***Important point about this article; This article has not yet been final edited and revised. Currently, I am publishing it as a pre-print or article and hypothesis Fundamental, to receive the opinions of biologists, evolution experts and scientists and public awareness. If you could not understand the topics and contents of this new hypothesis correctly and clearly, the problem is not that this new hypothesis is wrong and incorrect. Maybe the problem is that the explanation of this article is not clear. Perhaps not enough documents have been provided.***

***1- Perhaps the article's phrasing, grammar and translation from Persian to English have problems that need to be corrected.***

***2- Perhaps the explanation and interpretation of this hypothesis are not clear. Maybe the concepts and arguments of the new hypothesis are incomprehensible to you.***

***Dear readers, if the topics and issues of this article are not clear to you and you think there are ambiguities and incomprehensible topics in it, please email me your comments, ambiguities, questions and criticisms.***

***I would like to receive feedback so that if the article has a technical and specialized error, I can correct, delete, or if necessary, add some supplementary material for a clearer explanation in this article. Improving and completing this article is only possible by receiving your comments. By receiving comments, criticisms and suggestions from you readers and experts, I will realize my mistakes and correct them. Please email me your comments and criticisms.***

***Mohammad.yousef.arbab@gmail.com***

***If I am not mistaken, if the new hypothesis is correct, this new hypothesis will face the whole world with new intellectual challenges. If my argument is correct, the mysteries of the purpose of human life will be clarified. The new hypothesis will be able to overturn the public opinion about what we are. This hypothesis is promising and will bring fundamental answers about the why of life. But on the condition that it article emerges proud and successfully from scientific experiments and research.***

***Note that this new hypothesis is not a philosophical hypothesis. It is true that this new hypothesis is written in a theoretical form without empirical research and mathematical data. But it does not mean that empirical evidence does not support it. This new hypothesis can be proved or rejected by testing and checking and repeating the experiments and comparing the results.***

***I do not claim to have worked out all the different aspects of this new hypothesis and understood it all. But I claim that this new hypothesis is very important and fundamental, which is worth investigating and analyzing.***

# *Fundamental principles of natural selection*

# *The new hypothesis (new theory) of the evolution*

## *The new hypothesis (new theory) of Fundamental purposes and principles of the mechanisms of natural selection and process of evolution*

* Mohammad Yousef Arbab; from Iran; Sistan and Baluchistan province; Saravan city.

Mohammad.yousef.arbab@gmail.com

# Abstract

Biologists believe that the purpose of the evolution of all organisms is only reproduction and the successful transfer of genes to the next generation. But I found a new hypothesis (new theory) that reveals the fundamental purposes and principles of natural selection. The new hypothesis shows that for the successful transfer of genes to the next generation, the traits and characteristics of organisms must be in accordance with these fundamental principles and purposes of natural selection or fundamental biological purposes. These fundamental principles of natural selection or fundamental biological principles are so fundamental for the survival of organisms that if they are not observed and considered in the traits, body parts and behaviors of organisms, organisms cannot reproduce and survive. Natural selection preserves or eliminates harmful genes and useful genes based on these principles and biological purposes. When I speak of the fundamental purposes and principles of natural selection, I do not mean conscious intention, supernatural and intelligent creation. By means of the fundamental principles of the new hypothesis, I bring arguments that better interpret the theories of Mr. Darwin and Richard Dawkins and the important theories of biology, and this interpretation is much closer to reality. This new hypothesis reveals principles and purposes that change our understanding of the concept of evolution of all organisms and creates a completely new formulation in the entire theory of evolution in all its dimensions.

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Keywords: principles survival; Fundamental Principles Natural selection; purposes evolution; new hypothesis of evolution; purposes life; adaptation principles.

# Introduction

From the distant past, man has always sought the biggest question, what is the purpose of human life. For more than two thousand years, philosophers have presented philosophical ideas on this matter. In the present era, scientists have made many efforts to identify the purpose of life. Scientists and biologists found the purpose of living organisms. But scientists and biologists do not know everything about the purpose of human evolution and life, organisms and genes. In this article, I would like to argue that the era when the purpose of our life was unclear is over. I have found a new hypothesis that explains the purpose of human evolution and life and of all organisms more clearly and better than before.

After years of studying the theories of evolution and natural selection of Mr. Darwin and Richard Dawkins and studying the relationships between the body parts of organisms and important theories of biology, I reached important conclusions about the fundamental principles of natural selection, which reveal the purpose of the evolution of all organisms. It may seem that my claim is contrary to the popular scientific view of evolution. Current views on the purpose of evolution: Biologists believe that the purpose of the evolution of all organisms is only reproduction and the successful transfer of genes to the next generation. (Richard Dawkins 1976) 1. This is true and I accept that the purpose of genes or the purpose of organisms is to pass copies of themselves to the next generation through reproduction.

