder in the present case. This disorder, due to irreversibilities of all kinds such as friction, is linked to agitation in the microscopic world and given the gigantic number of molecules in ceaseless movements, we had to call upon the theory of probability.

After the fantastic unbalance due to the Big Bang, the universe expanded and cooled down by looking for its balance. Surprisingly, thermodynamics, which deals precisely with the movement and heat could pretend to take into account the physics of the universe in its entirety. Indeed, it could be announced that the energy of the universe remained constant according to the first law and that the disorder in the universe was probably tending towards a maximum called death thermal of the universe, according to the second law.

Since the disorder increases towards the future, it was thus weaker in the past, and could to tend towards zero very close to the Big Bang. At the beginning of time, order reigned. The time is thus characterized by an arrow oriented towards the future, in the direction of increasing disorder. As soon as matter was thus created, the disorder started and with it, time.

Removal of order in certain structures dangerous to mankind

The second law of thermodynamics does not prevent order from appearing locally in a system provided that the disorder increases globally in that system.

More recently, chaos theorists have indeed shown that structures could arise, after passing through a bifurcation and a chaotic zone, in a system driven towards disorder; they are called dissipative structures.

An example is that of the hurricane which uses the laws of thermodynamics and chaos for its training. It behaves like a valve releasing the energy accumulated under the Tropics during the hot season. Here or there, first appears a tropical storm that degrades energy. Then, depending on the hazards encountered on the ocean, a hurricane may emerge.

The molecular system organizes itself and, introducing a part of order, it transforms this disordered storm in a hurricane, i.e. a very orderly but devastating heat engine coming to extinction on the earth of men by sowing its calamities. The conflict between order and disorder is thus the cause of complex and spectacular, but sometimes dangerous phenomena. The order introduced in a hurricane must be destroyed in order to downgrade it to a tropical storm much less aggressive.

The principle of worst action to be used introduces a great deal of disorder in the molecular world, to destroy its organization, in order to avoid chaos in our macroscopic world.

The principle of worst action advocating the destruction of order in nature can shock as much as by its name than by its object. It therefore seemed advisable to study, a contrario, the possibility of the existence of a system in which order would be perfect, therefore without any disorder. What is far from being the case in a hurricane, a place of enormous disorder even if order has appeared locally in the form of an eye and its wall.

Searching the perfect order

A perfect order does not exist in material nature since it is subject to disorder ; it is to be sought in the light. If the order in the ordered part of a hurricane could be perfect (with zero entropy) then a much more intense disorder than the one usually observed should be noted because a dissipative structure increases its internal order by transferring disorder to the outside.

Conversely, if we could observe a phenomenal disorder in nature accompanied locally by a luminous appearance, thus with zero entropy, then this system would be in agreement with the second principle of thermodynamics, thus plausible.

According to information theory, which complements the second law of thermodynamics in comforting it, a system that receive information is better ordered and its entropy therefore decreases. At zero entropy, all the characteristics of a system are known, in the smallest details. It is humanly impossible to achieve this ultimate level of perfection.

It does not seem conceivable to conduct such an extraordinary experience. However, facts of the same nature are described in the sacred books. One can try to examine them as a physicist and not as a theologian, which would take us out of our field of expertise.

We find, for example, such cases in the Exodus of Moses or in the miracle of the sun at Fatima. Perhaps the most prodigious case is the reappearance of Jesus. According to the Gospels, Jesus is unrecognizable, he presented himself in another form. So Jesus had to manifest Himself - in the sense of physics - as a being of light, when he showed up after the crucifixion. Jesus being perfect therefore devoid of mass, and not subjected to gravity, he could rise into the heavens on the Ascension Day. The Gospels relate these wonders with an astonishing precision that forces admiration.

Matthew concludes this note perfectly:

”... there was a violent earthquake, for an angel of the Lord came down from heaven,.... His appearance was like lightning,” (Matthew 28:2-3)

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Attachments