

Research Article.

Time - Life and Information Relations and Quanta as Originator of Life

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Abstract

As we go back in time, the knowledge of how to make something is continuously decreasing. 5 million years ago there is no living being called human. That means humans decomposed into its atoms and molecules. 4 billion years ago the entire living world disappears and are decomposed into their components. 5 billion years ago our world and our solar system are also destroyed. 13 billion years ago, all stars and galaxies were disappearing, disintegrating into their constituent parts. Geologic and astrophysical data show that nature, as well as all living and non-living things on it, were decomposed into their components as we went back to the past, and that they were decomposed into the smallest structural elements in nature, called quanta. Ca. 13 billion year ago universe consisted of a huge number of quanta amounting 10 to the power of hundred-odd. Those quanta were tiny living units of very short life vibrating and colliding with each other, hence in a very uncomfortable manner. Quanta behaves not randomly. They make probability calculations to make a movement. They are aware of the fact whether they are free or observed. They can detect the peculiarities of all substance around themselves instantaneously without going to them. All those peculiarities show that quanta are conscious, hence smallest living objects. To get a more comfortable life they combined in higher-level systems. This tendency to get a more comfortable life let them to construct higher-level systems leading to an evolution. Nature consists of chemical elements being constructed continuously. They are constructed with conscious aggregation of things & beings due to increase of information development. Therefore, time is the results of compositional changes of matters due to information development. Thus, the physics of dynamical systems, summarized as *Information and self-organization* was developed.

Keywords

Life, Time, Information, Quantum, Evolution

1. Introduction

Scientists still don't know how life started on Earth, and did it come from space, and if so, how did it developed in space? They are dealing with such questions. But they still ignore the miraculous QUANTUM power system in front of them and treat them as "particles". This is a typical indication of how blind the logic of humanity has become.

The ARCHIVE-PAGES of our world show that the creators of the natural system began with a most basic element of life called QUANTUM. The fact that quanta migrate to the structures formed according to the best information and abandon the bad ones shows that they attach great importance to the information factor. For this reason, the formation of

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KNOWLEDGE in nature develops both at the universal level (the realm of inanimate things) and with an exponential function in the world of living things.

All of humanity, including physicists, have accepted time as an eternal process without a begin or end operating as according to the ticks given by a supernatural power system. The reason for such an acceptance is that nature and the world are created and directed by an eternal supernatural power system. If this force dies, nature and the world cannot continue to exist. But geological records and astrophysical data show clearly that TIME is an indicator of CHANGE-overs of chemical compositions of matters based on INFORMATION developments.

Among today's people, there are two opinions about the development of nature:

The First View: The Biblical View of Creation [6].

The second view is the view of evolution based on Darwin's "Origin of Species" [9]. Both views have one thing in common, which is that the creator is a system of Supernatural Power outside of beings. In the view of creation, this power is called GOD, and in the view of evolution, it is called NATURAL SELECTOR. The difference between these two views is this: The creator of the Holy Books, like a sculptor, creates substances by combining own mind, or everything comes into being when he says that he wants it to be. Evolutionists'

natural selector, on the other hand, has established the laws of nature. Beings live according to these laws like robots. Changes occur in genes with random mutations. Those that are compatible with the environment are selected. In other words, in both views, beings are unconscious. Their fate depends on the Supernatural-Power system.

In this article, the opposite view is presented, which is that creativity in nature is initiated by QUANTUM elements [2, 3]. In other words, there is no Supernatural Power system in nature, there is a Lower natural power system. This power system is the QUANTUM system.

2. How Is Natural System Formed

Geological data provides us with precise records about how our world was developed. Nature and the world are constantly changing and transforming. Land-areas are constantly eroded, and eroded materials are transported and stored in the seas. For example, today's plastics, objects such as spoons and knives mix with the mud carried to the sea. In the layers formed a few thousand years ago, these substances are absent, because at that time the production of these substances was unknown.

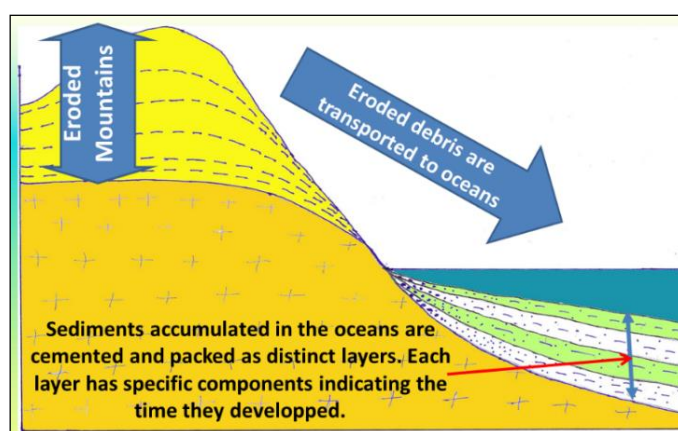


Figure 1. Mountainous area are eroded, and eroded matters are carried to the seas.

In about 15-20 thousand years, layers with a thickness of several cm's are produced. The upper layer is younger, the lower layer is older. In the layers, every event in the world is recorded, where and when what kind of creatures lived in the world, etc. In this way, the history of our world is written in geological layers and archive pages of our world is established.

Archive Pages of the Earth

Let's look at the ARCHIVE PAGES of our world and see

what has changed as we go back to the past. If something does not exist, it means that the knowledge to do that thing has not yet been generated.

Archival pages show that our world is about 4.6 billion years old, that life began to develop 3.5 billion years ago.

When you go back 20,000 years, things that people used to do, such as spoon, fork, radio-TV, cars, planes, disappear. Because the people of that time lacked the knowledge to do these things.



Figure 2. The layers formed in the seas accumulate on top of each other over time and form the ARCHIVE-PAGES of our world's past.

When we go back 5 million years, there is no living thing called human. That means humans decomposed into its atoms and molecules. In this way, the elements that come together with KNOWLEDGE in an orderly structure disperse, an orderly upper-system disappears and disorder increases.

Going back 100 million years, horses, cows, and fruit trees disappear and decompose into their constituents. In this way, the elements that come together with KNOWLEDGE in an orderly structure disperse, an orderly upper system disappears and disorder increases.

Going back 300 million years, creatures like dinosaurs disappear and decompose into their constituents. In this way, the elements that come together with KNOWLEDGE in an orderly structure disperse, an orderly upper system disappears and disorder increases.

Going back 700 million years, all vertebrates and invertebrates disappear and decompose into their components. In this way, the elements that come together in an orderly structure with KNOWLEDGE are dispersed, an orderly upper system

disappears, and the disorder increases even more.

Go back 4 billion years, and the entire living world disappears. They are decomposed into their components. In this way, the orderly structures of the living world are destroyed, and everything is transformed into its components.

As can be seen, as we go back in time, the knowledge of how to make something is completely lost.

If you go back 5 billion years, our world and our solar system are also destroyed. When the world disappears, molecules such as H₂O, CO₂ and quartz in the world decompose into their components and return to the star-galaxy phase. Galaxies and stars are composed of 75% hydrogen and 23% helium and 2% other elements.

By 13 billion years ago, all stars and galaxies were disappearing, disintegrating into their constituent parts. When it comes to components, an explanation should be made. Hydrogen consists of a proton and an electron. Helium consists of 2 protons, 2 neutrons and 2 electrons. In other words, nature and our world consist of subatomic elements called

protons-neutrons-electrons.

When we go back to the beginning of the universal system, everything is broken down into its smaller, most basic components. In 1900, a German physicist named Max Planck [19] showed that this most fundamental element, called quantum and denoted by the symbol (h), is an "Elementares Wirkungsquantum = the least amount of action". Planck stated that these most fundamental action makers can never be divided and will be added together in the form of quantization to form larger higher-level systems. Researches in the following years showed that those quanta were the basic constructing units of nature.

It is necessary to give the following information to explain why the concept of quantum and quantum physics are very important. Until the 1900s, it was thought that the agent called energy was something that could be increased as much as desired and decreased as desired. The concept of quantum and quantization, on the other hand, created the opposite situation: everything in nature revealed that this most basic element called quantum could never be broken down and should always be used as a whole.

Quantum physics is incompatible with traditional views, as the traditional views are dominated by the view that the creator of nature and the world can use everything as he wishes, therefore can regulate the distribution of energy as he wishes.

These most basic components, which emerge because of the decomposition of all beings in nature, reach a huge number. In other words, it is understood that the universe has begun to consist of a huge number of basic elements, such as quanta of a huge number, 10 to the power of hundred-odd.

Everything in nature happens through the COMBINATIONS of this most basic component called QUANTUM, and these combinations are called QUANTISATION. Physical experiments have shown that these most fundamental elements, known as subatomic elements, are VERY SHORT-LIVED, and VERY MOBILE balls of energy. These are called as Quantum realm.

Archival pages and astrophysical data show unequivocally that nature and the world, as well as all living and non-living things on it, were decomposed into their components as we

went back to the past, and that they were decomposed into the smallest structural elements in nature, called QUANTA, when it reached 13 billion years ago, which is the beginning of the universal system.