I am announcing the discovery of a new hypothesis that shows that genes need what are defined as fundamental principles of natural selection or fundamental principles of biology in order to copy themselves. Without these principles or without these things that they need, genes cannot reproduce and copy themselves if these things are not present. I realized that in all stages of evolution, from the beginning of life to the present, in all organisms that survived or evolved, according to these fundamental principles of the new hypothesis, they were subject to natural selection. Even all body parts and all behaviors of organisms were created based on these fundamental principles biological.

Currently, I wrote this hypothesis in a theoretical way without empirical research and mathematical data. But this new hypothesis is testable and can be tested in the natural environment. I proposed experiments to prove this new hypothesis. This hypothesis can be rejected and proven, and only empirical researches show the false or correctness of this hypothesis.

## ***Unconditional acceptance of old ideas and theories makes it difficult to accept new theories and ideas.***

For example, the polar bear can protect itself from the polar cold with a thick layer of fat. With its white hair, the polar bear creates a natural camouflage in the snow and can hunt without being seen.

Biologists say that the polar bear survives in the pole with thick fat and white hair. The rest of the bears, like the grizzly bear, cannot survive in the Pole. Because the gray bear does not have thick skin and white hair. Should a bear's thick fat and white hair only be attributed to survival and reproductive success? Isn't there a more specialized description to better interpret these things?

Should parents' care of their offspring, providing them with food and protecting them from enemies, be described only as survival or success in passing on genes to the next generation? Isn't there a better classification to separate food preparation and child protection? Is the interpretation of this theory only as a whole called survival enough to understand the truth of evolution and living organisms? Protecting children and providing food are two very important, but completely separate things.

Should the function of body parts and the behavior or desirable traits of organisms be described as a whole in the name of survival and reproduction?

Are there no fundamental principles that can describe the functioning of the body parts of organisms in a more realistic way, exactly as it is consistent with the experimental truth and science? Can't the body parts of organisms be described based on a specialized function which is common in all organisms survival and has an impact on evolution? Are there no principles on which natural selection selects the function and useful and harmful features of genes and organisms?

Natural selection selects body parts of organisms based on what fundamental principles?

Biologists believe that the polar bear's survival in the Arctic is due to white hair and thick fat under the skin, camouflage in the snow, and successful hunting. But what does success in hunting and preparing food mean in survival?

Darwin's Galapagos birds have special beaks for eating certain foods. Mr. Darwin and biologists believe that the reason for the different beaks is the adaptation of the birds in the Galapagos Islands to the type of food. For example, one of the Galapagos birds feeds on insects and the other on plant seeds. Darwin declared the feeding of special food substances in each a of island as the reason for the evolution of Galapagos birds' beaks. But in my opinion, this description model is a general description and cannot interpret the truth of Darwin's Galapagos birds event as well as it is.

Why does food preparation and lack of food preparation have an effect on survival? Why do all organisms need food, water and oxygen, protein and carbohydrates and nutrients?

Through investigation, analysis and reasoning, I came to the conclusion that the current view of biology and evolution expresses a wrong and reductionist understanding of the purpose of evolution. In this article, I argue that in order to transfer genes to the next generation or to reproduction, first of all, organisms must provided (meet), their fundamental needs according to the fundamental principles of the new hypothesis, or the fundamental principles of bio or the fundamental principles of natural selection. I found that these basic principles are common and have generality in life, evolution, survival, reproduction and adaptation of all organisms. The traits and characteristics of all body parts and the behavior of organisms must be based on these basic biological principles. If these fundamental principles are not observed, realized and provided by organisms, reproduction or transfer of genes to the next generation will not be done.

It can be clearly proven based on reasoning and theoretical concepts, and even experimental research, that, from the time of the evolution of the first organisms until today, in all the organisms that have lived so far, these fundamental principles of natural selection, in evolution, life and biology, traits Physiology of all body parts has been taken into account. In fact, natural selection based on genetic mutations and the fundamental principles of the new hypothesis has advanced the evolution.

## Some of the questions that this new hypothesis answers.

What are the purposes and principles of evolution through natural selection? Does evolution have a purpose? Are there principles and purposes in nature that natural selection will eliminate or preserve genes based on those principles?

Based on what features does natural selection increase the abundance of genes (apart from genetic drift and population composition) in intragroup competition of a species in a population?

Individuals of different species compete for survival, what is the criterion and purpose of natural selection in eliminating and maintaining organisms in the competition for survival?

What are the characteristics of a good gene and a bad gene in terms of natural selection?

What are the good characteristics and traits in terms of natural selection for adaptation of organisms to environmental conditions?

What principles are there in natural selection that in environmental conditions and competition for survival, some organisms survive and some of them become extinct?

Why did fish fins become legs of amphibians, reptiles, mammals and wings of birds? For what purpose do the different organs of living organisms work and they evolved?

