

Dear Vladimir,

thank you for your essay [*Astrophysics: Macroobject Shell Model.*](#)

We realized in our last discussion that we live in different worlds. My world is three-dimensional with four states of aggregation held together by a force, and yours is five-dimensional. In between lies the four-dimensional world of astrophysicists with three states of aggregation and a gravity that they do not understand. In that sense, it is in the nature of things that we do not have much in common and our models have to be different in approach.

The most astonishing thing for me is that astrophysicists are always dealing with things that you can not observe and that are based only on their imagination, and they have developed a lot of imagination over the last 100 years with their standard models. It is always statements that can not be falsified in order to speak with Popper and thus escape the logic of research.

The consequence is that with each new discovery, nature becomes more and more mysterious to them. I can not see where a five-dimensional world is supposed to bring about an improvement if a multidimensional world such as that of string theory has not brought any progress of knowledge.

It speaks of atomic decay and fusion, without considering the electrical properties of matter and without even thinking about the forces acting on the basis of Coulomb's law. These forces exceed the gravitational ones by 36 orders of magnitude. That's enough to explain all cosmic phenomena. The counter-argument of astrophysics is always that a plasma from the outside is electrically neutral. But the cosmic plasma is around us and we observe it from within. It is therefore not electrically neutral at our observation point.

I would like to refer to my essay [*What makes a good physical theory?*](#) from April 2016 and discuss the concept of 'dark matter'.

The concept of **matter** is one of the central physical concepts. In the textbooks of physics, it is generally presupposed without a more precise definition. Even in philosophy, there is no unified definition, which is why I refer to the materialists who say that everything that exists outside of our consciousness is matter.

It is symbolized by the relation $E = mc^2$ and exists in the four aggregate states: solid, liquid, gaseous and luminous, as already known in the ancient Greeks. So matter consists of the three components energy, mass and motion, whereby the speed of light, the fastest form of motion of matter in general, can be transmitted with energy. The speed of light is not an absolute constant, as Einstein claims, but $c^2 = 1/\epsilon\mu$ is a material constant that is essential for optics.

The idea that physically there is an empty space is an unproductive illusion. Because mass occurs in the four aggregate states with different energy contents, the density distribution of the masses is very different, which has the consequence that c can not be constant and light rays bend as a result of the density changes. There is either no curvature or no optics. Since I worked for years in the optical equipment, I reject the curvature of space.

What mass m is, explains the mass spectrometry. The mass spectrometer establishes a relationship between mass, electrical charge and magnetic flux density. Mass can not be thought of without bipolar charge and without the surrounding force field. I've been working with a mass spectrometer myself for a year.

These three basic relationships are necessary for the description of the matter. The luminosity or more precisely the electromagnetic waves are the result of the deceleration of moving charges, which release their superfluous energy to the force field. The energy transport is described by the Maxwell equations as a wave in this force field.

The term '**dark** matter' consequently limits the concept of matter to three aggregate states and excludes the plasma state. With what right does one do that, even though Tesla has already pointed to the immense importance of energy transfer in a vacuum by electromagnetic waves? Just because Einstein did not understand the gravity? Why should the world out there have only three aggregate states, or why should there be exotic matter forms that we can not observe and therefore can not describe?

Why do we tolerate a conceptual shift, as if we labeled a jam jar, throwing it out in part and then trying to fill it with other content, as happened, for example, with the concepts of Dark matter and the Black hole, of which we by definition do not know anything, but attributes such Black hole as plasma focus can be attributed today.

The only reliable information that can be obtained from the vastness of the cosmos is electromagnetic radiation, whether it is due to charge shifts from the atomic nucleus or from the atomic shell. I believe that if you want to be taken seriously as a scientist, you have to accept this fact.

For a long time, I wondered why astrophysicists so consistently negate plasma and electricity in the cosmos, especially since nuclear fusion does not work without charge carrier displacement.

In my opinion, there is only one explanation for this and that lies in the monotheistic religions and their infallibility claim.

For the ancient gods, Prometheus brought the fire for the people from heaven. In the Christian religion the fire was banished from heaven and banished to hell with all the old gods. Today, a monotheistic religion based on authority rather than logic proves to be an obstacle to science.

An interesting reading on this topic is: "[*Stephen Hawking smoked my socks*](#)" by Hilton Rattcliffe, where he addresses the sociological and political roots of people's behavior in modern science.

Pope Leo XIV founded the only scientific research institution of the Holy See in 1891 expressly with the aim of overcoming the conflict between religion and science. By the way, the Church notes with satisfaction that the contradiction between faith and science has diminished. Science certainly did not benefit from this.

My conclusion from this is: forget everything that modern physical theories have developed so far, and start from the beginning of 1900 on the basis of classical physics .

It is quite tedious now to check all the notions that you have taken uncritically to their logical content. You can find a lot of them in the YouTube series: [Top 10 Reasons the Universe is Electric](#), which I'm currently translating for the German audience. Under # 5 the pulsar or neutron star is treated. Free neutrons decay into protons and electrons with a half-life of 12 minutes. So they form hydrogen. No larger accumulation of neutrons has ever been found. Why should it be such exotic objects that contradict any physics in the universe?

If you seriously intend to model stars and galaxies, then you should study the [database of the SDSS project](#) and deal more critically with the essays of your colleagues. You may find that there is only one world worth describing. This world does not follow a mathematical model. With mathematics, we try to describe nature only as part of human language and usually a poorly controlled, if not based on accurate observations and measurements. Errors are typical in inductive reasoning, progress is the exception.

Science therefore does not reflect on what has been learned, but critically questions it.

You may not meet with the enthusiasm of your environment. But truthfulness seldom praises the superiors. That's what many great scientists have learned that we value today for their truthfulness.

Best regards Mathias