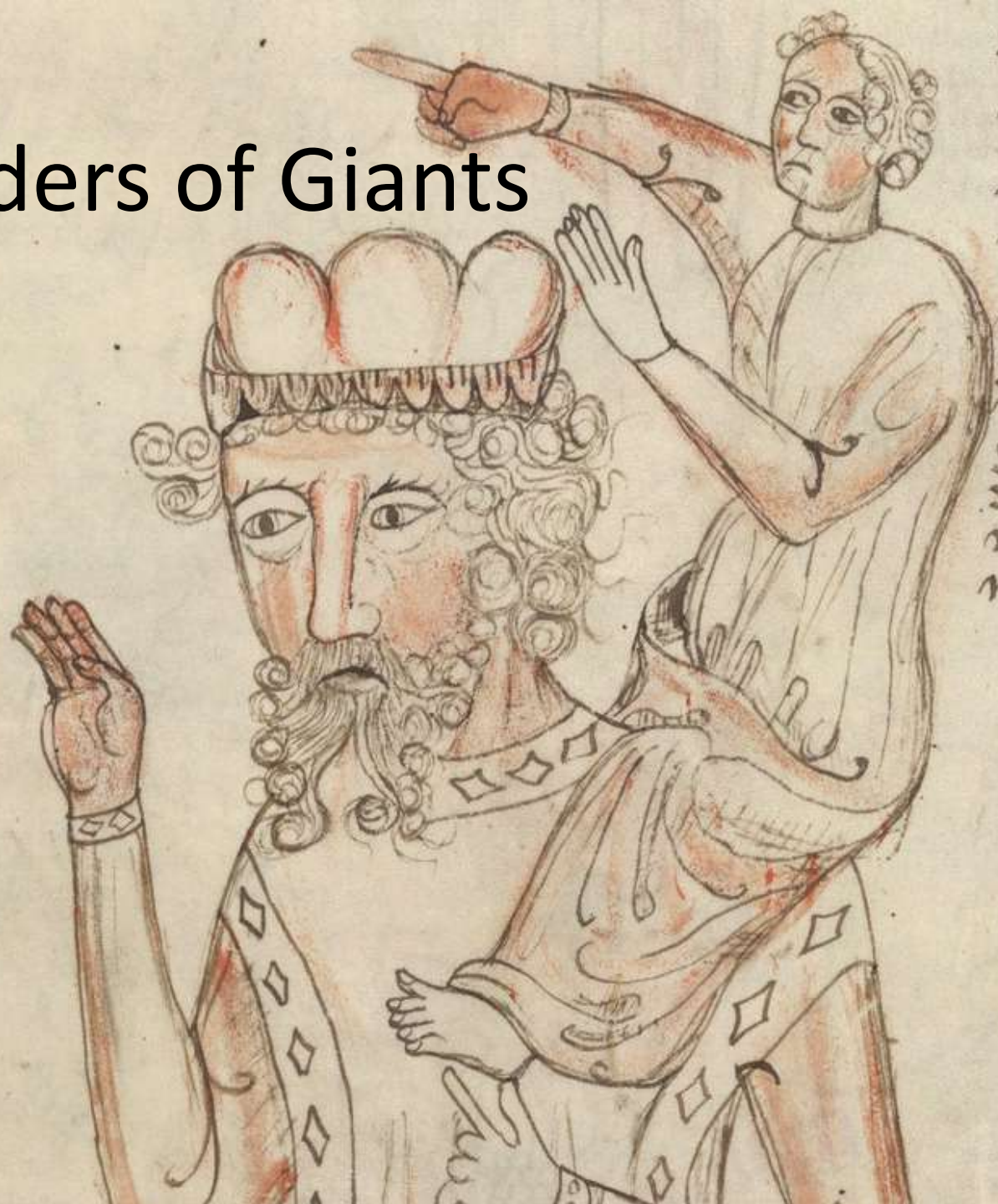