What was the purpose of the evolution of the different beaks of Darwin's Galapagos birds?

What is the purpose of the evolution by natural selection of different plant metabolisms light and soil, in water and on the ground and air, the purpose of the evolution of animal herbivorous metabolism, carnivorous metabolism, terrestrial metabolism, marine metabolism, aerobic and anaerobic organisms metabolism?

With what principles and criteria does the natural selection of useful mutations in metabolism, immune system and traits, organs and behavior consider and support?

What characteristics should living organisms have to be called living organisms?

Usually, what is the basic purpose of living things to move?

What do beneficial genetic mutations mean? And what useful features should it have?

What is the biological and evolutionary purpose and function of all small and large body parts, all body parts of all organisms such as: cell components, mitochondria, proteins, blood, tissues, different body organs, heart, stomach and intestines and their different organs?

***The new hypothesis says; Genetic mutations are purposeless, but natural selection has fundamental principles that guide evolution and genetic mutations based on these fundamental principles and purposes.***

Science can always improve itself. The good thing about science is that it can review and revise its ideas. Science can find new things and surprise us.

When I speak of the purpose of evolution based on the fundamental principles of natural selection, I do not mean conscious or intelligent creation or a supernatural designer. I mean the principles that are so important and fundamental to the survival and successful transmission of genes of organisms, that when organisms do not arise based on these fundamental principles, they are eliminated by natural selection. In other words, organisms must act according to these fundamental principles to successfully transfer their genes to the next generation and to reproduce and survive. Also, if these principles are not provided by organisms, or their life and body are not formed based on these fundamental principles, or according to these principles are not compatible with environmental conditions, organisms cannot reproduce and survive. In the competition for survival, those who are more successful in providing these principles will survive. These basic biological principles and goals have remained unknown until now. This has caused us to not understand the purpose and process of evolution as it should be. This new hypothesis is the mother of the theory of evolution. That is, evolution has proceeded by genetic mutations and based on the fundamental principles of natural selection or the fundamental principles of the new hypothesis. Based on these fundamental principles of natural selection, plants, animals and insects evolved. For example, based on these fundamental principles of the new hypothesis or the fundamental principles of natural selection, it was that the fish had fins for swimming, then the fish evolved and got legs to walk on the ground, and with useful changes and the accumulation of changes, reptiles, birds and mammals. Evolved In other words, useful genetic mutations are selected based on the fundamental principles of natural selection.

## Research Methods

This article is only a fundamental hypothesis (theoretical), and it is written in a descriptive and interpretive manner without experimental tests and without mathematical data. I collected the experimental data through the library research method and of scientific article, and based on the new hypothesis that I found, I will give a new interpretation. I hope that in the future I will be able to arrange new experimental tests and mathematical analysis for the argument of this paper. I would invite others to do the same, it is a hypothesis that proposes basic principles and goals to explain natural selection and evolution. The new hypothesis will lead to countless experiments and scientific research in different sciences, which will help to prove the new hypothesis as much as possible. This new hypothesis can be rejected and tested.

## Data collection method

Over the years, I have developed and developed a new hypothesis (new theory) through the thought and intellectual research and scientific observations of other scientists. This was accompanied by speculation. But it explained all the behaviors and organs of the human body. People's daily work, economic, political and social. I went to sociology and psychology and interpreted the important theories of these disciplines based on the new hypothesis. I did this without experimental or mathematical experiments. I knew no one would accept it. The more

I pay attention, the more this new hypothesis has a fundamental application in biology. Again, I did not have experimental experiments and mathematical data.

I began to study the books of biology, evolution, and natural selection, and to find relevant articles, to study the traits and behaviors, organs of the body, the detailed and general characteristics of organisms, to study the evolutionary process throughout history, or to find the purpose of all work and activity, Of organisms from the beginning of life to the present and reading the book by Mr. Darwin and Richard Dawkins. As I progressed, I found stronger, more convincing evidence that the acceptance of the new hypothesis or the fundamental principles and purposes of natural selection. Then I started to find simple, easy and scientific arguments to prove this new hypothesis. However, there is still a long way to go to prove this hypothesis. I compiled the relevant articles and made new descriptions and interpretations based on the fundamental principles of natural selection expressed by the new hypothesis. For better and clearer reasoning, I used a new, logical, scientific, and philosophical idea based on indirect observations.

Assuming I am an observer biologist, doing experimental research and experimentation. I imagined that these books and articles that I read from other biologists, I discovered them myself by observation, experimental research and study. Without compromising the essence of important biology content. That is to say, I observed their observations as they did, I also observed them in detail, only our interpretations were different. This idea is just a way to better understand this new hypothesis, I do not intend to dream and philosophize. To write, argue, prove, and explain this hypothesis, I faced scientific and financial constraints on empirical research. This hypothetical method could help temporarily. That way I no longer had to engage in experimental experiments. I could not make a new hypothesis from scratch. I had to find a strong theory to explain the principles of the new hypothesis I had found, based on that strong theory. Darwin's theory of evolution and natural selection helped me. Almost all biologists agree with Darwin's theory of evolution. I also accept Darwin's theory of evolution.