As we go into the past, regular beings and things decrease and disorderly beings and things increase. In other words, nature and the world are not heading towards disorder, as physicists say. On the contrary, nature is moving more and more in the direction of orderly existence. For this reason, Schrödinger defined life as "an increase in negative entropy" [22].

Formations in nature are carried out by creating INFORMATION. Knowledge creation is gradually developed and diversified through the efforts of beings to SPECIALIZATION and adaptation, and an evolutionary process is established.

Now let's see the properties of these miraculous beings called quanta.

3. Important Properties of Quanta

Since quanta are the creators of the natural system, it is necessary to recognize this miraculous power system called QUANTUM. The thing called quantum, denoted by the symbol (h) by Max Planck in [19] has very important peculiarities as shown below.

The following information is based on FEYNMAN's works [12].

As shown in the figure, an experiment is prepared. A source is placed at point (S) and two curtains are placed in front of it. A detector (D) is placed at point (5) on the rearmost curtain. A hole is drilled on the curtain in between, at point (A).

The size of the hole is adjusted so that when 100 items are sent from source (S), only one item can pass through the hole.

A second hole (B) of the same size is drilled at a point slightly lower. When hole (A) is closed, it is verified that only one of the 100 items submitted has passed through the hole (B).

When both holes are kept open together, it is seen that the detector, which previously recorded an element (in position (5) shown in the figure), no longer detects any element at all.

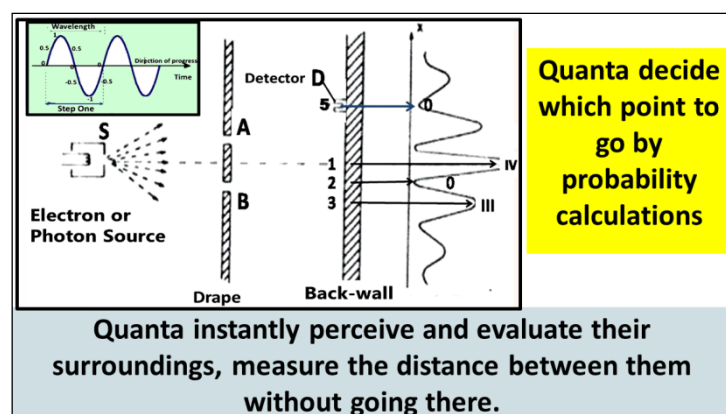


Figure 3. Experiment showing that the quantum system is alive and conscious (modified from Feynman [12]).

Surprise! When the holes were open one by one, one could pass through each hole, now both holes are open, but nothing goes through the hole. How does this work?

As the position of the detector is shifted, it is noticed that it begins to detect items. For example, it is revealed that four photons are detected at position (1).

Again, astonishment: the number of items that could pass through a hole was one. When both holes are open, how is it possible to have 4 items instead of 2?

When it is investigated according to which rule this change is, it is revealed that the sub-atomic units determine their behaviours by making a probability calculation.

In quantum systems, physicists speak of a wavelength. This concept of "wavelength" is not really a wavelength, but the measurement and evaluation steps of quantum elements. Quantum elements evaluate their goals with these steps. The step varies between values such as zero (0), (0.5), (1), (0.5), (0), (-0.5), (-1), (-0.5), (0). They look at which of these values they arrive at the target.

There are two options for those who want to reach (D) in position (5):

It will either go through hole (A) or hole (B). Both options are evaluated on a case-by-case basis:

Quant begins to calculate its path from (A) to (D) according to its step; When it arrives at its destination, it looks at what value the oscillation step is located. Let's say it ended with a maximum value of (+1). Now it begins to calculate the other path (B) in the same way; Let's say it ended with a minimum value of (-1). The item adds these two values: $+1-1=0$. It squares zero: zero again. And the element makes its decision: In this case, there is no sense in arriving at the destination. Of the 100 items sent from (S), none can pass through the holes, and no items reach the detector (D).

For a quantum that wants to reach (D) at position (1), the value reached at the end of the (SAD) path is (+1), and the value reached at the end of the (SBD) path is (+1); $+1 + 1 = 2$. 2 is squared: it equals 4.

In this case, 4 out of 100 items sent from (S) pass through the holes, and the detector records 4 items. Although the holes are normally large enough to pass only one item, 4 items pass through the holes that would normally let 2 items!

As can be seen, quantum elements behave according to probability calculations. The interesting aspect of probabilistic operations is the following. Let the normal value be considered 1 = one. When the calculation result is squared for values greater than 1, the result is greatly increased. When result values less than 1 are squared, they become smaller and smaller. For example, the square of 1.5 gives a growing value of 2.25, while the square of 0.5 gives a shrinking result of 0.25.

All events and operations in nature are also carried out according to the result of such a probability calculation. So why do quanta change behaviours? Because they are given the

option to choose:

When only a hole is open, the item goes to that destination shown, since there is only one option in front of the item.

But when the two holes are open together, the item is given a choice. And the element behaves by calculating a probability.

Another miraculous feature of the quantum realm is the ability of quanta to make these probability calculation data without going to the target. Quanta instantly perceive everything around them INSTANTANEOUSLY, they don't need to go there to measure and evaluate.

Imagine a creature that instantly perceives everything around them. Imagine a creature that understands how much and what kind of energy the entity has and acts accordingly, without going near it.

We understand that quanta have such a property from the following experiment: If the detector used to observe the quanta is defective, the quanta also detect the distortion rate of the detector and interfere according to the disturbance rate! The quantal properties presented above continue not only in the most basic element called quanta, but also in upper-level elements such as proton-neutron-electron, which are formed by their combinations.

Among other important features of quanta, it should be emphasized that they have extraordinary abilities, such as:

Quanta perceive the most ergonomic structures and migrate there: the "Tunneling effect".

Physicists have determined that quantum elements cross a seemingly insurmountable obstacle and migrate to more ergonomically located places (from A to B). Since they could not explain this phenomenon with physical logic and formulations, they produced a concept called "tunneling" and made a comment as if a tunnel was opened from A to B and the electron used that tunnel and passed.

Quantum elements can instantly communicate with each other on universal scale, EPR-Effect.

This property is known as Quantum-entanglement or EPR-Effect [10]. One of the two quanta produced from the same source is sent to a laboratory in Japan and the other to a laboratory in America. When these two quanta are examined at their arrival moment, it is seen that they show exactly opposite energetic properties to each other, indicating an energy balance. In other words, there is no limit for them, such as the speed of light for communication. There is instant communication between them [4, 5, 16, 25].

Quanta are aware of whether they are being observed or not. This is called the Observer effect.

Nature is managed and developed by such an architect. Therefore, where the natural system will go depends on the information potential of the entities in it. For this reason, the future of our world depends on the knowledge we humans will create.

4. Everything in Nature Is Made with Information

Information, on the other hand, is formed by inner components of beings.

When we see something new, that novelty around us is transferred to our cells. The cells in our brain also create a new protein that symbolizes that innovation and transmit this information by making new connections with other cells.

All human actions are carried out by cells inside the body. We are just a device that they have created to perform certain operations. Our cells are both the designers and repairers of our bodies. When we are injured, they begin to close the wound; When a harmful microbe enters our body, they train the "soldiers" to fight the harmful microbe, and they determine the "number of armies" that will be formed; When we get up from our house by the sea and start living on a plateau of 2-3 thousand meters, it is our cells that perceive that the oxygen rate decreases at that altitude and increase the number of red blood cells required to carry as much of this low density of oxygen as necessary. Those working in a satellite in space rise 3-5 meters with each jump and hit their head on the ceiling, due to the decrease in gravity. It is our cells themselves that decide that there is no need for so many muscle cells and make the excess muscle cells commit suicide!

How do CELLS, the internal components of our bodies, record, and store information?

The knowledge of how living things do a job is written in their genetic information booklets called genomes. Genomes also contain data on how that creature's body is made. All features and functions such as how many arms and legs the creature will have, its colour, height, how it will digest food,

and how the respiratory system will function are also written in the genomes. The living thing is created according to that information [17].

Genetic information consists of DNA sequences in chromosome strands. These sequences contain written information with codons consisting of triplet nucleotides such as ATC, GTA, TGA, etc. These 3-codons are known as AMINOACIDS. Some of them, e.g. ATG (methionine) means START command; Some, e.g. TAA or TAG stands for "STOP". These words are used in the same sense by all living things. In this way, all the necessary letters are written 3 by 3 and the actions to be taken are described. DNA sequences consist of A (adenine)-T (thymine) and G (guanine)-C (cytosine) pairs. These A-T and G-C pairs are made up of chemical elements such as nitrogen, hydrogen, carbon, and oxygen. Therefore, all knowledge is written by chemical elements, that is, by combinations of basic elements that we call atoms. In other words, the creator of the natural system has booklets called GENOME, and every living thing has its own booklet.

Now let's look at how the beings in nature are formed. As shown in the previous section, at the beginning of the universal system there are only quantum energy elements, and everything arises as a result of their combination. The first to appear are the subatomic elements called proton-neutron and electron. All chemical elements are made up of this triad. Since all information is recorded as chemical element-combinations, which we call atoms, and since atoms are made up of quanta, which are the most basic components, all information is recorded in the quanta alphabet. In other words, the works of the creator are written entirely in the quantum alphabet.

