https://www.youtube.com/watch?v=EAv0h...

A SHORT LESSON IN THE BASICS OF QUANTUM PHYSICS

[Also, check out <https://www.youtube.com/watch?v=EAv0h>...]

Quantum physics is the study of the interaction of atoms and the microscopic universe.

Quantum Physics gave us TV (the image is formed by electrons being shot at a layer of phosphorous on the inside of the screen.)

Quantum also gave us microwave ovens, lasers, cell phones, nuclear energy, and the atom bomb.

In the early days Quantum researchers did various experiments on electrons, or the tiny particles that seem to fly around the nucleus of an atom and of which everything in our present existence is made.

The results of these experiments caused the world of physics to question many of its laws, and even had Einstein losing it over what it all meant.

Neils Bohr, Wolfgang Pauli, Werner Heisenberg, John Bell, and Erwin Schrodinger who made achievements in Quantum physics were all given Nobel Prizes.

Unless Nobel Prizes are given for myths or to idiots, the experiments listed below are definitely worth our contemplation.

a) The most important experiment was known as the Double Slit Experiment.

This experiment was simply done; if you take a gun and shoot black sand, through 2 slits on a metal plate with a white wall behind it you will get an image that looks like this on the white wall:

I I

If you point a flashlight through the 2 slits you will get an image on the wall that looks like this:

I I I I I I I I

This is called an interference pattern and you may notice how the lines in the middle are stronger than the ones on the edges as is common in all experiments done with light waves - water ripples are similar to light waves.

Everything in our present existence is made of either matter (solid particles) or light.

This experiment is a basic yet very effective method of differentiating between waves and what is composed of particles -- or matter - on the atomic level.

Back to electrons: when scientists shot electrons through the plate with the double slit the result was that of a wave

I I I I I I I I

This drove the scientific community nuts as they thought that electrons were particles made of matter.

After much controversy, theories as to why, and repeated experiments scientists decided to watch exactly what the electrons were doing as they passed through the 2 slits. The result that followed turned the world of physics around.

When the electrons were observed the result was:

I I

matter

When the observation device was switched off the result was again:

I I I I I I I I

a wave

Electrons would switch from waves into matter particles instantly and only when scientists were observing them.

Did the electrons seem to know somehow when they were being watched and would snap into being particles of matter and "behave" only when they were being observed?

For anything on the planet to be switching back and forth from waves into matter is impossible. - It does not compute.

This phenomenon is now called in Quantum "The Collapse of a Wave."

The Collapse of a Wave has been one of the most startling discoveries of Quantum Physics.

Physicists have a stream of theories, but this simple yet unexplainable experiment declared to humanity that everything we are looking at-- as completely irrational as it may seem - on the quantum level - turns into reality or solid form - only when it is observed.

No one really knows what is going on down there; there is no real explanation possible.

Without the observer - nothing is solid.

Einstein grew increasingly troubled by the "Collapse of a Wave" and toward the end of his life at one point during a heart-to-heart talk with physicist Abraham Pais asked "Do you really believe the moon exists only when I look at it?"

Does everything only exist when it is being observed?

This would mean consciousness is creating what we see with our eyes. Many theories have been given in regards to the Collapse of a Wave; the most popular being co-dimensions existing at the same time and electrons are switching back and forth between them.

Another is the existence of a sort of "fabric" that connects everything in the universe. When consciousness "observes" the fabric then the solid image forms ...

Presently all quantum physics equations now have the "observer" factor added.

Stephen Hawkings recently said that whoever can decipher Quantum has deciphered the language of the universe.