



FAKE BIG BANG, and no dark energy

In astronomy, more than in any other science, the time elapsed from the birth of an idea until it is accepted by the scientific community is enormous.

The most emblematic case is the time that has passed since Aristarchus of Samos, who lived from 310 BC to 230 BC, proposed that the Earth moved around the Sun, until 1822, when the idea that the sun moved around the earth was removed from the Index of Forbidden Books (after the works of Copernicus, Kepler and Galileo): more than 2,000 years.

Perhaps the shortest time elapsed was between the publication of the Special Theory of Relativity, in 1905, and the observation that light was in fact displaced by the influence of large gravitational fields, carried out in Sobral, a city in northern Brazil, in 1919, when it was possible to identify the Einstein Cross: only 14 years.

I sought support from several universities in different countries, but I still didn't get a response, as happened when I presented the idea that the Earth's magnetic field (among other fields discussed) is formed by the rotational movement of the ionosphere – see http://instale.eng.br/planetary_magnetic_fields.pdf. There was also still no response when I presented them with the challenge of proving or refuting that only negative electrical charges can generate magnetic fields.

So, I decided to present my idea without any explicit support. It is obvious that I learned about astrophysics and astronomy in several books, as well as in every article that I could find on the www, but I refrain from presenting any bibliographic reference. This is because there is no strict need, as it is not an academic study.

I am inspired by Albert Einstein, insofar as he first intuited phenomena, and then sought to verify whether they were plausible, and, in a way, the result of this work of mine should exempt him from what he called his great mistake in indicate the need for the cosmological constant to balance the system. He didn't make a mistake!



For Einstein, science did not come from logic but through intuition. During a physics conference in Kyoto, Japan, in 1922, the scientist stated that he never thought about logical symbols or mathematical equations, but about images, feelings and even musical architectures, what he called edankenexperiment – German expression for “mental experiment”. At the age of 16, while riding his bicycle, he imagined what it would be like to race with a ray of light. Later, this reflection led him to conclusions that transformed the conception of the world and showed that time and space were variables that basically depended on the frame of reference.

In the general theory of relativity, one of his best-known works, Einstein wrote the equation that describes the evolution of the Universe as a function of time. In order not to contradict his intuition of a static universe, Einstein introduced a cosmological constant into his equations that counteracted gravitational attraction – so the stars would not collapse.

But historical evidence went against the notion of the immutability of the Universe. When Edwin Hubble demonstrated that the Universe expanded in 1929, Einstein admitted the failure and said he had made "his biggest mistake".

I understand that Albert Einstein was not wrong, but that Edwin Hubble was wrong.

Observing the redshift of distant galaxies, Edwin Hubble concluded that they are moving away from us, and established Hubble's Law, which determines the speed of a galaxy's departure as a function of its distance.

$$v = H_0 \cdot d$$

The current understanding is that, by observing the speed with which galaxies are moving away, we can do the reverse calculation and determine the time required for the galaxies to move away and, thus, estimate the age of the universe.

The constant H_0 has the dimension of the inverse of time, so Edwin Hubble concluded that the time of the universe is the inverse of the constant H_0 .



Like Edwin Hubble, many other astronomers have made detailed observations looking in all directions of the universe, and it has been found that, in all directions, all galaxies are moving away from us. Furthermore, the further away from us, all observed galaxies are moving away from us with increasing speeds. **If so, we can conclude that we are at the center of the universe, or, on the other hand, that there is some mistake in this conclusion of expansion of the universe.**

I understand that we are not at the center of the universe, and I understand that the universe is not expanding as has been believed.

Undoubtedly, we know that gravitational attraction exists, both from experience and from astronomical observations. We know that galaxies near the Milky Way are approaching it, just as they are approaching each other. So, it is at least very curious that close to us the galaxies are approaching, and that far from us they are moving away. There are also observations of pairs or groups of galaxies very distant from us that approach each other, even to the point of merging to form composite galaxies. There are cases of mergers of spiral galaxies forming spherical galaxies. So, it is even more curious to conclude that, also very far from us, the galaxies are approaching, even if the set of them is moving away, because the universe would be expanding.

I believe that the observed redshifts are not a result of the observed galaxies moving away, but only a result of interference caused by cosmic dust in intergalactic space. As is known, when passing through dust, white light loses its bluish components, because these have a shorter wavelength dispersed by dust grains. On the other hand, the reddish light components are not scattered by the dust grains because they have a longer wavelength.