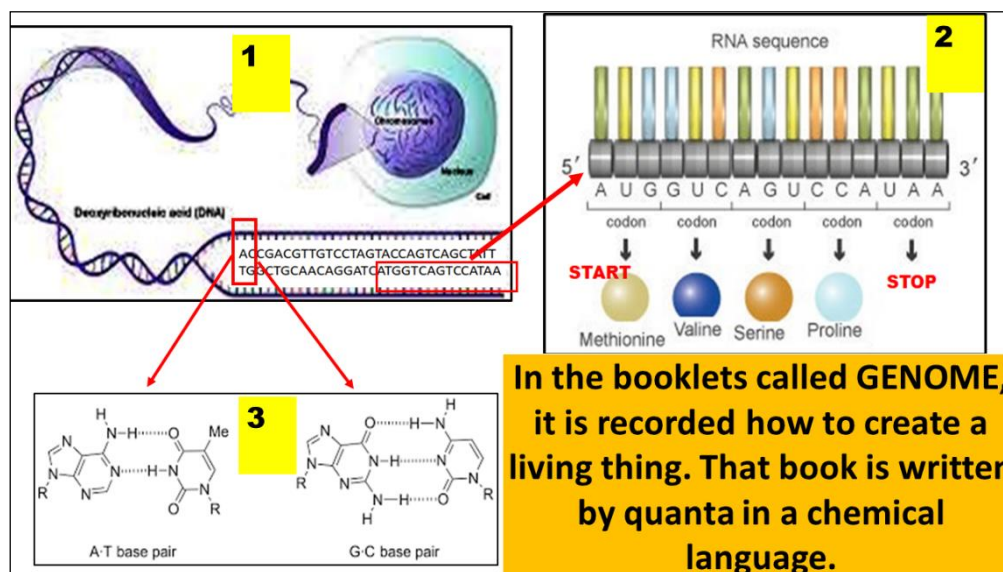


Figure 4. The genomes of living things are made up of chemical elements called atoms. Whatever your chemistry is, you are "It".

How was information developed in the living world

In the archive pages, it is seen that life began about 3.5

billion years ago with prokaryotic single-celled organisms such as archaea and bacteria. The genomes of these creatures consist of a rosary-shaped chromosome strand in the cell cytoplasm. Not much information can be stored in a ro-

sary-shaped structure, because in rosaries that are too long, the beads mix with each other and form blind knots making information handling difficult.

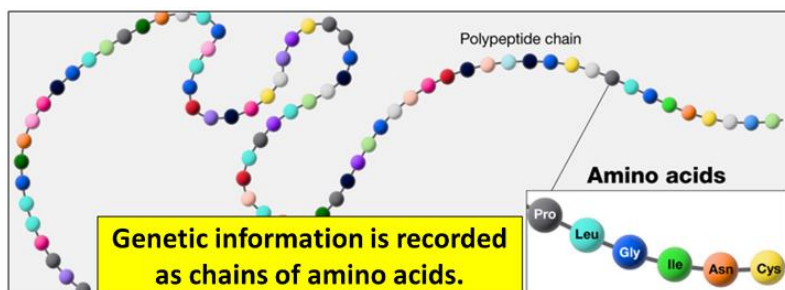


Figure 5. The gene of prokaryotes, such as bacteria, is shaped like a rosary.

The genome of prokaryotes is shaped like a prayer beads.

About 2 billion years ago, eukaryotic single-celled organisms such as amoebas appeared. In eukaryotic cells, a special section called the nucleus is reserved for chromosome strands.

The chromosome strands protected in the nucleus are not in the form of rosaries, but wrapped in a set of proteins called histones.

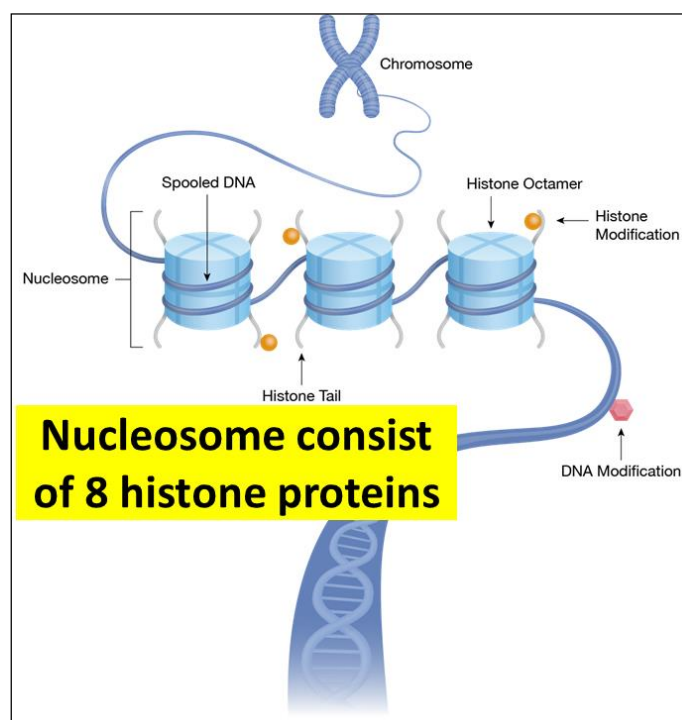


Figure 6. In eukaryotic cells, a special section such as a nucleus is formed and genetic information is stored by wrapping it in special structures such as a spool called histone.

In this way, genome information is stored in the form of strands wound on a reel, and the storage capacity of INFORMATION is increased tremendously. Since eukaryotic cells have enormous information storage capacities, they have reached the knowledge that the way to use energy more effectively is to unite and form partnerships, and they created

the first multicellular organisms about 700 million years ago.

Knowledge increases enrichment

To understand this, think of it this way: You have an apple and I have a pear. If I give you the apple and you give me the pear, there will be no enrichment. But if you give me the knowledge you have, and I give you the knowledge I have, we

will both be enriched and our power will increase.

The formation of beings in nature has also taken place with knowledge. The growth of a living being begins with the reproduction of a fertilized cell. 1 cell divides, multiplying information, 2 cells are formed; those two cells proliferate to 4

cells; those 4 cells proliferate to 8 cells and in this way a body consisting of billions of cells emerge. In other words, bodies are formed by the proliferation of cells. When such a development is graphically shown, the following figure emerges.

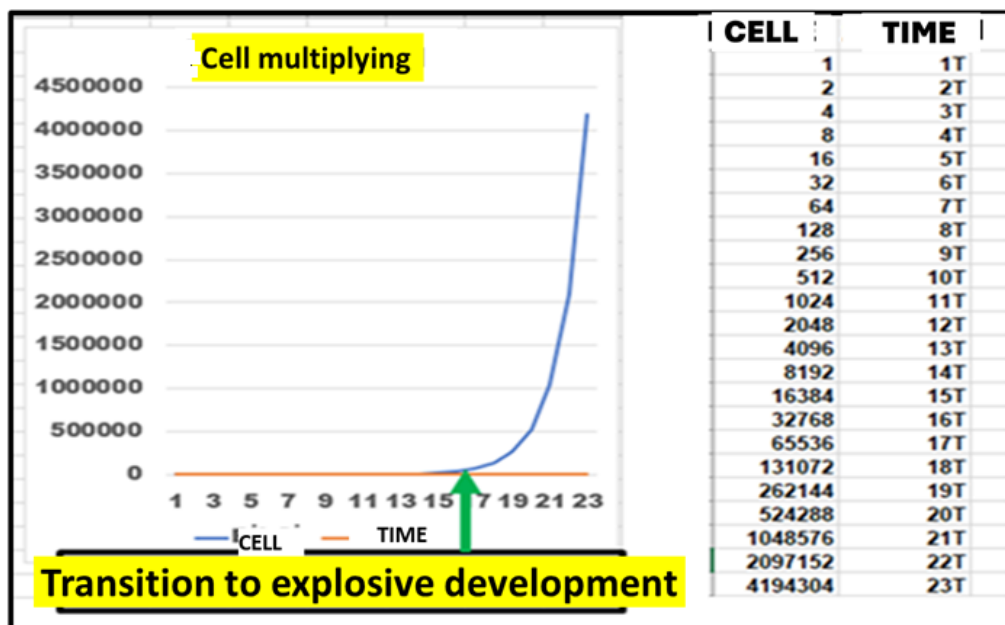


Figure 7. Growth develops exponentially, and after 15-20 generations it takes an explosive shape, paving the way for the formation of a new higher-level – the Body is formed from the cell.

Knowledge therefore develops exponentially. Now let's see the scientific data showing that the increase in KNOWLEDGE has been in a continuous increase and development for 12-13 billion years.

Chaisson Diagram

Chaisson [7, 8] conducts research showing that developments in nature can be measured and evaluated by a parameter he defines as Energy Rate Density. Chaisson's research has shown that the trend from simple to complex structures in nature has developed due to increasing the intensity of energy flow.

