

ABOUT “EVERYTHING” AND “NOTHINGNESS”

At first glance the term “Everything” seems to contrast with the term “Nothingness”. However, there is no difference between those terms. Actually, “Everything” and “Nothingness” are the same thing, or, in other words, they are equivalent, similar to the equivalence of mass and energy.

How is this to be understood? The answer is to be found in Einstein’s theory of relativity.

When Einstein reflected, how it would be like if he was able to travel with the speed of light, the foundation of his theory of relativity was laid. He wondered what would happen if he held a mirror in front of his face while traveling with the speed of light. Due to the fact that he traveled exactly with the speed of light, the light photons, moving from his face towards the mirror would have to move superluminal. From the viewpoint of physics this is not allowed, as the speed of light is not at all exceedable. In consequence of this, he would not be able to see his face in the mirror. The mirror image would show a deep black; in other words, Einstein would see the “Nothingness”, although he was existent. Actually, a mass is not allowed to travel at the speed of light but only to approaching the speed of light asymptotically. Thus, a mass or a body, traveling with almost the speed of light is always visible in a mirror.

Let us reflect another thought experiment. Imagine, an imaginary being without any mass would be able to travel side by side with a light wave. What would this light wave look like? Would this wave shimmer or glow like a wave-shaped fluorescent lamp? No, actually, one would see nothing. Why not? The speed of light is equally the maximum and the minimum speed of light (in vacuo). Furthermore, light has no rest mass. The rest mass of a stagnant light wave is, mathematically spoken, zero and therefore not existing (Nothingness). That is the reason, why it isn’t possible to transport light in a box. A moving light photon contents a specific amount of energy. Due to Einstein’s equation this amount of energy can be expressed in form of an equivalent mass, the so-called *dynamic mass* of a photon. By means of Planck’s equation $E = hf$ and Einstein’s equation $E = mc^2$ it is possible to calculate the dynamic mass of any electromagnetic wave length (photon) $m_{dyn} = \frac{hf}{c^2}$. So, from

the viewpoint of an imaginary observer, moving beside a light wave (photon), the observed light wave would be in rest. As light has no rest mass, the light wave would not be existent from the viewpoint of a moving observer, traveling side by side with a light wave.

As we can see, the existence or non-existence of a light wave solely depends on the viewpoint of the observer. This, by implication means, that "Everything" and "Nothingness" are a question of the point of view.

Let us stay with our thought experiment. If an imaginary being without mass were to move with the speed of light, an additional interesting phenomenon would arise. Space and time would not play any role as they were, mathematically spoken, zero. Physically spoken they would form a singularity. Space (and everything within it) as well as time are relative terms. The perception of space and time depends on the point of view. The perception of space and time as we experience it due to the fact that we cannot move with the speed of light is a subjective experience. If we wanted to travel at the speed of light we would have to get rid of the mass of our body so that we would be a massless being. As long you are alive this is impossible. Traveling from one point to another with lapse of time is a specific phenomenon within space-time. Thus, a human being underlies the diktat of space and time and is able to experience causal relations. Experience needs time. The concept of causal relation, thus, the ability of experiencing chronological sequences, is an attribute of space and time. Only "within" space-time our actions and their consequences are causally related. The concept of causal relation is the unalterable basis of development and of the process of learning, which are synonyms of life.

Let us do yet another thought experiment. Imagine, that we are watching a light photon (kind of "wave packet"), traveling from one end to the other end of the Milky Way. If we were to view this procedure as an observer at rest, we would have to wait 100'000 years to eventually "celebrate" the arrival of the light photon. The diameter of the Milky Way is about 100'000 light years, hence the light needs about 100'000 years to travel from one end to another end of the Milky Way. What would happen, if we could travel side by side with the light wave from one end of the Milky Way to the other end. How long would this voyage take? Well, it would not take any time, as for light time is not

existent. In addition, space does not exist as well; or, to put it another way, the entity of all location forms, "from the viewpoint" of a light photon, a singularity. Past, present and future form a singularity as well. If one asked a light wave, how long it has been travelling and where its journey once began, the light wave would not understand the sense of the question, because space and time do not exist from the "viewpoint" of a light wave. The terms "Everything" and "Nothingness" do not form a contrast. So, the question: "Why is there not simply "Nothingness" and why did God decide to create "Everything" out of "Nothingness", does not make any sense, due to the fact that "Everything and "Nothingness" are the same pair of shoes "observed" from different points of view. The terms do not contradict one another. "Nothingness" is not the absence of "Everything". Consequently, nothing can be created out of "Nothingness", as "Nothingness" is "Everything". The postulation of a Big Bang, thus, the "Creation" of space and time out of "Nothingness", is pure nonsense. The Big Bang theory is from the physical point of view, false, even dumb and naïve. George Lemaitre's primeval conception was a non-physical, esoteric idea that could not be taken for serious by Einstein. Not without any reason Einstein accused the Belgian priest of "awful knowledge of physics". Lemaitre was a substandard "scientist". "Nothingness" and "Everything" are equivalent, according to Einstein depending on the "point of view".

As well as "Nothingness" and "Everything" do not form a contrast, Einstein interpreted life and death as different "manifestations" of being. According to him, being never began and will never end. Consequently, being does not depend on life and death. Being or existence, thus, "Everything" and "Nothingness" are independent of space and time, although "using" space and time in order to "produce" causal development. "Within" the space-time structure development is possible and "stored" on the "time axis" and in no way erasable. Past, present and future are stored in the singularity of time. It is there, just like that. Material being is subject to the "diktat" of space and time and able to experience causal relationships between cause and effect. Experience is the fundamental sense of life.

Of course, these ideas discomfited the clergy and had to be defeated at any price. Unfortunately not only the clergy but also most of Einstein's contemporaries couldn't follow Einstein's thoughts, even most of

the astronomers couldn't. They were simply trapped in an archaic perception of the world and were not able to understand him.

Light (or electromagnetic waves in general) is energy. Depending on the point of view, this energy is a dynamic energy (Everything) or potential energy (Nothingness). Merely light (electromagnetic waves in general) has a kind of "special status", it can be "Nothingness" (potential energy) as well as "Everything" (dynamic energy), depending on the point of view. Light is able to travel through space and to interact with matter within space, however, light does not only underlie the diktat of space-time, as space-time is zero from the "viewpoint" of a photon. Solely matter underlies the diktat of space-time. What is the proper sense of energy? Energy is information (matter is also information, as matter and energy are equivalent). A photon does not "know" space and time. This feature also applies to information. Information does not "know" space and time. This implication leads to the following conclusion. **Potential energy (Nothingness), is the totality of all information, independent of space and time. One could be inclined to define this feature with the term God.**

"Death is nothing(ness). For us believing physicists the differentiation between past, present and future is only an illusion, albeit a very persistent illusion."

Albert Einstein