Just for the sake of better understanding, I'll pretend I'm Mr. Darwin and I found birds with different beaks in the Galapagos Islands. Now, what interpretation, answer, theory, or hypothesis can I offer as to how these different bird beaks came to be? Of course, Darwin later read Malthus's essay on population, which deals with the important issue that although population increases exponentially with high reproduction, factors such as: 1. Lack of food (lack of energy supply) 2. Competitors and enemies (Competition for providing energy and security) 3. Dying and not reaching reproductive age (reproduction) 4. Destructive and damaging environmental factors such as floods and earthquakes, etc. (sometimes lack of adaptation to environmental conditions) prevents the exponential growth of the population. It is from these four factors that Darwin proposed natural selection to explain evolution. 2 (Darwin 1859) (In the above material, the explanations in parentheses are the interpretation of Darwin's statements based on the fundamental principles of the new hypothesis). but I use these four factors to explain the main purpose of evolution. These are the four fundamental principles and purposes of natural selection, remember them well, they are important to understand this hypothesis. I interpret all biology and evolution based on them.

Wait a minute, in the continuation of this article, I will interpret the beaks of Darwin's Galapagos birds based on the fundamental principles of the new hypothesis.

In my opinion, Mr. Darwin's theory of natural selection had one thing it had little, and it could not well explain everything evolution as it is. The basic principles of natural selection that I have found can explained better evolution. Darwin's theory lacked the basic principles of natural selection I found.

Or, You can even assume that (I am Mr. Malthus) Mr. Darwin uses the new hypothesis I found instead of Malthus's theory, and that the Galapagos Island bird tip interprets, evolution and biodiversity according to the fundamental principles of the new hypothesis. suppose I am Mr. Darwin or Mr. Malthus, it does not matter. However, with the principles of the new hypothesis, I have reinterpreted Mr. Darwin's theories that are closer to the truth and more acceptable.

I will continue to reinterpret biology with these basic principles.

I first need to describe the common view of Darwinian natural selection. Natural selection is a process that, over successive generations, leads to the development of inherited traits that increase the likelihood of a living organisms that surviving and reproducing in a population. In other words, natural selection is a process in which environmentally adaptation individuals have a better chance of survival and reproduction and can pass on their genes to the next generation. In contrast, people who are not environmentally adaptation are removed from the

species and can not transfer their genes. During this process, environmentally adaptation genes remain in the species. 3(Richard Dawkins 1976) But what are the characteristics of these environmentally adaptation genes?

Members of a population are naturally different from living things. Many of these differences do not directly affect an organism's ability to survive, while some differences can have a positive effect on an organism's ability to survive. 4(Darwin 1859) A rabbit that runs faster is more likely to escape predators. An algae that can better harness the energy of sunlight grows faster. People who have a better chance of surviving will have a better chance of having children. If such traits, which increase their ability to reproduce, are inherited and passed from parent to child, then the proportion of fast rabbits or efficient algae in the next generation will increase slightly. Even if this reproductive advantage is negligible, over several generations due to exponential growth, most individuals in a population will exhibit beneficial inherited traits. In this way, the habitat and natural environment of a living being "chooses" an attribute that is useful for reproduction and gradually changes life. Darwin first named and explained the phenomenon of natural selection.

If x is more compatible in environment E than Y, x in environment E probably has more children than Y. Here x and Y can be genes, genotypes, organisms, groups, species, or possibly any other biological. for example, if the fish lives out of water, destroys by natural selection.

If a creature such as a human or a mouse or a pigeon is in the water, it will natural selection destroy it. There is one exception, humans can live in water with an oxygen capsule, but only until the oxygen in the capsule runs out. But the general argument is that some organisms can only live in certain environmental conditions(adaptation).

I am very grateful to Mr. Abraham Maslow, Mr. Darwin, Mr. Richard Dawkins for their ideas which helped to create the new hypothesis.

# Hypothesis results/ Fundamental principles, rules and purposes of natural selection from the beginning of life until today in all organisms.

I know that my claim is contrary to today's popular view of evolution and biology. The topic of having a purpose in natural selection may even make many people reluctant to read this article and ignore it. Because most biologists do not accept the existence of goals in natural selection and evolution. Probably, the purposefulness of the evolution process in this article will be accompanied by prejudices. I agree that natural selection is not a conscious deterministic, intelligent, forward-thinking creation. Although it indirectly and unconsciously monitors the future and goals (direction and purpose).