Energy-Rate-density is defined as the amount of energy flowing through a gram of mass in one second (erg/s/g). While the energy flow density is around 1 erg per second in galaxies, it is 3-4 ergs in stars, 70-80 ergs in planets, 700-800 ergs in the plant kingdom, about 10 thousand ergs in animals, about 100 thousand ergs in our brains, and around 500 thousand ergs in social life. As can be seen in the figure, the times of the emergence of these different entities indicate that the energy-flow-density has been increased over time.

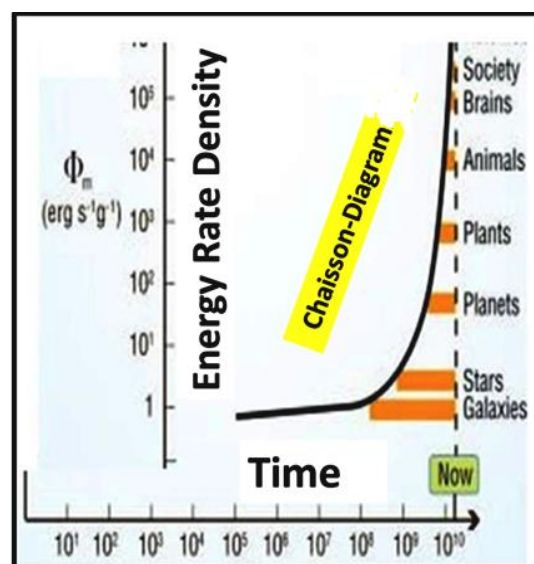


Figure 8. Information also shows exponential growth on a universal scale.

Since work is done with energy, doing larger work in a shorter time requires intensive and harmonious use of energy, which is called energy rate intensity (Chaisson, [7]). Chaisson

diagram show that there is a progress towards the more ergonomic use of energy over time by creating information in the universe.

As can be seen, nature is formed by combining elements by creating information in a way that creates more ergonomic structures of energy. And the fact that the information that makes up living things is made up of chemical elements called genes confirms this.

There is also an increase in KNOWLEDGE in the formation of the living beings throughout the world

Sharov (2006) thinks that this progression from simple to complex beings in the living kingdom must also be based on the knowledge-forming capacity in the living kingdom. Since it is known that the information about living things is found in the genetic records of living things, how does this information change in the living world?

This question was answered by Adami et al. [1]. They showed that complexity is proportional to the size of functional and non-redundant genome in the genetic record of living things.

Based on this resolution, Sharov [23] investigates the capacity for knowledge in this transition from simple to complex beings in the living world. He compares the data on the "functional and indispensable genome sizes" of important groups in the living kingdom with each other and realizes that the information capacity (and therefore the level of complexity) increases exponentially.

Sharov's data can be seen in the diagram.

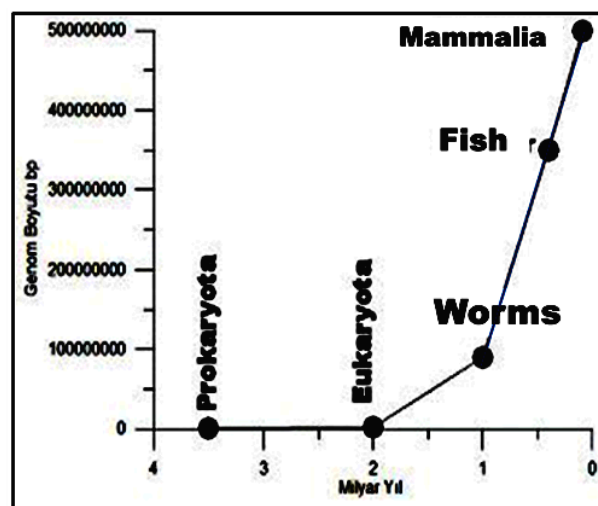


Figure 9. The development of information of living things is written in a 4-unit system of molecules called nucleotide-pairs (Sharov [23]).

Genome sizes are given as nucleotide-pairs = base pair = bp.

The molecules adenine (A), thymine (T), guanine (G) and cytosine (C) are known as nucleotides.

Since they are conjugate with A-T, G-C, they are called nucleotide-pairs.

If the above data are placed on a diagram according to the time of the appearance of these living groups on earth, it is seen that they multiply as an exponential function. In other words, KNOWLEDGE multiplies like a living entity.

When the genome size data is represented in a logarithmic-scale diagram, the distribution line is linear.

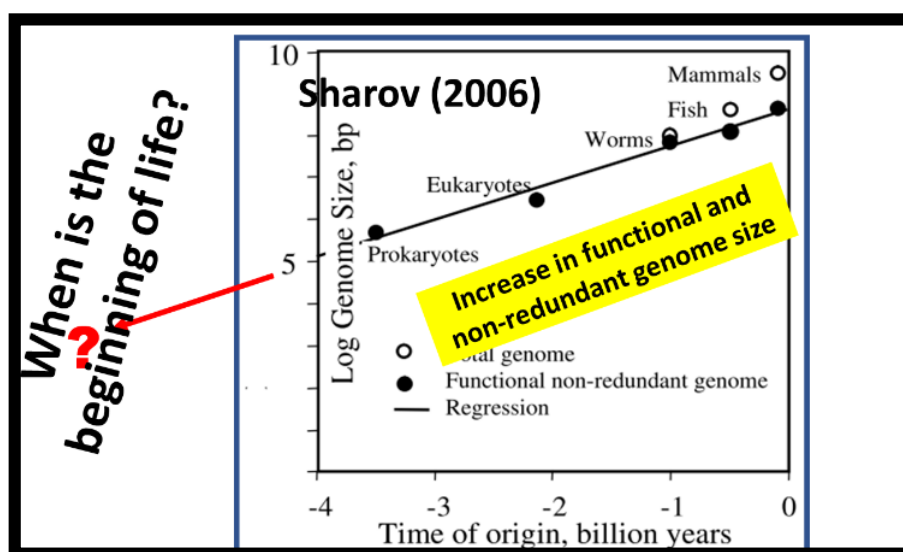


Figure 10. Genome-size time relationship graph from Sharov [23].

As can be seen, as we go back in the living world, the size of the genome (information capacity) is gradually decreasing.

But it doesn't happen zero.

So when does it become zero? So when does it become zero?

Whenever the linear line in the diagram reaches a value of zero (0), the genome value becomes zero. The calculation method is shown in the figure below. According to this cal-

ulation, the beginning of life on Earth must have begun much earlier than the 4.5 billion years ago of the formation of our world (i.e. about 9.8 billion years ago).

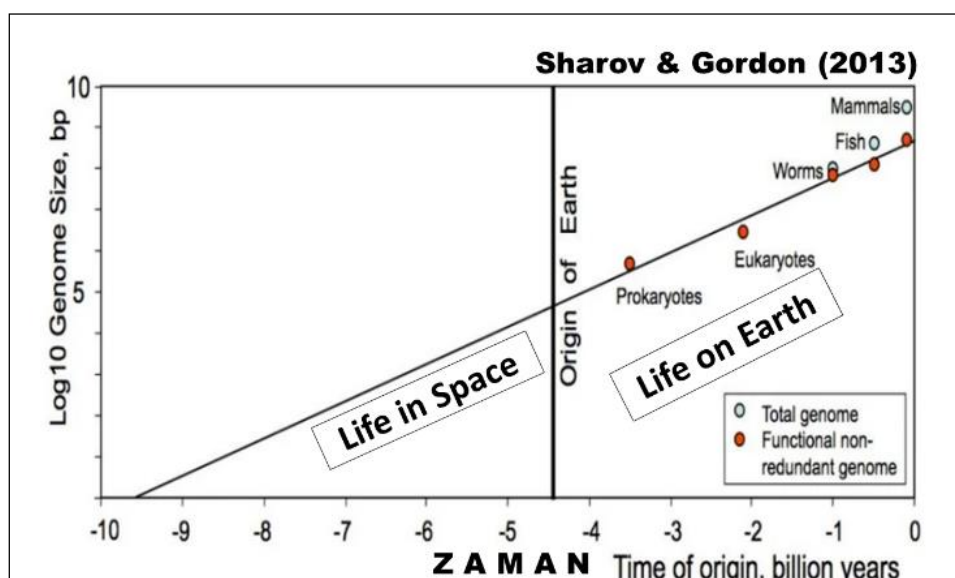


Figure 11. Diagram showing the time of the beginning of life taken from Sharov & Gordon [24].

The implication of Sharov's view is that the system of life begins with a prokaryotic organism with a value of 5,105 bp in our world. It takes a while for these 5,105 (i.e. 500 000) bp (nucleotide-pairs) to form. If the time required for such a large record of genetic information to occur is calculated, it must take as much time as shown in the figure. Therefore, life began to form about 10 billion years ago, and the information to form the first nucleotide pairs must have formed at that time.

In other words, the first amino acids began to form in space about 10 billion years ago.

As can be seen, nature is formed by combining elements by creating information in a way that creates more ergonomic structures of energy. And the fact that the information that makes up living things is made up of chemical elements called genes confirms this.

The development in the Sharov diagram is also supported by paleontological findings, and an explosive, exponential development is observed in the living kingdom.