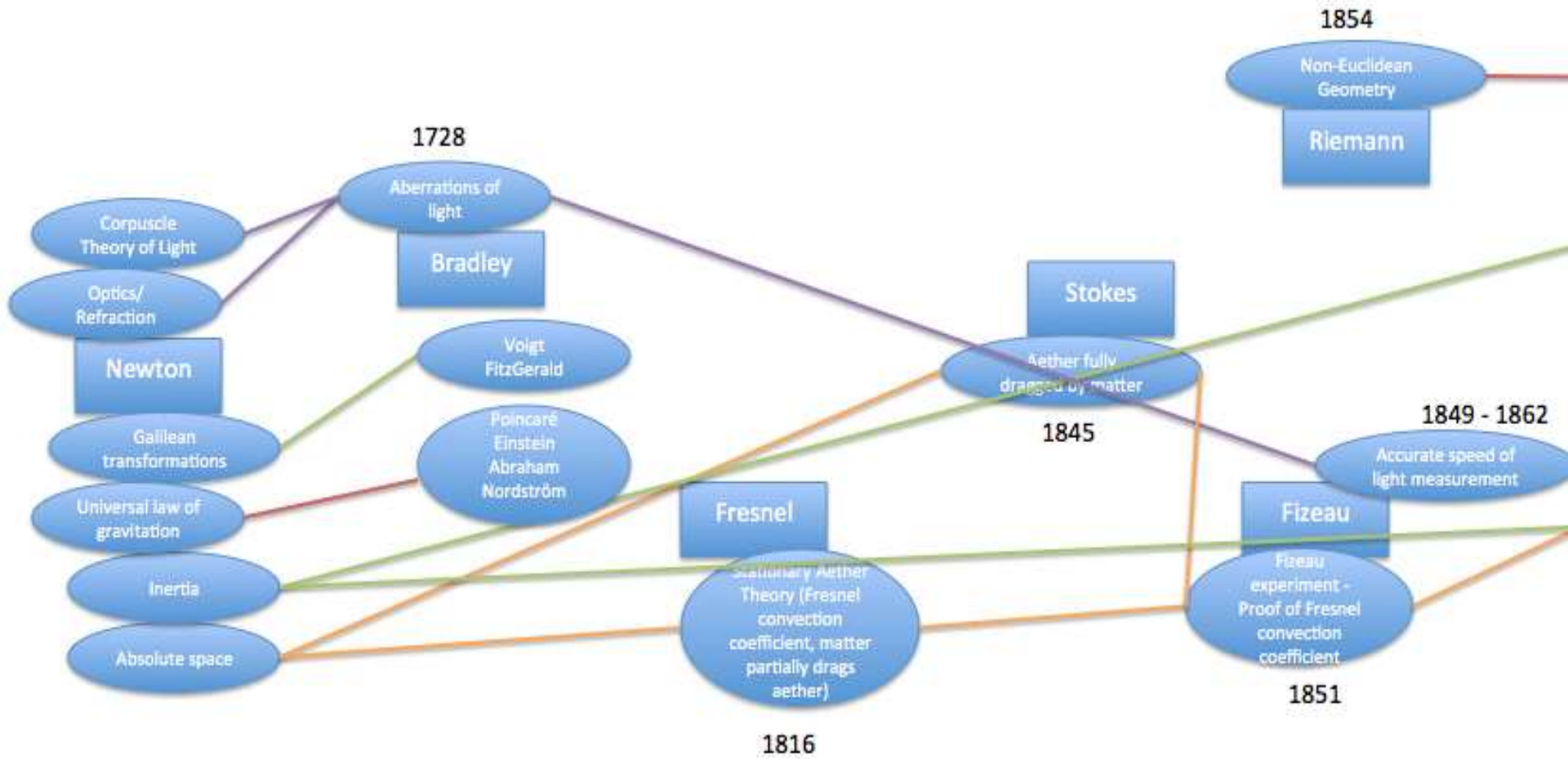


