

## NEWTON AND THE FIRST PILLAR

Galileo died in January 8 1642, and in December 26 of that same year, a premature baby of a recently widowed mother was born. Isaac Newton, the man who has the same purpose as Galileo, the search for the ‘Laws of movement’ To.

Observing the same natural phenomena Galileo did, Newton also followed from young age the paths of mathematics, which he quickly got to its limit having to, from then on; develop new theories, calculations and methods. So, he was able to create the adequate mathematical foundations to sustain the theory within his scientific works for years ahead. He also faced resistance among the academics and, everything he wrote, experimented with or developed was done in his solitary refuge, away from a classrooms, colleagues and teachers...

Newton wanted badly to understand all the ‘whys’ which existed in the movement of the celestial bodies and how they interact among each other in order to keep their orbits. To do that, he should investigate and unravel the mysteries of an invisible force called ‘Gravity’.

Speaking about gravity, all it took was seen an apple falling for Newton to definitely go towards his greatest scientific journey and then, propose the very first ‘Laws of movement’ and the laws of ‘universal Gravitation’.

Influenced by other researchers of his time, mainly the French philosopher and mathematician René Descartes and the British philosopher Henry Moore, Newton absorbed the mechanical view of the universe, and through “Calculation“ ( a new, refined mathematical tool he developed) he was able to come up with the following ‘Laws of movement’;

- 1) Each and every body remains stationary or in straight uniform movement, unless in it is affected by an external force.***
- 2) When a force influences a body, the change of movement is proportional to the force that was applied to it, and it happens in the same direction as the force`s.***
- 3) for every action there is an equal reaction and the opposite direction.***

But Newton’s main proposal was the Law of gravity:

***“All the bodies in the universe attract each other via a force which is directly proportional to the product of their masses and conversely proportional to the square of the distance between them”.*** [1]

Newton, with his great ability and undisputable talent, has left a great collaboration to science as a whole, with his control methodology in the experiments and formulations.

In brief, the most important fact is that Newton and his work have consolidated the first universal concept in modern physics, which states that at the view of any observer, the `Universe is dynamic`, as everything is in constant synchronized movement like a `clock`. Therefore, time was considered to be “absolute” and it did not depend on the existence of the observer himself, that is, all the facts happen within the same timeline, whether or not there is an observer present, so:

***- Everything is dynamic!***

This really is a `universal concept`, as it has been proven that everything is in constant movement in the Universe.

It is important to emphasize that besides the continuous movement of all celestial bodies, Newton, Descartes and other scientists of that time founded the “mechanical view” of the Universe, with the following postulates:

- 1) ‘Time’ is ‘absolute’, it can be measured anywhere and in different moments by an observer.***
- 2) The ‘celestial mechanics’ a synchronous and perfect like a clock.***
- 3) ‘Time’ and the ‘celestial mechanics’ can exist whether or not there is an observer present, and the observer does not interfere with them.***

***Next, crucial that changed the course of science... [\[Click\]](#)***

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