## Hi All

In this update I want to talk about the first objection to the reality of UFO's and aliens that I raised in my last update, namely:

"If aliens do exist it would be impossible for aliens to have visited Earth because of the huge distances involved and that the limiting factor imposed by speed of light means that it would take millions and billons of years for anybody to get here."

This issue is all about what is our current understanding of physics versus what it will be in the future (up to billions of years in the future).

So let's start with our current understanding of physics. This is based on my own understanding going back to all of the science courses I have taken (albeit decades ago), but I have tried to keep on top of major developments in physics over my entire life.

The biggest and most important pieces of physics

nave evolved over the last 125 years such as:

- theories by Einstein including special and general relativity dealing with the physics of the "big" - visible matter, stars, the universe etc
- theories of the "small" including quantum mechanics trying to understand the behaviour of particles in the microscopic world - many believe that quantum mechanics is the weirdest and most difficult theory to understand but it has been proven to be 100% correct - it is said that any scientist who says that they understand it are lying - I know that I don't understand it
- the Standard Model of particles and forces

The big problem is that the first two theories are mathematically in conflict. You cannot use the equations in either theory to solve issues in the other theory. So this means that we are missing something in our understanding. However some have said that it is perfectly fine to have different multiple theories to describe multiple scenarios without needing a theory of everything. Most scientists believe that there must be a "theory of everything" because there seems to be an elegance and simplicity to theories when we think that they are "right". The other observation is what I said in a previous update that with our current science we really only understand about 4% of what is happening in the Universe. How can you ignore the potential discoveries that will come out as we start to understand each incremental percentage?

For the last 40 plus years many physicists have devoted their careers to finding the theory of everything. There are many theories out there but the one that has been worked on the longest with the most number of physicists is "string theory" sometimes called superstring theory or M theory. However after 40 years there is not yet even one testable hypothesis coming out of this theory. It is a complex mathematical jungle of theories which can't be proved yet. Wow. I find it interesting that some of these physicists who are considered to be working on a respectable and worthwhile theory are also the same people who will say that studying the alien phenomenon for 40 years without finding proof means you are a crazy conspiracist! I wonder whose proof will come first?

String theory is neat and attractive because it predicts that instead of 3 dimensions of space and 1 more representing time, there are actually 10 or 11 dimensions, many considered to be tightly curled up within the 3 dimensions humans can "see". I wonder what and how things can "travel" in these other hidden dimensions?

More importantly, elements of string theory predict the multiverse. So the question of where aliens may come from broadens to not just where in our universe they live, but where in any universe up to and including an infinity of universes they live.

If you look at how Einstein's theory of general relativity is being explored we are getting theories that support the possibility of time travel and wormholes, just to name a few. Again, nothing proven yet, but we human beings are very early in our evolutionary path. In fact, aliens may be time travellers from our future (I have read one very comprehensive book about this loaded with references from scientific and biological literature). If wormholes exist then you can travel from one point of the universe to another that is billions of light years away in a very short period of time. Our current understanding of quantum mechanics includes the concept of quantum entanglement. Two particles that are in a quantum state can communicate instantaneously even if they are separated by billions of years (ie faster communication than the speed of light). Einstein called this very "spooky". But, amazing. However, we have not yet been able to see if larger groups of particles can travel instantly. Will we get to "beam me up Scotty"?

In terms of the Standard Model, one of the greatest discoveries in science happened in 2012 at the Large Hadron Collider in Cern when one of the last particles yet to be discovered, the Higgs Boson, was found. The Higgs Boson is the particle that gives mass to other particles. Too bad those of us who want to lose weight can't get rid of the Higgs Boson particles around us! In any event the Model is now complete. Phew! But, hold on, just this past week a major discovery indicated that the Standard Model of particles and forces mentioned may be very incomplete. I am going to give you some quoted details:

Scientists are putting to the test the Standard Model, a grand theory that encompasses all of nature's known particles and forces. Although

the Standard Model has successfully predicted the outcome of countless experiments, physicists have long had a hunch that its framework is incomplete. The theory fails to account for gravity, and it also can't explain dark matter (the glue holding our universe together), or dark energy (the force pulling it apart).

And that's what makes the muon so exciting to study," Dr. Binney said. "It's sensitive to all of the particles that exist, even the ones that we don't know about yet." Any difference between theory and experiment, she added, means new physics is on the horizon.

"There was a lot of skepticism they would get here, but here they are."

Rarely in physics does an experiment surpass the theory, but this is one of those times, Dr. Pitts said. "The attention is on the theoretical community," he added. "The limelight is now on them." Dr. Binney said, "We are on the edge of our seats to see how this theory discussion pans out." Gordan Krnjaic, a theoretical particle physicist at Fermilab, noted that if the experimental disagreement with theory persisted, it would be "the first smoking-gun laboratory evidence of new physics," he said. "And it might well be the first time that we've broken the Standard Model."

So we have now moved into trying to understand what the physics of the future might be.

In terms of how fast we may be able (or aliens are now doing) to travel in the Universe look at the potential of inter or extra dimensional or multiverse travel from string theory, wormholes or time travel from general relativity, travelling instantly by quantum entanglement or some other theory that we have no idea about, yet.

Is there any evidence hinting at how UFO's do travel? There are many videos of UFO's including the famous tic-tac Nimitz video released in 2017 which show UFO's that blink in and out of existence, very similar to how cloaking was shown in the Star Trek series. UFO researchers say that if UFO's travel in inter or extra dimensional space as predicted by string theory, when they are travelling in more than the typical 3D dimensions that humans can see the UFO will not be visible or only partly visible to the human eye. When the UFO transitions fully to just 3D space then we can see them clearly. As they go into more dimensions then they fade out again. Many times UFO's blink in and out of visibility instantly.

The other theory is that UFO's travel within an antigravity bubble of time and space. So they don't actually travel through space but within a bubble of space time. That bubble of space time in turn moves through space. This is how UFO's can change directions by 90 degrees or any other angle (many videos show this) instantaneously and also why any occupants would not experience any G forces as the UFO changes directions.

What is known is that UFO's do not depend on chemical rocket fuel for propulsion. Videos/pictures show no chemical propulsion effects, no heat signatures, and no noise except for, in some cases, electrical humming similar to how a guitar amp sounds. The energy source for UFO's appears to be very strong electromagnetic waves. This strong electro magnetic field often knocks out our technoloav that uses electricity such as plane radar systems, automobiles that lose power around UFO's, radios, cameras, cell phones that stop working while the UFO is nearby. There are several cases documented by the military that UFO's hovering around nuclear ICBM sights have knocked out the power at the ICBM sight thereby stopping any ability to launch missiles. When the UFO's leave the power returns.

We may need many thousands of years to understand 100% of what our alien friends know. I think it is safe to say that if we can survive long enough we too may be able to travel as easily as aliens can now.

I must admit that I do worry about whether the human race can last even 20 more years vs the thousands, millions of years that we will need to get to the same level as more advanced alien civilizations. But that does not mean that more intelligent civilizations have not being able to get through or even had to experience the "tribal" destructive nature of humans.

QED? Maybe not, but I have about 80% confidence that there is no obstacle for aliens to

be able to travel long distances at will. And when I talk about probabilities, quantum mechanics is entirely based on probabilities!

Until the next update,

Alan