"Nothing in biology makes sense except in the light of evolution."

"Theodosius Dobzhansky"

Now I will address the assumptions of this new hypothesis and state them briefly.

According to the fundamental principles of the new hypothesis, any organism that wants to survive in nature must have biological characteristics based on the principles of natural selection. The new hypothesis says that the evolution in all organisms from the beginning of life to the present has proceeded based on the fundamental principles of natural selection.

Since survival is a necessary condition for reproduction, survival is measured in the mechanism of natural selection. But what features and issues does natural selection take into account to help organisms survive? The new hypothesis raises fundamental questions from which the fundamental principles of natural selection can be derived. These fundamental questions are common to all organisms since the beginning of life and are related to the survival of organisms.

***1- Didn't the first organisms (replicator) and all organisms need to multiply and reproduce and transfer their genes to the next generation to continue their generation?***

***2- Didn't primitive organisms need energy and nutrients to reproduce? (Energy refers to all substances such as water, oxygen, lipids, protein, sugar or glucose and many other***

***excellent substances that a living organism needs for survival and reproduction and its biological activities such as anabolism, catabolism and metabolism.). Didn't primitive organisms need a metabolism system to absorb and convert food into energy?***

***3- Didn't primitive creatures need security for survival and reproduction? such as cell defense enzymes.***

***4- Didn't all organisms need to adapt to environmental conditions? (such as adaptability in hot or cold environmental conditions, adaptability of some in water and some on land, etc.)***

For the realization of life and for the survival of all organisms, the principles mentioned above are needed.

1) Reproduction and transfer of genes to the next generation.
2) Energy supply.
3) Providing security.
4) Compatibility with environmental conditions.

The main purpose is to copy genes or reproduce. Genes need energy or biochemical to copy themselves. Genes must ensure their security and adapt to environmental conditions.

In all the countless organisms we know, unicellular and multicellular, fish, trees, viruses, algae, mammals, reptiles, amphibians, birds; If we examine and observe the body parts, tissues, behavior, traits and characteristics clearly, we will see that all the constituent parts of prokaryotes and eukaryote body parts evolved for provide Fundamental needs, i.e. providing energy and security, reproduction and adaptation with environmental conditions .

You may wonder, how these four fundamental principles and purposes natural selection are? Are there no other fundamental principles? Is there empirical evidence to support the new hypothesis that these are the goals and principles of natural selection? Why are only these basic needs? Why is security a fundamental need?

The clearest reason and argument is that these four options are the fundamental principles and goals of natural or biological and life selection, because in the process of evolution, life, genes, traits, all behaviors and organs of all organisms exist. These four fundamental principles were considered and supported in all organisms by natural selection. In other words, evolution in all organisms has occurred and proceeded based on these fundamental principles of natural selection.

In order to transfer genes to the next generation, organisms need biochemical substances for reproduction. Reproduction is not possible without the necessary biochemical substances. Also, specific biological goals and principles for reproduction must be realized.

Basically, it should be said like this; that in order for all known organisms to reproduce, they need to provide energy, provide security and adapt to environmental conditions. These should be called the fundamental biological needs or fundamental principles biological for the reproduction of organisms.

I want to explain how I came to this new hypothesis and how I prove these hypotheses. I provide arguments to prove the new hypothesis and to some extent prove the purposeful claim of the evolution process.

***1- All body parts in all organisms evolved based on the same fundamental principles, i.e. providing energy, security, reproduction, and adapting to environmental conditions. For example, all cell organs, mitochondria, ribosomes, cell wall, nucleus, DNA, various cellular enzymes, all directly or indirectly, their purpose and function is to provide security, energy and adaptation to environmental conditions and reproduction.***

***2- I know that genetic mutations are aimless. But in this article, I argue that natural selection has fundamental principles and goals that the evolution and adaptation of organisms and the elimination of harmful genes and the preservation of useful genes have been based on these principles.***

***More precisely, it preserves the natural selection of genes that lead to energy supply and security, reproduction and adaptation to environmental conditions.***

***But the natural selection of those genes that fail to provide security and energy and adaptation to environmental conditions and reproduction, or genes that are less successful in providing energy, security, reproduction and adaptation to environmental conditions in competition with other genes, Removes.***

***3- The evolution from the beginning of life until today has proceeded based on these fundamental principles. In more precise words, natural selection preserves and supports any genetic change and mutation that leads to the creation of traits and body parts that help to better provide energy, security, reproduction, and adaptation in specific environmental conditions. In my opinion, evolution should be redefined. Evolution means the accumulation of changes and transformations in environmental conditions that provide energy, security and reproduction in the best possible way.***

We have a presupposition or a hypothesis and we have to check and test it to see if it really occurs in nature or not?