Paleontological findings show an explosive, exponential development in the living kingdom

Nature and the world began to be formed by the quanta about 10-12 billion years ago with the information-based system summarized above. About 5 billion years ago, the solar system and our Earth were formed. 3.5 billion years ago, the world of living things was started in our world with nucleated single-celled bacteria, and then single-celled organisms with nuclei such as amoebas were created. Then multicellular organisms such as worms are created, then marine organisms such as insects, fish, corals, mussels, snails, etc.

In other words, until 500 million years ago, life existed only in marine environments. There is no living thing on land. Between 400 and 500 million years, life also transitions to terrestrial environments.

What does this mean?

The ability to create knowledge is not yet at a level that will initiate life on land. This shows us that the creative system in nature is not a system that knows everything in advance.

The first creatures to cross land were plants called lichens. In the course of time, more advanced plants emerge and the amphibian group of animals, insects, etc., that follow them, develop terrestrial life.

Then, 300 million years ago, huge animals like dinosaurs were created, and about 2.5 million years ago, humans were formed. Human beings are the species that prioritize the creation of KNOWLEDGE. All these formations, on the other hand, are organized and developed by a dynamic system summarized as (Haken [15]) "information & self-organization" by the most basic quantum system.

As can be seen, nature is moving in the direction of using energy in a way that creates more ergonomic structures. This is achieved by combining elements with INFORMATION. And the fact that the information that makes up living things is made up of chemical elements called genes confirms this.

The knowledge increase of humans is also developing exponentially.

2-3 centuries ago, it would have taken dozens of horse-drawn carriages and weeks to carry a 10-ton load from Ankara to Istanbul. However, nowadays, we can do this job in 5-6 hours with a truck. Over time, molecules and substances

were put into such a combination that energy was used more effectively with those new combinations.

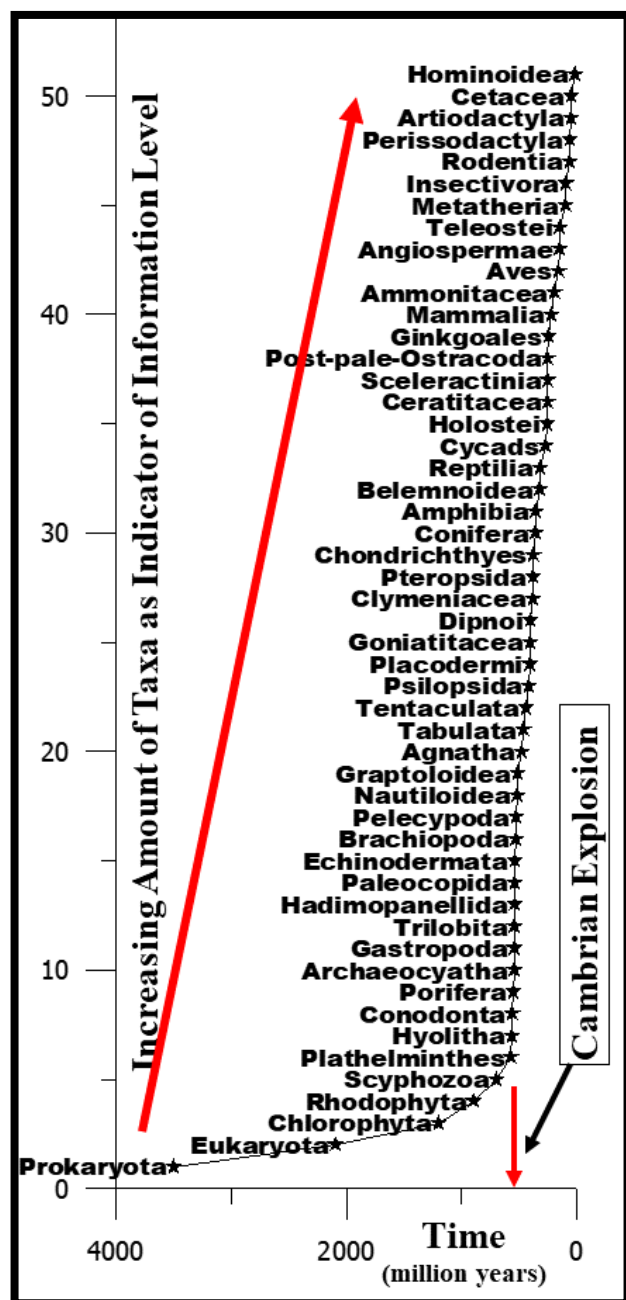


Figure 12. By reading the Earth's archival pages, it is possible to determine exactly when the groups of living things on our world appeared [13].

This was achieved thanks to the "knowledge" factor. 300 years ago, there were atoms and molecules in our world, and today there exist too. The only thing that has changed is that those molecules are assembled in a truck fashion, not a in horse-and-buggy fashion. In this way, people can do bigger things in a shorter time.

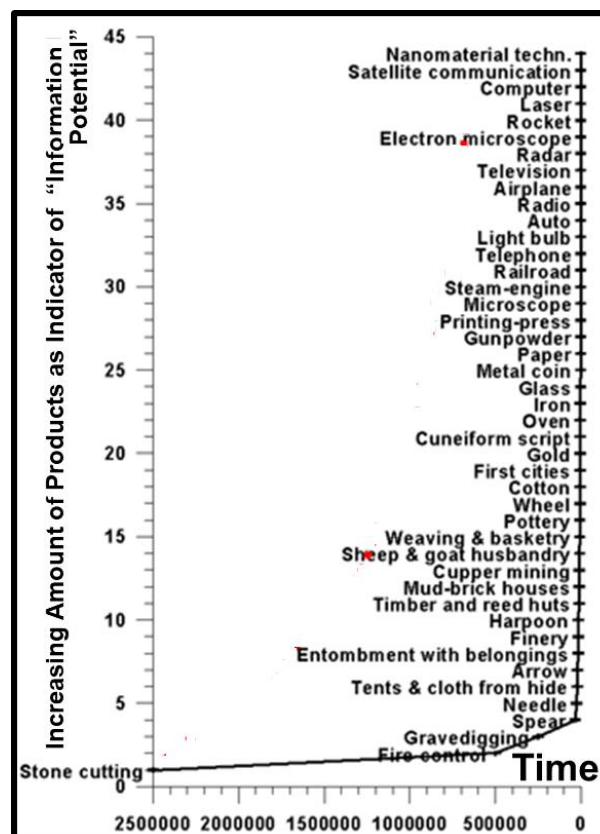


Figure 13. The information generated by humans increases exponentially over time [13].

In other words, nature and our world are a dynamic system. It is the quantum system that initiates and sustains all this dynamism. Our bodies are made up of cells, molecules, atoms, and subatomic elements that we call quantum systems. There are 100,000 chemical processes per second in each cell of our body (McTaggart [18]). In these processes, chemical elements such as C, H, O, undergo changes-transformations according to the changing energy states in their environment and form new material combinations suitable for changing environmental conditions. The impulse that causes all these changes and transformations is described as the "relaxation impulse" and is realized in the form of increasing the "energy-rate-intensity" (Chaisson [7, 8]). How to increase the energy-density must be done by creating "knowledge", as is clearly evident from the fact that the development of knowledge is exponential, as shown in the figure. Information, on the other hand, is stored and transferred by integrating it into the chemical compositions of entities, as Kandel [17] proved.

For this reason, the increase in knowledge has been developing for 12-13 billion years. Since nature is a dynamic system in continuing change-over (transformation), beings have to perceive the changes-transformations in their environment and make changes in their own structure (composition) in accordance with it. Therefore, the formation of knowledge is constantly increased. The genetic record data of

living things show that this increase in information develops exponentially.

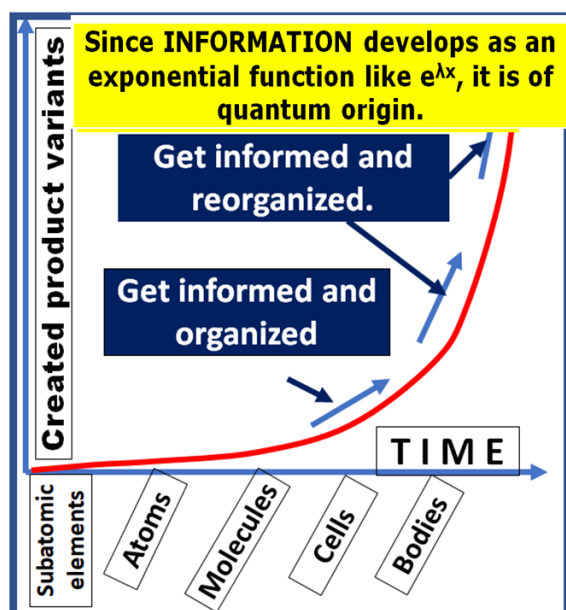


Figure 14. Information is a factor of exponential growth. Molecules are formed, re-informed and organized; Cells are formed, informed and reorganized, etc. $e^{\lambda x}$.

Namely:

If something is developing exponentially, there must be a factor that constantly pushes it. Since knowledge develops exponentially, the urge to "create knowledge" is a factor that must be at the basis of all developments in nature. One of the basic principles of mathematics is related to this issue and has a basic rule that "Exponential functions are $y=e^x$, and the derivatives of exponential functions always remain e^x and never reset". What this means is that the ability to generate information cannot be limited only to living beings such as humans or cells but will continue down to the smallest particles of matter.