There are already studies that indicate solutions to separate the reddening caused by interstellar dust inside galaxies from what would be the real redshift. However, there is no study in this regard in relation to intergalactic interstellar dust, and there are inferences that it exists in a very small proportion to the point of not interfering with the redshift assessment.

I suppose that the inference as to the amount of cosmic dust in intergalactic spaces is based on what we can observe in the



nearby intergalactic space, but nothing is known about its existence in regions very distant from us. I believe there is enough of it to cause reddening, as stars and other objects have been known to explode sometimes, and this certainly scatters dust in cosmic space not insignificantly!

Thus, due to the existence of cosmic dust, we can conclude that it is more than natural that the further away from us the galaxies are even more and more reddish, even if they are not moving away from us.

I don't understand, but I know that we humans have a need to understand things, phenomena, everything. Most of the time, we first get it wrong and unconsciously we are satisfied with that understanding, whether that understanding is correct or wrong. This is until a new understanding emerges, which alters or completes the previous understanding.

Historically, humanity spent most of its existence believing that everything happened by divine action. Easy explanation, and difficult to refute without a technological framework. Until very recently most people believed that everything that exists is the work of God. Even today there are still many people who believe more in creationism than in the results of experiments or scientific observations. In a way, science happens because we believe it to be true.

The existential reference that we have is mainly constituted by the concepts of beginning, middle and end. We are born, live and die, just like every observable living being. So, it is natural for us to suppose that everything we think we know had a beginning and that it will have an end.

Humans wanted to discover the origin of the universe, because, as "we all know", everything we think we know has an origin, a means and an end – we have ourselves as a reference. So, with the Big Bang theory, it seems that "everything has been solved"! But what about before the Big Bang? Furthermore, the suggestion of the existence of the inflationary period seems to me like the explanation that God made Adam with a navel for ethical reasons. The calculation of the age of the Universe based on the inverse of the Hubble constant has as its basic premise the certainty that the Universe has always expanded, but what if it has not always been this way? Perhaps the behavior of the Universe was more complex than a simple explosion, just because it is a thing that we know.



So, why is it that the reddening provided by cosmic dust was not considered in the study of redshifts to determine the speeds of moving of distant galaxies?

Perhaps the fact that it was only after Edwin Hubble presented the idea of the Big Bang that convincing evidence for the existence of cosmic dust was obtained and its effect on stellar luminosities became known. No one dared to doubt Edwin Hubble, especially since Albert Einstein had endorsed him.

I think that we cannot forget Lavoisier's main teaching: "in nature, nothing is created, nothing is lost, everything is transformed". If we believe this, we cannot believe that the universe had a beginning, or that it will have an end.

We can assume that the universe has always existed, with the gravitational attraction forming planets, stars and galaxies, with the periodic explosion of stars that make the dust that in another cycle to be attracted again. The cosmic microwave background would be the echo of these constant explosions, not a single primordial explosion.

In order to minimize paradigms, I recall the brilliant conclusion reached by biologists Maturana and Varela, in "A ÁRVORE DO KNOWLEDGE", from the analysis of the experience of identifying the blind spot of our eyes (when we cover the left eye, a black dot on the paper that disappears when it is about 20 cm away and moved about 10 cm to the right of our right eye, a blind spot corresponding to the existence of the optic nerve): "we don't see that we don't see"! This can be extended to "we don't know that we don't know.

We do not know how and in what quantity intergalactic cosmic dust exists, but we can at least assume that it exists, because there is something after a stellar explosion.

If we can study intergalactic cosmic dust, we can have a better understanding of the reddening caused and we can reach better conclusions about the expansion or not of the Universe. But how will it be possible to study intergalactic cosmic dust?

So, if there is enough intergalactic dust that the resulting reddening can be confused with redshift, we can conclude that this same intergalactic dust attenuates the intensity of the luminosity of very distant objects.



Analyzing the graph that indicates the variation of the luminosities of Supernovas 1A as a function of their distance from us, we can associate it with an exponential function. Every exponential function has a straighter stretch and a more curvilinear stretch. We also have that the attenuation of a luminosity resulting from a medium that absorbs this luminosity is, in the same way, exponential. If we imagine, for example, that for each "snap" the luminosity we perceive from a Supernova 1A is absorbed, for example, by 0.1%, for each hypothetical "snap", the luminosity will be attenuated by 0.1% in relation to the previous snippet, and thus subsequently, i.e. an exponential function of type $(0.99)^x$!

Thus, what would justify the presumption of dark energy that accelerated the expansion of the Universe ceases to exist.

And now? If there are no Big Bang and no dark energy, what will our lives be like?

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