Let's start the discussion from the beginning of life with how the evolution of the first organisms began and progressed through genetic mutations and the fundamental principles of natural selection( new hypothesis). (I must remind you that these principles can be called the Fundamental principles and purposes of biology, life, evolution, new hypothesis and natural selection, which are common to all creatures.)

## 1_ The replicator (the first organisms or first RNA) needed energy.

All organisms, large and small, need energy to perform activities such as homeostasis, growth, reproduction, movement, and so on. As a result, they need to get energy and use it for their biological activities.

When life began on Earth, metabolism was believed to focus on very little chemistry, and simple reaction pathways that were likely to form in reproducing units or organisms and later develop as early cells, is concentrated. It is important to note that reactions to this early metabolism, as well as older prebiotic chemicals, are essentially non-existent today, and so we depend on our knowledge of the conditions underlying the primary earth for hypotheses and experiments. The emergence of life on early earth required (need) the presence of at least three different substances and related physical properties: liquid water, free energy source (need for energy), and self-adorned organic compounds (need for reproduction). Liquid water is essential for all life today, and the existence of life in its absence is very impossible. Potential energy sources include sunlight and energy from chemical imbalances at submarine or underground sites. Self-assembling compounds should be available to form building blocks for polymer synthesis and the formation of boundary structures. Perhaps the most important definition of life is that the entire molecular system must be able to reproduce itself using the self-arrangement of components and genetically encoded polymerization reactions. In a population of reproductive systems that compete for energy and nutrients (competition for energy supply), changes cause changes in individual molecular systems that affect growth and reproductive efficiency. Then a population of finite molecular systems can be exposed to a variety of selective processes required for Darwinian evolution. The essential role of membrane boundaries is to create a selective permeability barrier that is essential for the separation of the cytoplasm from the external environment. (Cell membranes help provide security and provide energy and cellular metabolism.) All of these functions require membrane-associated proteins that may not be present in early forms of cell life. Thus, it appears that the membrane boundaries of primary cells simply create a selective permeability barrier that allows the penetration of essential nutrients (materials needed for energy supply) but retains the original biosynthetic polymer products. 5(Alain Monnard, David W. Deamer -2002)

**The contents in parentheses of my interpretation are based on the fundamental principles of natural selection (bio and life), which I will explain further.*

The chemical adaptability of sulfur and its abundance in prebiotic earth as reduced sulfide ($H_2S$) make it a source of life 3.8 billion years ago and also a major source of early evolutionary energy. The tremendous increase in

ambient oxygen about 600 million years ago led to the end of H2S as an energy source, and H2S-dependent animals either became extinct, or dislodged or adapted to sulfide energy. The simplest definition of life is the ability to use and control energy. Today, almost all of life's energy comes from the sun. Plants oxidize water to oxygen and reduce inorganic carbon, while animals receive energy by reversing this process. Photosynthesis was not an inherent feature at the time of life, and a number of scenarios have been proposed for the supply of energy and / or high-energy organic molecules. Hydrogen sulfide (H2S) is mentioned in most scenarios, but generally as a minor factor. Theories of the origin of life follow two main issues: Where did the first organic molecules come from and how was energy used to guide metabolism? Stanley Miller was the first to suggest that lightning could provide the energy needed to make a "primary soup." Other sources of organic molecules include high-energy nuclear reactions in distant stars and are then presented in comets, meteorites or cosmic dust, and photo catalyzed reactions in the atmosphere. H 2 S is present in all of these possibilities, even in recently discovered samples from Miller's original experiments. H2S was the most versatile molecule at the beginning of life because it could act as an important organic product, a reactant, a catalyst (radiation enzyme), a barrier (membrane radiation), and a stable source of energy. H 2 S and photosynthesis, the ability to extract energy from a photon and use it to form or break chemical bonds, provide energy to cellular organisms, which probably occurred relatively immediately after the origin of life, about 3-3.5 million years ago. Not only will H2S be a potential candidate because of its abundance, but its molecular resemblance to water could be a good "guide" for more complex, high-energy type II photosynthesis. H 2 S-mediated photosynthetic residues are present in today's anaerobic photosynthetic green and purple sulfur bacteria. 6(Kenneth R. Olson, Karl D. Straub, 2015)

The above can be interpreted in a new way that explains the cause and purpose of the evolution of the first organisms.

The early replicator was the first organism to make a copy of itself. The first replicator, or the first organism (the last ancestor of all beings that began replicator itself), needed energy and compounds from materials like itself to reproduce itself in order to build another like itself. I named all the organic compounds the energy that organisms need. All organisms, large and small, need energy to reproduce on their own. Accordingly, the new hypothesis states that the need for energy can be called one of the goals and fundamental principles of natural (biological) selection. Because without energy and materials needed, no organism could reproduce. For example, most organisms need water and oxygen, organic matter, amino acids, lipids, nucleic acids, proteins, and other organic matter. Energy supply is one of the natural selection criteria. For example, if genetic mutations occur in any of the organisms that alter the quality, quantity, and method of energy supply, they are considered by natural selection (conserved if useful, eliminated if harmful), and in The evolutionary process is influential. Natural selection considers changes (evolution) in replicator (errors in the reproduction and copying phase), based on (quality, quantity, and method) of energy supply by replicator.