On the Shoulders of Giants

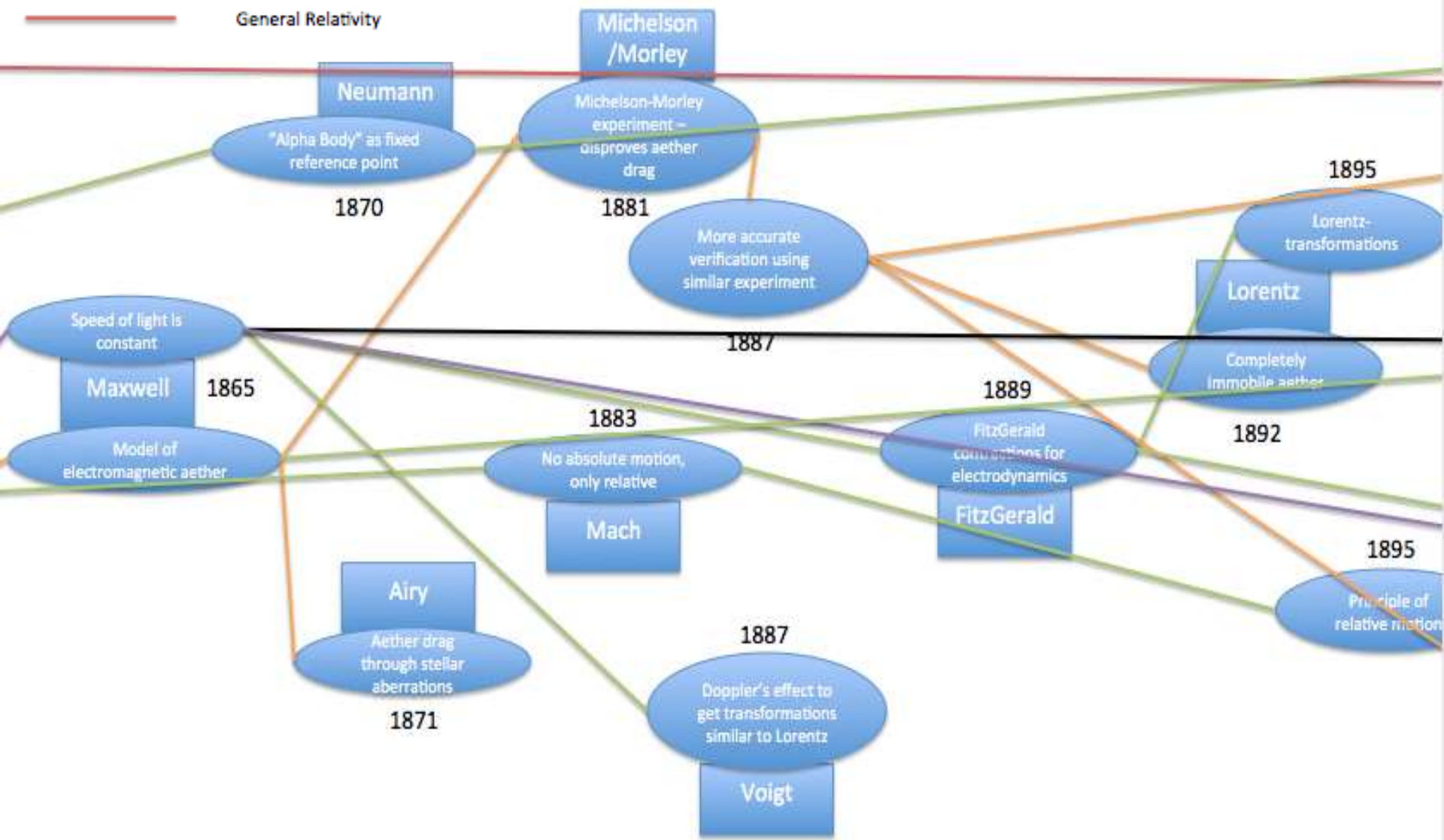
Stuart Smith



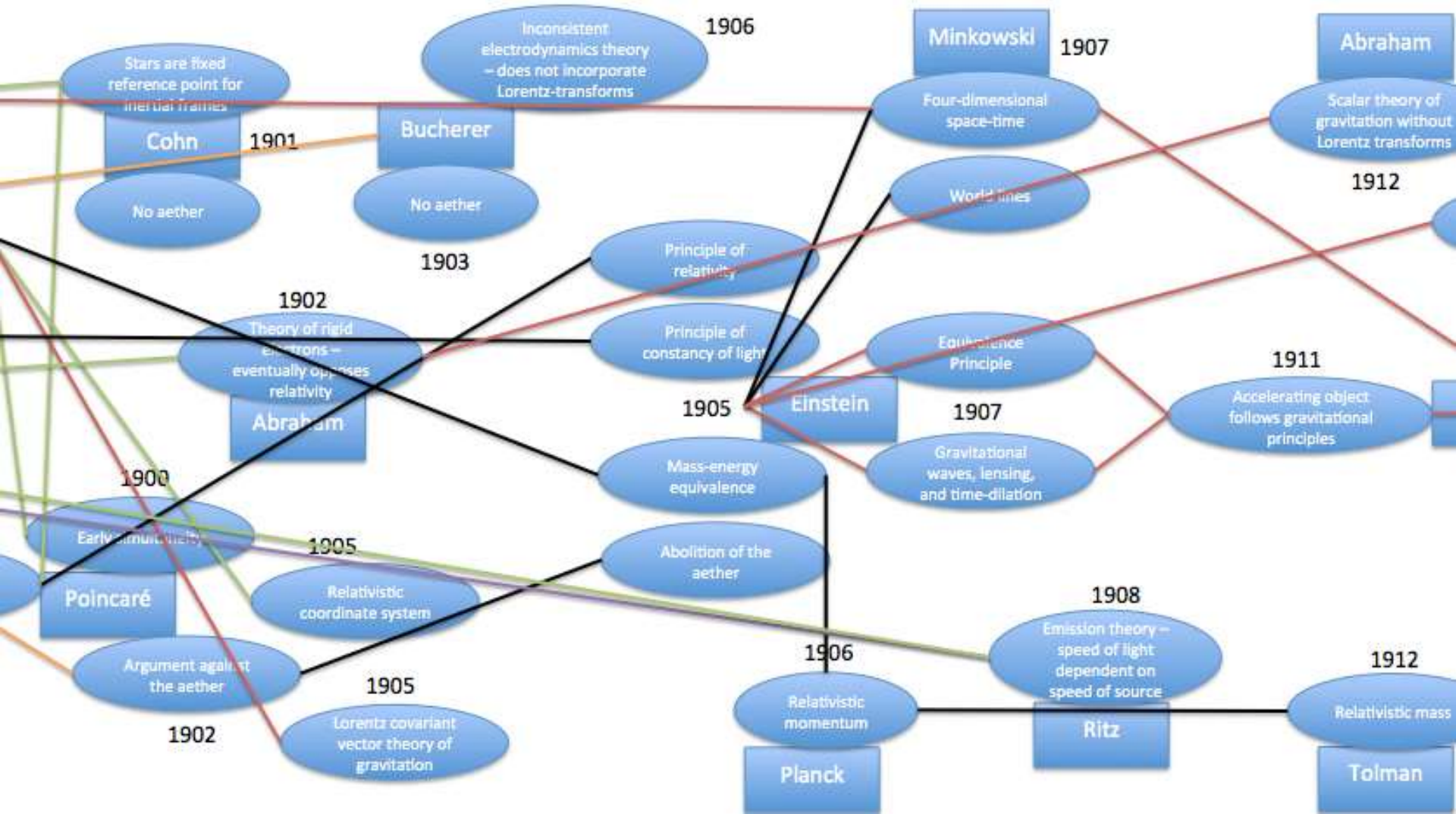
- Nature of Space and Motion
- The Aether
- Nature of Light
- Special Relativity
- General Relativity



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James Bradley**University of Oxford 1728**

Possibly the most important discovery from the aberration of light is that of the finite speed of light. Your discovery proves the theory that the speed of light must be finite. If light's speed was infinite and its transmission instantaneous, as was previously thought, there would never be an aberration of light, as a transverse velocity would not matter.

As for what this speed is, you cannot know precisely, but it can be calculated in terms of a ratio to Earth's speed. Using the length of your telescope and the angle difference between the March and September measurements, you are able to calculate that light moves at 10,210 times the speed of Earth in its orbit. This approximation will be accepted for more than a century.

How can it be determined more accurately?

- Easy. All you really need is two people with shuttered lanterns and a couple of hills.
- Just by observing the stars.
- Only through the use of intricate machinery.

Isaac Newton

Isaac Newton

Born January 4, 1643. Died March 31, 1727.

He is credited as a physicist, mathematician, astronomer, alchemist, natural philosopher, and theologian. He was born, schooled, lived, and died in England. Newton is held by many to be the greatest scientist who ever lived.

Newton came up with the three basic laws of motion as well as the principle of universal gravitation. His work, in both physics and the invention of calculus, is considered to be the basis of classical physics.

Where do I start?

- The parchment and ink. You need to set down some o

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is no evidence of movement since both the sample in the bucket and the bucket are rotating in sync with one another. The water is necessarily moving with respect to the bucket. For movement to be evidenced, though, it must be moving with respect to something. You realize that it must be moving relative to some absolute space!

Absolute Space

The concept that space is fixed and that a person or object can occupy a certain space at a certain time. For space to be absolute, it must have fixed reference points from which motion and/or position can be obtained. This is opposed to relative space, in which space is only a concept unique to each person's mind.

An example of these conflicting arguments is that absolute space on the surface of the Earth would consist of points of longitude and latitude, whereas relative space would consist of

pect to the Earth?

the object that moves w

his principle into a th

With Special Thanks To:

- Chris Meisl
- Victoria Hollingsworth