ALBERT EINSTEIN AND THE SECOND PILLAR

In 1905, a young German man who was a naturalized Swiss had been working on a general theory in physics, Albert Einstein was filling the blank left by the failure of the Michelson and Morley experiment, he published in a "restrict" manner, that is, still incomplete, the "Theory of the Special Relativity" (it was special because it would solve the problem of the space left behind by the removal of ether from the general picture). That theory has put an `element of support` for the celestial bodies back in the picture by replacing Ether with "curved Space-time".

It was only in 1911 that the existence of Space-time and its curvature around large gravitational masses, such as the Sun, during a total eclipse was proven.

Actually, the theory was only a different "point of view" from Michelson and Morley`s, because the observers on earth were able to see the light of a distant star (located behind the Sun) change its direction in the proximity of the sun because of the action of its `gravity`; which is capable of curving Space around it (spatial curvature).

So we ask:

- Would both North American scientists (M&M) have proven and the existence of Ether if they had proposed or carried out an experiment similar to the one proposed by Einstein?

- Even nowadays, with all the "technology" we have available, would an observer be able to register or see with his own eyes any change in the behavior of light by using a device measuring only 2m In length?

The important thing to say is, with Einstein, there came a new way to study and comprehend the dynamics of the universe through the definitive presence of a `physical space` which "bends" when facing significant `gravitational effects`, the importance of the observer as well as a new concept of `Time`.

According to Einstein, `Time` possesses a `relative` behavior, and no longer an "absolute" one as was previously proposed by Newton. `Time` then began to have a "direct relationship" with the observer, and it could no longer be measured in the same way and using the same referentials with observers who have different viewpoints.

Time as the fourth geometric dimension

Without using the `time factor`, it was only possible to locate a stationary body (relatively static). To do that all we had to do was draw upon the three static `Dimensions` and a known reference plan.

The static dimensions are:

A - The horizontal distance of the body in relation to the **X** axis.

B - The height of the body in relation to the **Y** axis.

C - The depth of the body in relation to the **Z** axis.

Illustration Nº 03 - Three static referentials used to locate a "stationary body" [**Click**]

In this case, as the body is "stationary" in a known plan, with only three references, we are able to locate the exact position of the body within the `geometric Space in question.

However, what "seems" to be static is always in "relative movement" when compared against any `dynamic referential` (as was defined in the first universal pillar). So, the "static referentials" are not enough -so it is convenient that at least one `dynamic referential` comes to being. `Time` is then introduced as the "fourth dimension", representing the referential of the cyclical or continuous movement.

With the `fourth dimension` it became possible to locate any body in movement within any given Space interval which is also called `Time`.

The term `Space-time` symbolizes the location of a dynamic body within a "time space", that is, the distance it went through proportional to the `time` that has passed; 'speed'.

Illustration Nº 04 - the referentials used to locate a body in movement [**Click**].

To summarize, to any observer, no matter his "position" or "viewpoint" it is 'convenient' to establish a comparative "relation" with other `moving referentials` (or simply `dynamic`), only then can we measure, study and comprehend the "Dynamic Laws".

- Everything is relative!

This is also a universal concept.

And so the second pillar of modern physics was consolidated.

Next, the story of the mysterious John Polincógnito…**[Click]**

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