At that time, a soup of early replicator was created. In the process of replicating and copying themselves, mistakes sometimes occurred that caused them to change. Not all mistakes were helpful. But some could be helpful. The changes made a difference. The existence of differences in a population of small or large organisms is one of the necessary materials for evolution through natural selection. Early replicator were evolving under natural selection due to errors in copying their own versions. 7 ( Richard Dawkins 1976) But the most important question of evolution is that by what criteria, purposes, and principles did natural selection select the beneficial error in transcription (mutations) and eliminate the harmful one?

Example; Natural selection selects changes (mutations) based on the fundamental principles of energy supply.

If some counterparts are faster than others at absorbing food and organic molecules for their replication (assuming other conditions such as safety, replication and replication speed are a distinct feature versus attractive material speed, and The environmental conditions are the same for both counterparts (in other words, he has been able to absorb and supply the energy he needs better and sooner than others. This example of a counterpart can theoretically reproduce more due to the uptake of required materials. Maybe we should say that he can reproduce more if he wants to . Because maybe they use materials for their growth. However, if it has more speed and excellent quality in absorption and energy supply than others, it increases the likelihood of more reproduction.

Even these replicator can reproduce more than those that live longer but have fewer nutrients or energy sources. The speed of decomposition and metabolism of absorbed materials and their conversion into energy and required materials also play an essential role in the selection. Thus, the population of those who were able to provide the energy and materials they needed better and more than others will survive, and their number will increase, and

they will gradually oust others. Note: It is assumed that security is the same in both organisms, reproduction is the same, but the materials they use for reproduction are scarce for one of them, difficult to obtain, more intense competition for resources, this causes reproduction It becomes less like.

The need to energy for organisms means, the need to food and feed and nutrition, the need for substances used for anabolism and catabolism, and the need to water and oxygen for the transcription of genes, for making proteins, for making the building blocks of cells, and for cell division, needed carbon dioxide, the need for minerals, the need for sunlight and many other needs that I named all the needs, need to provide "energy".

We can interpret the cycle of energy supply among organisms in this way. Sunlight provides energy to almost all organisms directly or indirectly. Sunlight provides energy to plants in the photosynthesis process of plants. Herbivores get their energy from plants. Carnivores get their energy by eating herbivores.

The need for energy can have other names, but energy is a general concept that includes all cellular processes, energy production in animals with mitochondria, plant photosynthesis, cell division, catabolism and anabolism, RNA transcription, and lipid production.

Do not forget that energy supply is just one of the fundamental principles and goals of natural selection.

## 2- The replicator (RNA) needs security.

Some early creatures were more persistent and more durable. In other words, they were stronger and would fall apart late. Assuming all the other conditions and factors such as speed of reproduction, energy supply, etc. were the same. The same strength and resistance to decomposition was a biological trait that was exposed to natural selection and is an advantage in the race for survival. In fact, this advantage was the higher and superior safety in disintegration or destruction, which they had over the rest. (In the case of large organisms, the killing or loss of one of the major biological components, such as the heart and stomach, or the loss of large amounts of blood that causes death.) Provide safety or protect yourself. Other replicators, which were weaker and soon destroyed or disintegrated by others, could not actually provide their own safety. Durability, or somehow higher immunity than others, could increase their reproduction. This feature or principle in the evolution of all organisms is taken into account by natural selection.

The need to provide security can have other names. The need for protection and safety, some traits and characteristics of organisms are used to provide security. For example, the immune system of organisms, the skin of organisms, defensive enzymes, white blood cells, deer and cow horns, elephant tusks, bee and snake stings, fighting and defensive skills of animals and more...

Providing security means all the actions, traits, behaviors and body parts that are used to protect and defend the body so that it is not attacked; Against the invasion of enemies, diseases and germs and viruses, sexual competitors, protection against environmental factors such as harmful rays of sunlight, cold and heat, atmospheric pressure, tip:

The need to survive is different from the need to provide security in organisms. The need to survive or the need for survival is a broader concept and for the survival of organisms, there is a need to provide energy and security and adapt to environmental conditions and reproduction. This is the survival instinct. Survival instinct means the efforts of organisms to provide energy and security, reproduce and adapt to environmental conditions.