How life started, what and where does vitality begin

The phenomenon of quantum energy lies at the basis of the constant changes and transformations in nature. Experiments in Quantum physics show that fundamental entities such as protons, neutrons, electrons, and photons, which we call subatomic elements, are not dead or inanimate, but on the contrary, they are chirping, that is, alive. With the prejudice created by the static-system perspective, physicists define these fundamental entities as "particles". In their experiments with them, they determined that these elements have the feature of "particle" like a marble or "fluctuation" like a moving element. When they were investigated when they were a particle and when they were a "wave", they realized that they were a particle if they were observed, and a "wave" if they were not. They called this dual property "wave-particle duality". They explain this change in behaviour as "the ob-

server collapses the wave function".

Now let's put a point here and think about it. All subatomic elements such as proton-neutron-electron-photon, as well as atoms, exhibit "wave-particle duality". The factor that directs the entities we call force is formed by the flow of energy from one place to another. All energies in nature originate from the most basic subatomic elements called quanta, such as photons.

The so-called observer is a detector, a sensor, an instrument that serves to detect a photon or electron. That instrument doesn't send an energy (or force) to the electron or photon, it just tries to sense the energy coming from them. There is activity, an event: the "fluctuation" property of the subatomic element is lost. It takes energy to create or lose (to destroy) something. Energy, on the other hand, is in the "lost element". The detector does not emit energy to the environment, it is used to perceive the energies coming from the environment. In this case, it is not the detector that is active, but the electron or photon, they perceive that there is a detector in their environment that wants to establish a relationship with them; It even detects how intact or distorted the detector is and behaves as a wave or particle depending on that distortion rate!

Have you been able to form a basic idea in your mind about where life in nature is and what it starts with? Vitality and life in nature begin with the world of subatomic elements and continue with million-billion-year processes in the form of sub-system-super-system formations with factors such as dynamical systems physics, which is summarized as "information & self-organization".

Scientists still don't know how life started on Earth, and did it come from space, and if so, how did it developed in space? They are dealing with such questions. But they still ignore the miraculous QUANTUM power system in front of them and treat them as "particles". This is a typical indication of how blind the logic of humanity has become.

The ARCHIVE-PAGES of our world show that the creators of the natural system began with a most basic element of life called QUANTUM. The fact that quanta migrate to the structures formed according to the best information and abandon the bad ones shows that they attach great importance to the information factor. For this reason, the formation of KNOWLEDGE in nature develops both at the universal level (the realm of inanimate things) and with an exponential function in the world of living things.

Time-life and Information Relations

Time concept:

The pages presented above show clearly that TIME is an indicator of CHANGE-overs of chemical compositions of matters based on INFORMATION developments. But all of humanity, including physicists, have accepted time as an eternal process without a begin or end operating as according to the ticks given by a supernatural power system. The reason for such an acceptance is that nature and the world are created and directed by an eternal supernatural power system. If this force dies, nature and the world cannot continue to exist.

Imagine a game where everyone must stay silent as if they are completely dead when you say "click". Now imagine that this game is played on a universal scale. Humans are frozen, all the cells and molecules in the human body are frozen, so bodily events such as the feeling of hunger do not occur. The Earth does not rotate, it always stays in the same position, so there is no such thing as day and night. The Earth does not revolve around the sun either, so the concept we call a year does not occur. The Moon does not revolve around the Earth, the Sun is stationary in the Milky Way galaxy, etc. In such a case a concept called "time" does not occur.

Time is considered to be a process that operates according to the ticks given by an eternal being, and natural phenomena are considered to be the results that take place according to these ticks. All physicists, including Einstein, thought so. If beings remained as they were when they were first formed without undergoing change and transformation over time, everything would have been created at once and would not have changed and transformed after that. In other words, the image of change-transformation called TIME would not have occurred. TIME is one of the concepts that people cannot understand. Because the concept of TIME has always been misinterpreted by physicists. The reason why physicists misinterpret the concept of TIME is that the constitutive force in nature has been misinterpreted.

Life = Lifespan; and lifespan is a slice of time. He who solves the secret of the concept of time also solves the secret of life.

Information concept:

Knowledge factor was explained in the 3. chapter. The information acts as a traffic sign that determines where the energy will flow from where. In this way, each newly formed being creates new information and tries to reach a more comfortable level of life by using energy more ergonomically. As a result, information is constantly increasing in nature.

Now let's see if a relationship can be established between these two different concepts. The concept of time requires that there must be a factor necessary to move or to make an adjustment. What could this be? *Is there any new thing around?*

If there is no new things, nothing is necessary. But if some new thing established, then quanta must make some adjustment, some movement. And a such behaviour is possible only with information.

5. Dynamical Systems Physics

Summarized as Information & Self-organization

In this section, the method of creating nature and the world by the realm of quanta, which is the constituent of the natural system, will be explained. The most important of these is the principle that the rules that will be valid in an upper-level system must be constructed by the mutual interaction of all participants.

QUANTA are the most basic life-element in nature and everything in nature is formed by the combination of QUANTA via quantisation. So why do quanta want to come together into a partnership?

Quanta are very short-lived and very dynamic. They are born and die in as little as a quadrillionth of a second. For this reason, they have the urge to unite into longer-lived and less mobile upper-level systems. This impulse is called the "relaxation drive." First, let's explain this impulse by giving the example of human life.

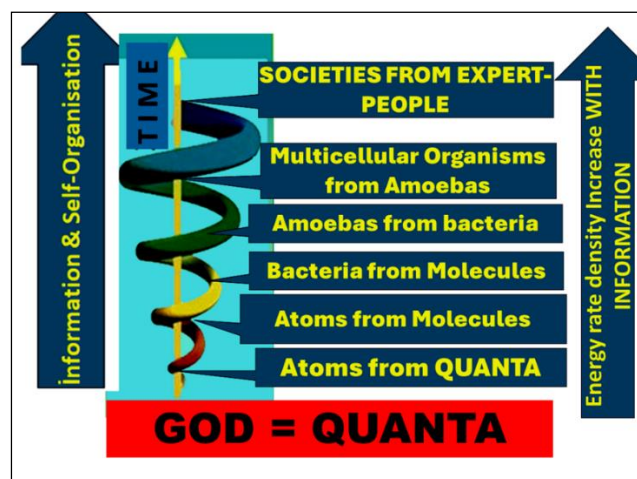


Figure 15. The natural system is developing in the form of the combination of quanta, which is the most basic element of vitality, to form more comfortable upper-level systems.

A person living alone must produce vegetables and grains, grind grains and make flour, provide meat for food, and make ovens and pottery. Such a person does not have time to rest. But by forming partnerships, dividing labour, and exchanging their products, they have reached a more comfortable level of living. This is called the urge to relax, and it is formed based on mutual agreement and compromise. It is present in all beings in nature.

Relaxation of atoms by working together

When beings are in a difficult situation, they mutually compromise and act together. Laser light is an example of this.

Certain molecules are trapped in a tube. One end of the tube is covered with a fully reflective mirror and the other end is covered with a semi-reflective-semi-permeable mirror. Then, a beam to which these molecules are sensitive begins to be sent from the outside to the molecules inside the tube. The electrons of the molecules that receive the rays beam first swells their halo, but then they have to relax by emitting it back to the environment. The rays emitted to the environment are reflected from the mirrors. Since the radiation coming from the outside is continuous, the molecules in the tube enter a very overwhelming state with the addition of the rays reflected from the mirrors.

There is only one way out of this difficult situation: If the

electrons of each molecule send the rays they will release into the environment in the direction of the semi-reflective mirror and at the same phase and frequency as each other, these rays

will overlap on top of each other, their power will add to each other, and they can go out of the semi-transparent mirror.

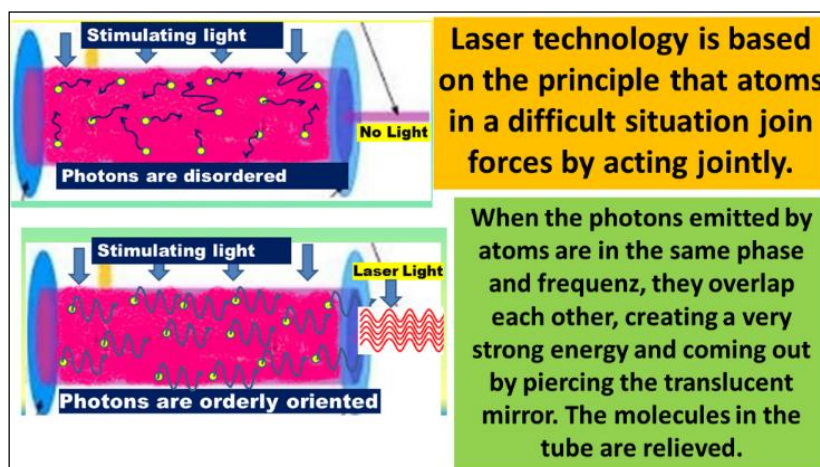


Figure 16. Laser light is the product of molecules entering into a harmony-partnership relationship with each other.

