



Will science know The Truth?

“Islam and The Quantum Theory”

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It is amazing! When you find that the God of the modern civilization; science, is collapsing as a "God", on its own hands. It is saying, loud and clear: "I give up, find your true God!" And here are how I found it. Just follow the logic.

I will try to use layman terms to make the read easy and enjoyable.

How science perceived the Universe before:

The wisdom, until the first quarter of the twentieth century, based on Newton's Laws of Physics, that patterns repeat itself, under the same conditions, exactly. A linear relationship between the cause and the result was how scientists dealt with the world phenomimes. Apply a force to gain speed or acceleration, otherwise things stay static. Simple and straight forward. In a nut shell, Newton's mechanics is completely deterministic. What goes in, comes out.

However, in the first quarter of the twentieth century, Einstein opened the door for new perception, with his "general" and "special" theory of relativity, where he introduced the relationship between energy and mass, speed, as well as the time dimension. More importantly his work on the Quantum Theory¹.

Over the same period, study of heat waves and behavior of sub-atomic particles led to a new understanding of how particles establish their position. It was found that Newton's mechanics doesn't support what was observed. That was when the Shrödinger's wave equation for matter was introduced. This has shown that the predicted position of any particle is not accurate or determined. Rather, it can be any where other than that what was predicted, over a probabilistic equation. It can actually be in two places at the same time. Thus, the Quantum theory, which deals with the behaviour of the sub-atomic particles established a non-deterministic mechanics; or dynamic mechanics.

That progress, have been accompanied by some, related, concepts which helped to understand a closer view of the facts of Universe, such as Dark Matter, Complex Systems, Split Similarity, attractors and strange attractors, incompleteness theory, and other concepts.

We will introduce each of the relevant concepts which we think are related to subject of this essay.

¹ Although he believed in the Quantum Theory, he did not believe that it is complete as of his time. This has been proven the case since that time. The latest studies of the Cosmic Bell Test at the university of Vienna (Alan Guth, Anton Zeilinger and colleagues at MIT), suggest that the Einstein prediction on the "weirdness" of the Quantum Theory is not to be solved.

Dark Matter/Energy:

Again, in laymen terms, Dark matter and Dark energy represents the difference between the calculated mass and energy of the Universe and the mass of “ordinary: matter of galaxies. It represents 84% of the total mass-energy mass. This difference calls for a type of “matter” that is not counted for in our universe. This Dark matter does not interact with any electromagnetic waves spectrum known to humans. None of the particles of such matter has been detected. This means that most of what constitutes our universe is “hidden” and of unknown nature to us!

“وما يعلم جنود ربك إلا هو” المدثر 31

“None knows the soldiers of your Lord except He [alone]. This is nothing but a reminder for the mortals” (Muddathir: 31)

Complex Systems:

What is Complex System? It a dynamic system that evolves from initial conditions, and sensitive to it. It is not static, but dynamic. It consists of a large number of factors that are interacting in a non-linear way. Examples of complex systems is around us in every type and shape. From growth of cancerous cells in the body to population of cities and towns, networks, and almost all biological systems. The most important feature of a complex system is that is the system is NOT a sum of its individual components. It evolves. It other words; systems that tend to show much complexity when working together than it was in its simple initial conditions.

The study and understanding of the behavior of complex systems has helped and paved the way to other theories, which are of utmost importance to understand our world.

Quantum Theory:

Quantum theory have been established and introduced by the two greatest scientists of all time; Max Blanc and Albert Einstein, in the very early years of the twentieth century. The core of this theory suggest that particles at the atomic and sub-atomic level behave in a different way and under different physics laws than Newtonian laws of physics, which they called Quantum Physics, and they called such particles “Quanta”. Einstein had proven that the electromagnetic waves are made of the Quanta particles.

