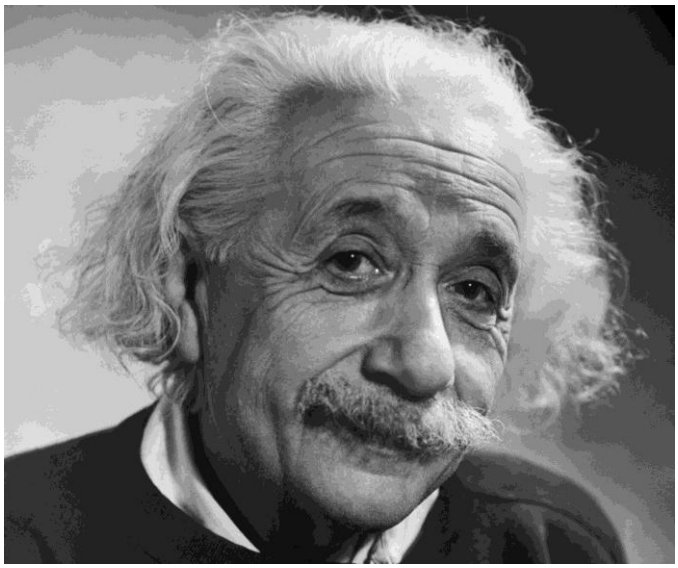
EINSTEIN PROVED RIGHT AGAIN. HOW ABOUT ISAAC NEWTON? Dr Michael Jarvis

About 100 years ago Albert Einstein predicted the existence of 'gravitional waves'. He made several other predictions that seemed at the time to be too strange to be true. Over the past years each of these predictions have been scientifically proven. This year on 11th February the last one, gravitational waves, has at last been detected using very sophisticated equipment at the Lazer Interferometer Gravitational-wave Observatory (LIGO).

An article by Castelvecchi & Witze (2016) in Nature Journal details the announcement by David Reitze, Executive Director of LOGO.



ALBERT EINSTEIN. Born in Germany of Jewish parents on 14 March 1879 and died 18 April 1955

Einstein's contributions to our understanding of the universe ushered in our atomic age and produced a revolution in many fields of science. His theories have been foundational to our understanding of the Big Bang Creation, the great age of our universe, the nature of light as both a wave and a particle of energy (the photon), and our understanding of space and time.

His formula $E=mc^2$ has enabled us to precisely calculate the relationship between matter and energy.

Einstein met vigorous opposition when he first voiced his ideas. Some scholars badmouthed Einstein in the press, decrying both his dangerous ideas and Jewish identity. His bombshell studies reworked physics from its foundations. Einstein's universe plays fast and loose with notions of position and speed – except for light, which always zooms through a vacuum at 300 million meters per second. Space and time are stirred together into a four-dimensional molasses called space-time that matter can stretch and warp. And moving matter must follow space-time's curves – a hidden geometry that we experience as gravity.

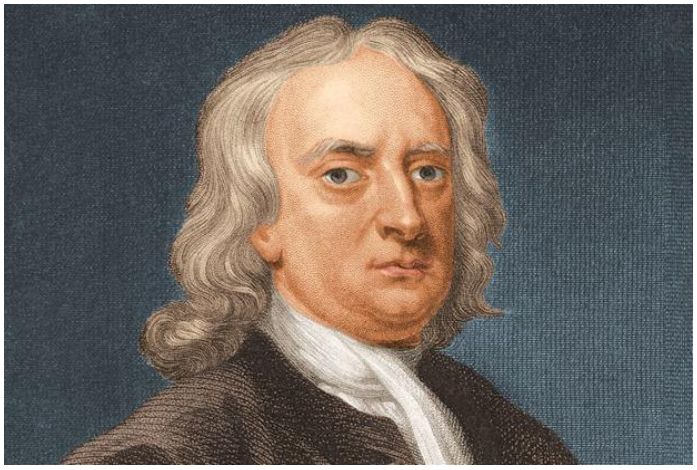
Recently some observations have suggested that the speed of light may vary very slightly in a vacuum when travelling over vast distances. However, this only relates to as yet unproven possibilities of the speed slowing down. Einstein's formulations still hold relating to the speed of light in a vacuum being the ultimate or upper speed limit in the universe. For a few weeks in 2011 it was thought that the so-called OPERA experiment had detected neutrinos travelling faster than light. However, vigorous checking showed this was an error (Brumfiel 2012)

Some articles in non-scientific literature suggest the speed of light could have been faster in the early universe. To back this up an article is sometimes quoted by Davies, Davis and Lineweaver (2002) in Nature journal. However, that article is actually about 'black holes' and is merely speculating on the possibility that some theoretical characteristics of black holes might be explained IF the speed of light had changed. The article is misquoted when it suggests there is evidence that the speed has changed.

Within our universe, that is locked into time, the predictions made by Einstein have now all been scientifically measured and verified to apply in our visible universe. However, other branches of science looking into the sub-atomic world of 'quantum mechanics' realise that sub-atomic quantum realities do not always obey the same laws. For instance, there is strong evidence that quantum 'particles' can interact instantaneously even when separated by vast distances. This obviously breaks the speed of light barrier!

With regard to gravity, Einstein not only predicted the existence of 'gravitional waves' but also predicted that these would travel through space at the speed of light. The breakthrough discovery announced in February this year seems to confirm not only that gravity waves exist but also that they travel at the speed of light.

What about Isaac Newton?



ISAAC NEWTON: Born to English parents on 4 January 1643 (some think it was actually on 25 December 1642) and died 31 March 1727.

He is still considered by many to be the greatest scientist ever. He studied a great variety of things and also formulated the Laws of Gravity.