And the molecules that are cramped in the tube thus reduce the pressure in the tube, and the people who make the assembly get a very powerful laser light.

Laser light is a COHERENT light. It comes from the Latin word cohaerere. Co = together, haerere = sticking. Therefore, it is the behaviour of elements within a system to act together and form a partnership with each other. Cells in living bodies have also formed a system of partnership by communicating with a coherent signal called a "biophoton" in order to ensure that the work in the body is in accordance with the common interests of all cells (Popp [20, 21]).

When the signals emitted by atoms or molecules are compatible, they pierce the semi-reflector at the end of the tube and come out, and the tube is relaxed. In other words, in the natural system, beings solve their problems by making partnerships.

Based on his observations in the examples presented above, Haken [14, 15] realizes that the formations and developments in nature take place in the form of new upper-level systems by combining as a result of the inner impulses of beings, and that this formation mechanism is provided by the creation of a new "KNOWLEDGE". Until then, no physicist had used a factor called "INFORMATION" in the developments in nature, but Haken broke new ground by putting the parameter "INFORMATION" at the centre of the formations and developments in nature.

The most basic parameters of the of Dynamical Systems Physics

The physics of dynamical systems describes the events that occur during the formation of an upper-level system. The most important of these events is the issue of how to create the "CONSTITUTION" that will be valid in the upper-level system. To illustrate: Cells intended to form a body. How

should the "laws = order-parameter" that will apply in this body be established? This will be explained below.

Informator (Order Parameter) = Partnership-law

How are the FORCE-fields that guide the entities formed?

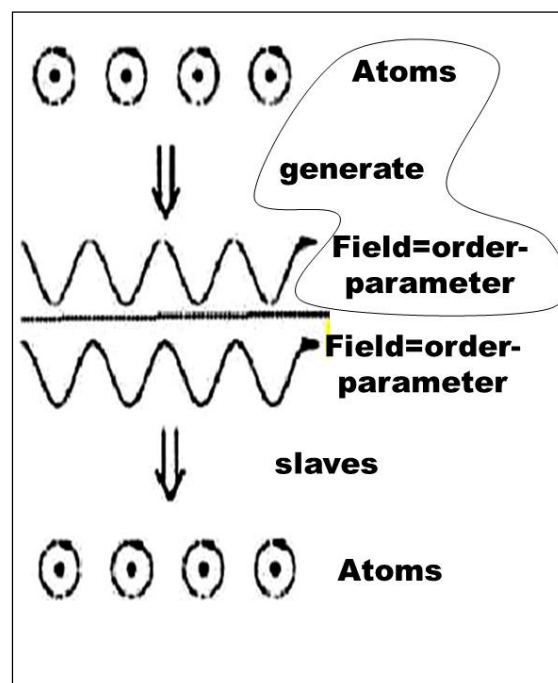


Figure 17. Entities that want to live together in a system establish the rules of partnership by agreeing among themselves (From Haken [15]).

Haken [15] begins by creating a new term called "informator, or order-parameter" for the factor that affects enti-

ties. Informator means something like the information on how to determine the behaviour of the elements in question, meaning the "law of partnership" that will apply within a system.

Since the informant is provided by consensus of all participants, all interested parties (or participants) comply with it. For this reason, it has been said that "the force field enslaves

atoms". Instead, it would be more appropriate to "atoms obey the consensus they have formed."

Symmetry Breaking-Enslavement-Fixation

The transition from the state of "does everything" to the state of "does a certain thing" is called "symmetry-breaking". That is the specification on special fields.

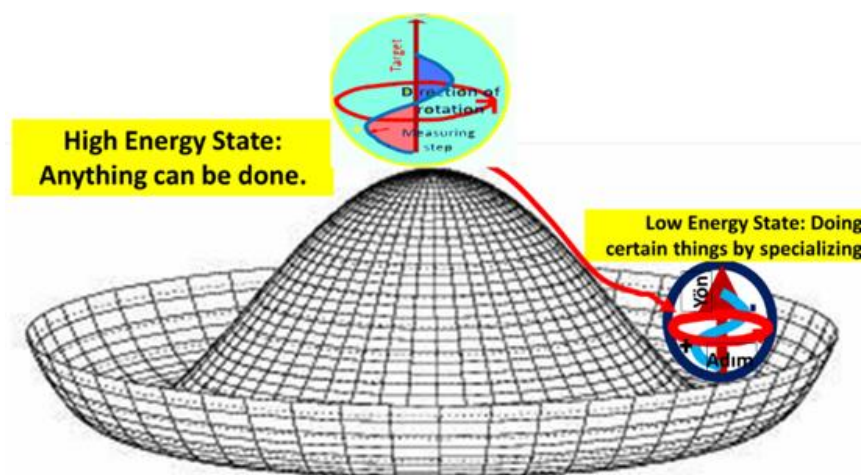


Figure 18. Symmetry breaking is when lower-level elements change from doing anything to doing something to a behaviour that can do something in order to form a higher-level entity.

This object at the top is nothing like a marble. On the contrary, it is the most basic element of life in nature.

Now let's see the symmetry break that the cells undergo while the body is being formed.

In lower-level - Upper-level relationships the ability to do something is at the lower levels [11], they behave in such a manner that they reach the target that is shown to them (or to do the task assigned). For example, there are more than a hundred organs in our body, such as liver and kidney. All these different organs are initially made up of a single cell. This cell, which we call a stem cell, behaves in a way that does the task in whichever organ is targeted.

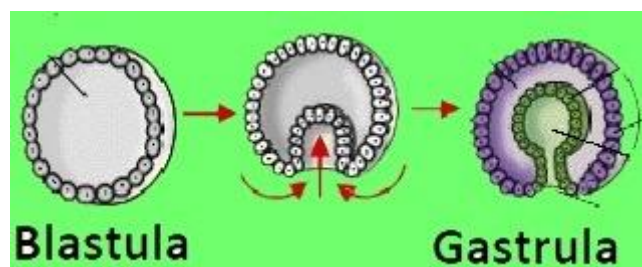


Figure 19. The transition to the Gastrula stage in multicellular organisms is the stage of symmetry breaking.

Cells begin to multiply in the form of geometric sequences such as 2-4-8-16-etc., and the foundation of the body is laid.

Until this stage, called the blastula, all cells multiply in such a way that they are the same and form a spherical shape filled with fluid. Thus, the first stages of growth of all multicellular animals are completely like each other.

If you take any of the cells at this stage and start replicating again, that cell will multiply again in the form of 2-4-8-16- etc. and can form a new organism.

But when this structure begins to form an inward «abdominal cavity», the fate and characteristics of all the cells that will make up the body change! Cells undergo such a radical change that if these cells are detached from the body and left to reproduce again, they cannot reproduce in the form of 2-4-8-16 and form a new body again, like their brethren in the previous stage. The reason for this loss of ability is symmetry breaking. How to make something, what shape it will take, etc., is always based on information, and information is stored in the chemical composition of molecules.

In other words, stem cells have a versatile ability to perform different tasks in all the different organs in the body; But when they are asked to function in one organ, they act in such a way that all other abilities are turned off and they only perform the task in the organ shown. The medical method called stem cell therapy takes advantage of this symmetry breaking. Stem cells placed in a diseased organ repair that organ again.

Maximum Information principle (MIP)= Ocean of signals that we call AETHER and MIP [15]

It is necessary to explain the term "aether" to describe how information increases in nature.

Every place around us (atmosphere, hydrosphere, lithosphere, outer space, etc.) is filled with various radiations. We can't perceive it directly, but when we slide the knob of a radio receiver left and right and pick up the waves of the different broadcasts we hear, we notice how many different signals are around us. What we call Ether is made up of this ocean of signals.

Beings change their structure according to the changes and transformations in their environment. When their structure changes, the signals they emit to their environment also change. For this reason, the signals in the aether ocean are also in constant change.

Today, there are many new types of signals in this ocean of ether, such as mobile phones, the Internet, televisions, and so on. However, such signals did not exist in the atmosphere of hundred years ago, because the materials that produced these signals did not yet exist in nature. Therefore, for a signal to exist in space, the substance that makes up that signal must have been formed in nature.

Beings determine their behaviour by leveraging signals within the aether. For example, migratory birds, fish, etc., use the earth's magnetic field to determine their direction, and in this way, they travel from one point in Africa to another in northern Europe and never lose their way. All living things know when to multiply and when to go into sleep mode by sensing the signals in the ocean of ether around them. In short, aether is the news source of all beings.

The principle of Maximum Information is the most important feature of dynamic systems, because in a world where everything changes and transforms, the collection of «Information» about changes and transformations is at the forefront.