In the pre-Quantum era, where Static universe was the model that scientists suggest, one great scholar; Pierre-Simon de Laplace (1749-1827) said “We must consider the present state of the universe as the effect of its previous state, and as the cause for what will follow. An intelligence which, at a given moment, would know all the forces by which nature is animated and the position of every object in the universe if indeed it was powerful enough to submit these data to analysis, would embrace in a single formula the movements of the greatest bodies of the universe and those of the lightest atom: nothing would be uncertain for it, and the future as the past, would appear before its eyes”. This means that according the static nature of Universe, a very intelligent force would be able to know the past and the future! Hundred years later, that was proven partially wrong.

Quantum Theory suggests that the particles “Quanta” place of speed can be determined simultaneously. It is just impossible. This also had shown that the universe is Dynamic Universe is dynamic in all the sense of the word.

“وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ ” الذاريات 47

“We constructed the universe with power, and We are expanding it”. (Thariyat: 47)

The fall out of Quantum Theory was that we can not, and will not be able to predict what is coming; the hidden (الغيب).

Uncertainty Principal

To add to that, at 1927, a great scholar; Warner Karl Heisenberg, suggests what is called The Uncertainty Principle of Heisenberg, which is “a quantum particle, speed and location can not be simultaneously known”. The principle means that the basic bricks with which the universe is built is completely un-predictable and undetermined. However, although this uncertainty is now proven as a feature of the Universe, we see the majesty of the physical existence, and the harmony of all creatures, which implies a “certain” direction that led to that harmony “



Coloured Mountains of Puro

أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ ثَمَرَاتٍ مُخْتَلِفًا أَلْوَانُهَا ۚ وَمِنَ الْجِبَالِ جُدَدٌ بَيضٌ وَحُمْرٌ مُخْتَلِفٌ أَلْوَانُهَا
وَعَرَابِيٌّ سَوْدٌ (27) وَمِنَ النَّاسِ وَالدَّوَابِّ وَأَلْأَنْعَامِ مُخْتَلِفٌ أَلْوَانُهُ كَذَلِكَ ۚ إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ ۗ إِنَّ اللَّهَ
عَزِيزٌ غَفُورٌ (28) "فاطر

"Have you not seen that Allah sends down water from the sky? With it We produce fruits of various colors. And in the mountains are streaks of white and red—varying in their hue—and pitch-black.²⁷ Likewise, human beings, animals, and livestock come in various colors. Indeed from among His servants, the most learned fear Allah. Allah is Almighty, Oft-Forgiving²⁸ . (Fatir: 27-28)

Chaos Theory:

One of the major results of the Quantum Theory was the Chaos Theory, which is now used in many scientific, political, social, health and biology and financial models and fields.

Initial assumptions of Chaos Theory is that there is no way to determine the position of a particle and its measurements simultaneously. We only know about the existence of a particle when we start measuring it, not before. When we measure the particle it is only possible to measure either speed or location, as the other measurement will change instantaneously.

Remember what we have discussed about complex systems; dynamic systems with too many parts moving at the same time, such as weather, boiling water, etc. Chaos theory works on such systems, trying to find out how those parts behave and is there is a definite pattern they follow. The answer was found to be NO. it was found that because

such systems are very sensitive to the initial conditions under which they were formed, a change in the result always will exist, even if we try to replicate the same conditions. In other words,

Edward Lorenz, of MIT, 1960, has proven with his computerized model that nature does not follow the patterns that are predicted to be generated, using same initial values of a first run of his model, which was weather based. This translates to Chaos and unpredictability. He announced that it is impossible to determine or predict the weather, even we mimicked the same conditions every time in a lab.

“إن الله عنده علم الساعة وينزل الغيث” لقمان 34

"With Allah rests the knowledge of the Hour. He sends down the rain, and He knows what the wombs contain. No soul knows what it will reap tomorrow, and no soul knows in what land it will die. Allah is All-Knowing, Well-Informed". (Luqman: 34)

Attractors and Strange Attractors

One of the Mathematical concepts that is necessary to understand the Chaos Theory is called “Attractors”; a set of numbers which a system of particles form when they in a dynamic state, with a variety of initial conditions, tend to evolve. It can be presented in a shape of a Vector as the values of the attractor stay close even with small change in the initial conditions.