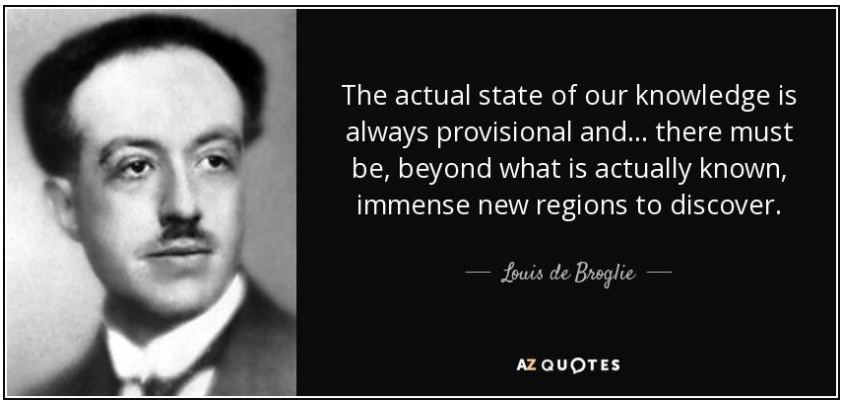
With regards to his Laws of Gravity, these were found to hold true within our time locked universe. However Isaac Newton also proposed that changes in gravity within our universe happen instantaneously. In other words, if some gravity-producing object, such as a far away galaxy were to suddenly disappear, the change in gravitational forces near that galaxy would be **'felt' throughout the universe instantaneously!**

This suggestion by Isaac Newton was not taken seriously once it became widely accepted that Einstein's equations limited the speed of gravity to the speed of light.

However, another major discovery has just been announced, relating to quantum mechanics, that may re-open serious debate about Newton's understanding of instantaneous gravity interactions within the universe.
This research just published from the Canadian Institute for Advanced Research challenges the prevailing majority opinion relating to interactions within the sub-atomic 'world' of quantum mechanics. The article is by Mahler and associates (2016). and it revives consideration of a previously largely rejected interpretation of quantum mechanics called the De Broglie-Bohm theory.

Current understanding of the sub-atomic (quantum particles), that are the building blocks of our visible universe are that they exist as a combination of possibilities until we measure them with a time based instrument. For instance, light can be a wave or a particle called a photon but if you attempt to measure them the result always shows one or the other, never the two together.

This new research by Mahler is not just theory. It has demonstrated that the results must be due to what scientists call 'non-locality', the mysterious interactions between sub-atomic realities instantaneously and continually, even though separated by vast distances. The findings revive serious consideration of the De Broglie-Bohm theory. Part of that theory suggests that **'Something happening in a distant galaxy is influencing you right now'**



LOUIS DE BROGLIE. A Frenchman born 15 August 1892. Louis died on 19 March 1987.

Louis de Broglie also made a number of important comments, such as the one shown here.

Scientists are meant to remain humble and re-discover a motivating principle for their research, namely to investigate some of God's thoughts and actions as revealed in nature.

DAVID BOHM was an American born on 20 December 1917 and died on 27 October 1992. He worked on original ideas proposed by Louis de Broglie and so the combination of ideas became known as the **Broglie-Bohm theory.**

An article by Ananthaswamy (2016) quotes Sheldon Goldstein commenting on the potential significance of this Mahler research, "*People are taking Bohmian mechanics a little bit more seriously", he says. "There was a time when you couldn't even talk about it because it was heretical".*

This research holds the possibility that Bohm was correct when he suggested that something happening in a distant galaxy is influencing you right now! **This would mean instantaneous communication over vast distances!**

How does this relate to Isaac Newton?

This newly published research should also revive serious consideration of Isaac Newton's suggestion relating to gravity. If instantaneous interactions occur between quantum particles over vast distances how about instantaneous interactions within the universe-wide gravitational force?

Science may be on the threshold of exciting new discoveries relating to other mysteries, such as the so-called 'dark energy' that seems to be pushing our universe into an ever increasing speed of expansion. This expansion may possibly be related to the interactions between speed of light gravitational changes within our time locked universe and instantaneous gravitational adjustments within the universe's total gravity field.

Increasingly, scientific discoveries are demonstrating the probability of a Timeless Dimension holding our time-trapped universe together. Surprisingly there seems to be a reluctance within the scientific community to fully accept this Timeless Dimension reality.

We conclude with the wisdom of King David and the prophet Isaiah: *The heavens declare the glory of God; the skies proclaim the work of his hands. Day after day they pour forth speech; night after night they display knowledge.* (Bible: Psalm 19:1-2 NIV translation). Scientific discoveries are greatly increasing the potential to expand our understanding of the majesty, power and wisdom of the Creator, as displayed to us through his creation.

Isaiah wrote about God "*For my thoughts are not your thoughts, neither are your ways my ways", declares the Lord. "As the heavens are higher than the earth, so are my ways higher than your ways and my thoughts than your thoughts"* (Bible: Isaiah 55:8-9 NIV).

References

Ananthaswamy, A.2016. **Quantum hides orderly reality.** New Scientist 27 February: 8-9.

Brumfiel, G. 2012. **Neutrinos not faster than light.** Nature doi:10.1038/nature.2012.10248

Castelvecchi, D & Witze, A. 2016. **Einstein's gravitational waves found at last**. Nature doi 10.1038/nature.2016 19361.

Davies, P.C.W, Timara, M. Davis and Charles H. Lineweaver 2002. **Black holes constrain varying constants**. Nature VOl 418 (6898): 602-603.

Mahler, D.M., Rozema, L, Fisher, K, Vermeyden, L., Resch, K.J, Wiseman, H.M., Steinberg, A,: **Experimental nonlocalty and surreal Bohmian trajectories.** Science Advances. 2016, 2(2) e1501466 D01:10.1126/science 1501466.

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