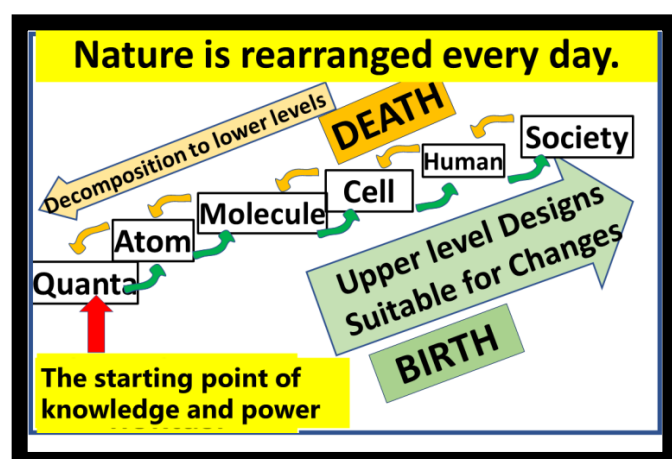


Figure 20. Everything in nature is constructed with INFORMATION.

(We see and know that everything in nature is in a constant change and transformation. So, do we know how these changes and transformations happen and why? No! With the PHYSICS OF DYNAMIC SYSTEMS, which is summarized as "information & self-organization", the German physics

professor has shed light on this issue and revealed that everything in nature is done by inventing KNOWLEDGE and information is constantly being improved. In this way, the KNOWLEDGE factor is introduced into physical science. But how many physicists are aware of this? What is taught in Schools and Universities? None of that.).

The urge to relax and the Dynamic-System relationship.

The reason why beings combine to form greater higher-levels over time is because of the RELAXATION IMPULSE.

Consider the very ephemeral quantum elements that were in constant motion at the beginning of the universal system. Very moving, right-left, up-down, forward-backward; What should these quantum creatures, which interact with zillions of other quantum creatures around them, in a constant oscillation and vibration, do so that they can reach a more comfortable state?

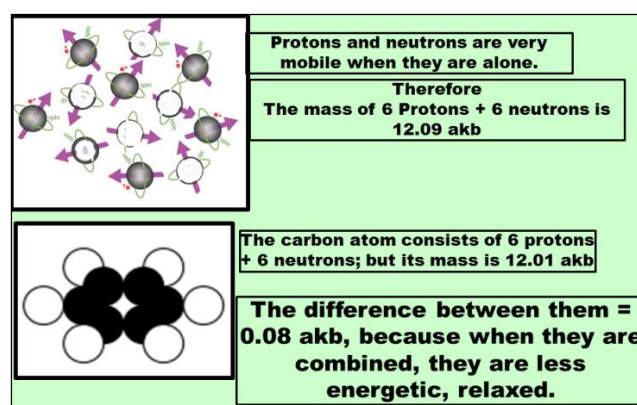


Figure 21. The urge to relax.

To answer this, let's look at people's behaviours: If people lived alone, they would have to do everything on their own and they wouldn't have time to scratch their heads. But by forming partnerships, dividing labour, and exchanging their products, they have reached a more comfortable level of living. This is called the urge to relax, and it is present in all beings in nature. The pathway to relaxation is the specification on special fields.

In the dynamical system, the influencing-directing factor is in the intrinsic components of beings, and the innermost component, the quanta, are alive and form and direct all of nature. Nature and the world are in a constant change-transformation and these changes-transformations are made by creating KNOWLEDGE. KNOWLEDGE, on the other hand, is formed by the intrinsic components of beings. For example, a person's information is generated by cells in their brain. The innermost components of beings are the QUANTUM system, which consists of subatomic elements. Experiments show that the quantum system behaves in a knowledgeable and conscious manner.

Since the development of knowledge develops exponen-

tially, and since the most basic subatomic elements are also knowledgeable-conscious, other entities in nature are formed by their quantization (i.e., their growth by adding to each other). Therefore, knowledge and consciousness exist in every being, but their proportions and imaginations are very different. There are enormous differences between the imagination of a bacterium and the imagination of a mussel, a human.

In the dynamic system, the rules that will apply to the higher systems are made by mutually agreeing with the lower-level elements [11].

Therefore, orientation in the natural system is in the form of creating information by evaluating the environment and regulating its structure-state according to that information. Elements are not fixed-immutable, dead thing, but on the contrary, they are very mobile and alive. It is an energy-field that is constantly changing and developing according to the changes in nature. This system, which is in constant change-transformation, is called DYNAMIC SYSTEM.

Since nature is in constant change-transformation, no higher-level being can be eternal. If the formed entities become eternal, the quanta will be imprisoned within these eternal entities, and the creation of a new higher-level entity will be prevented, because they are all in prison. Therefore, all beings must have a birth-death cycles.

Birth-death cycles begin with the life of the most basic interaction element called the quantum: this most basic interaction element and all the subatomic elements that show quantum properties like it are in a birth-death cycle. Physicists interpret these birth-death cycles in the realm of subatomic elements as wave behaviour, since they believe that knowledge and consciousness exist only in human and superhuman systems, and that there is no knowledge and consciousness in sub-system entities such as cells and atoms.

The first living things on our 4.6-billion-year-old Earth were prokaryotic archaeo-bacteria, approximately 1-micron in size, found in layers 3.8 billion years ago. Then, when prokaryotic bacteria merged, eukaryotic cells (amoeba, etc.) 100 times larger in size appeared about 2 billion years ago. Then, 550-600 million years ago, multicellular plants and animals were formed by the union of eukaryotic cells. All these formations have always been in the seas. About 420 million years ago, the transition of life from the seas to the land took place.

The fact that life could develop both in the seas, on land and in the air leads to an increase in the diversity of life, with a gigantic animal like the Dinosaur in the Mesozoic.

Then, 65 million years ago, a very large meteorite hit our world, and because of a tremendous climatic disaster, 3/4 of the creatures (including dinosaurs) in both the seas and the land disappeared.

After this great extinction, life thrives again, and MAMMALS begin to fill the ecological void left by the dinosaurs. The formation of all these new living species has always been due to the fact that beings perceive the changes and trans-

formations in their environment and try to create new body designs that are compatible with them. The importance of living things to creating KNOWLEDGE makes it a very important stage about 50 million years ago, and the formation of living things called PRIMATA, which prioritizes KNOWLEDGE CREATION, begins. HUMAN, on the other hand, is a cellular design that prioritizes giving importance to information and begins to form about 5 million years ago. And it develops to a level that will change the world.

As can be seen in the figure, the phenomenon called time is based on the differences in appearance that arise due to the change in the composition of beings. If the compositions of the beings never change, if all the beings continue with the same composition, time does not occur. This fact has never been noticed by all mankind, including physicists and biologists.

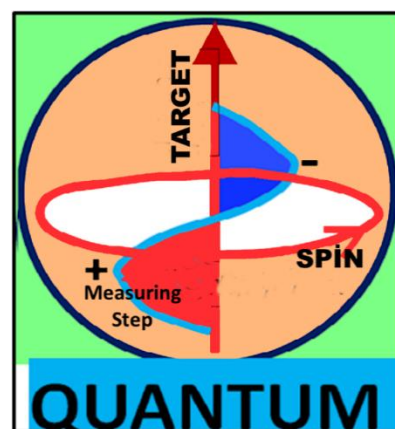


Figure 22. The natural system is initiated with a most basic element of life called QUANTUM.

The data of the archive pages show that the change-transformation factor called TIME emerges with a factor called INFORMATION when substances gain different properties. In other words, at the beginning of the universal system, everything begins with the most basic elements of life called quantum. It is calculated that their number should be much more than 10 to the power of 100.

Since the formation of the natural system was initiated by the most basic element of life called quanta, the subsequent developments have always been in the form of the exponential multiplication of this most basic element, which is called quantisation. Since quanta are basic living things, they cannot be divided, they are not fragmented, they always continue to exist as a whole.

With the quantization method, subatomic elements such as protons-neutrons-electrons are first created. Then, with the combination of these subatomic elements, the basic chemical elements that we call atoms are formed. Then, in their combinations, larger entities such as molecules are formed and the formation of the natural system is maintained.

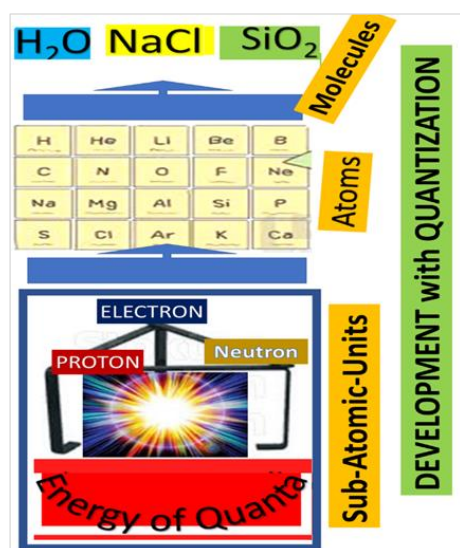


Figure 23. The most fundamental living thing called quanta begins to form the natural system by forming a proton-neutron-electron triad.

As you can see, there is a very close relationship between INFORMATION and TIME. A new formation of existence takes place in information, and since quanta prefer entities formed according to the best information and abandon the bad ones, a development called evolution emerges.

The most basic element of life called quanta was discovered as a result of investigating how energy is transferred in nature. In other words, quanta are the most basic energy sources in nature. Therefore, all formations in nature are directed by the factor called ENERGY.

Since the concept of God is a term that creates and directs everything in nature, today's term QUANTUM is synonymous with the term GOD of our ancestors.

Author Contributions

İsmet Gedik is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

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