If the values of an attractor tend to repeat itself in a specific pattern, it is then called Strange Attractor. It is one of the most famous types of Strange Attractors is the “Butterfly Attractor”.

A famous initial model of the Chaos theory, based on Lorenz work, was what is called the “Butterfly Effect”.



The Butterfly Effect

It was found that repetition of running a weather model many times would bring about different results, however, the general shape of the resulted “attractors” of all lands on

a Butterfly shape! That is why it has been said “a butterfly in the East end of the world shakes its wings, and a hurricane is formed in the West end of Earth” or something close...

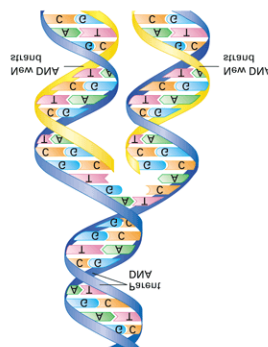
Self-Similarity Theory

Having reached this point, we can now understand the phenomenon of Self-Similarity, which basically comes from the Strange Attractor phenomenon. It states that particles tend to replicate and reorganize itself in a dynamic complex system in the same shape of the original object, to infinite number. Example is the snowflake, as illustrated below>



It is obvious that branches of the original flake is duplicated almost exactly in the extension and growing process. Some variations might be noted at the sub-nucleus level, but in general it follows the same exact pattern, all the time ... to infinity.

This is, as I see it, one of the most important results of the Quantum Mechanics Theory. If you look at the reproduction process of Human kind, as a very complex system, this observation can explain how all parts of that system are lookalike. We all share the same shape and number of DNA, same internal organs and same body shape; except small variations as described by the self-similarity process. It is the Guidance of the creator, to put all such similar, but different creatures on this planet.



"قَالَ رَبُّنَا الَّذِي أَعْطَى كُلَّ شَيْءٍ حَلْقَهُ ثُمَّ هَدَى" طه 50

"He said, "Our Lord is He who gave everything its existence, then guided it." (Taha: 50)

Incompleteness Theory

Another part of the new evolved dynamical physics, is the "Incompleteness Theory", of Kurt Gudel. In few words. if we have a list of axioms which we can enumerate with a computer, and these axioms are sufficient to develop the basic laws of arithmetic, then our list of axioms cannot be both consistent and complete².

Mathematics has been considered the only method to carry the Truth, having the ultimate internal consistence, accuracy and Truth. With the emerging of the "Incompleteness Theory" the Truth has fallen. No method now, within the reach of humans, can prove the complete "Truth".

"يَعْلَمُونَ ظَاهِرًا مِّنَ الْحَيَاةِ الدُّنْيَا وَهُمْ عَنِ الْآخِرَةِ هُمْ غَافِلُونَ" الروم 7

They know an outer aspect of the worldly life, but they are heedless of the Hereafter. (Rum: 7)

Conclusion

It is now evident that the Static deterministic nature of the Newtonian physics has left the building! Whatever knowledge humans have on the table is turned over. The dynamic physics took-over. The amazing result we have found in reviewing the new direction of science has re-affirmed what the revelation had put forward, fourteen centuries ago. The incompleteness of Mathematics, the unpredictability and uncertainty of Universe events, made us acknowledge the fact that we know too little, and talk too much! The missing part of the Chaos Theory and the other theories which we have reviewed above is the power that fill the gap between what the pure laws of the dynamic physical world and what is being created and "chosen" out of infinite possibilities. It is the Power Allah swt. Only Scholars can recognize, appreciate and believe in His ultimate power.

"إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ" إِنَّ اللَّهَ عَزِيزٌ غَفُورٌ (28)

² https://en.wikipedia.org/wiki/G%C3%B6del,_Escher,_Bach

"... Indeed from among His servants, the most learned fear Allah. Allah is Almighty, Oft-Forgiving". (Fatir: 28)