## 3- The replicator needs to reproduce.

That first organism, or early replicator, needed to reproduce and reproduction in order to make samples of itself. Reproduce and reproduction can be considered as one of the basic purposes and principles of natural selection. Without reproduction, organisms could not exist for generations. Without reproduction, perhaps no evolution will take place. Without reproduction, the next generation does not exist and the organism becomes extinct. As biologists say; The goal of organisms or the goal of evolution is to pass on their own genes to the next generation through reproduction. In Darwinian theory of evolution, reproduction is more important than longevity. Reproduction is one of the fundamental principles of natural selection or bio and life of organisms, because without reproduction, organisms cannot survive and become extinct.

## 4- The replicator needs to be adapted to environmental conditions..

That first organism needed other useful properties such as adaptability to environmental conditions to survive. It could not survive without adapting to environmental conditions. The characteristics required for adaptation in hot or cold environments, stony or earthy ground, high or low light, atmospheric pressure, hot or cold water environment, on land or inside water, salt or fresh water, the need for homeostasis or maintaining internal balance the body, the need to maintain integrity and order between body parts, and many other things that I call the need to adapt to environmental conditions. A fish in the sea, another fish in a fresh water river, penguins at the pole, adaptation of frogs in water and land, birds in trees, formed by atmospheric pressure on land or in the sea and the gravity of the earth. (Perhaps if there was life on other planets, the organisms of the planet would be formed based on the atmospheric pressure and atmospheric gravity of this planet.) Heat tolerance in desert and hot and dry environments, humid rain forest environment, polar ice environment, in any environment Creatures with unique properties and characteristics have evolved.

## 5_ Maybe there are other unknown needs.

In this article, for now, I will only mention the needs that play a role in natural and biological selection and body and adaptation and survival. There may be many other unknown needs in biology and evolution and natural selection that are so complex that they remain unknown to me. Needs such as the need to balance the body's internal heat, the need for homeostasis, the need to stand and maintain balance, and many more...

First of all, you need to know and understand the meaning and concept of the word need, because understanding this hypothesis depends on knowing the word and the function of the need. In this hypothesis, the word "need" is not an ordinary word we have always heard in everyday life. "Need" must be understood in the specific and new sense used in this theory. Perhaps it needs another meaning for ordinary people, and for specialists in different sciences, each field has its own special and specialized meaning. The word need has become popular among the people in the form of necessities and necessities of life such as food, clothing and home. This meaning also conveys almost the essence of the content. If I mean the word need according to the new hypothesis, all organisms need reproduction and reproduce in order to survive, they need security, they need energy and food and metabolism. What happens to organisms if they do not receive the energy, food, and nutrients they need? Without energy and food and water and oxygen, without the organs of the body that protect the organism, that is, without security, without reproduction, it is impossible for an organism to survive. The need for energy and security and reproduction and many other needs are among the essentials for the survival of organisms that need it. Therefore, we should not misunderstand the specific and true meaning of the word need in the right and correct understanding of the word need.

In the new hypothesis: need means needed, want, necessity, obtaining, satisfying, supply, fundamental deficiencies in the behavior and organs of the body, essential, asking, wanting, desire, wishing, having, appeal is needy. Function of need in organisms as having something needed to live and lack of a body organ or behavior, need should be defined as a biological necessity according to the new definition.

In this new article and hypothesis, purpose means principles and rules, goal, destination, direction, path, intention of natural selection.

Macro needs, meaning many different needs of organisms, such as, need for energy and food, and reproduction, need for security, need for heart, blood, blood vessels, lungs, eyes, ears, physical balance, energy balance, Toxic balance, homeostasis, Osmosis pressure balance, the need for the body's defense mechanism, and countless other needs. For example, cells need not only nutrients and oxygen but also cell components. Cells need mitochondria, cytoplasm, nucleus, cell wall, nutrients and air, and other components. Without the materials and components that make up a cell, there would be no cell. So in order for a cell to come into being, it needs the building blocks needed to build a cell. That is, the presence of cellular components is an essential need for the cell to form.

To provide in all organisms means to meet, supply, earn, obtain, get, attain, gain, acquire, have, satisfy.

The fundamental principles of natural selection means; The fundamental biological law of life, the characteristics of living things, the main and basic purpose of evolution, what is necessary for life, the fundamental purpose of human life and all living organisms.

Safety means protecting, securing, maintaining as it is, staying healthy, protecting oneself with one's organs.

Appropriate here means organs, behaviors, different traits, and genes with beneficial properties and effects that can adequately provide energy, security, and reproduction in environmental conditions.

In the following, we will deal with the errors that occurred in the process of copying and replicating the replicator , and some of these errors caused evolution and beneficial changes in those early organisms and thus the primary cells evolved.

The primary organism or replicators mutated, and over generations and the accumulation of beneficial mutations, the cell came into being. But according to what principles and purpose does natural selection identify and retain useful mutations? What principles were taken into account by natural selection in order for the primary organism (replicator) mutated to become a cell? How did natural selection identify and eliminate harmful mutations?

*If you have paid close attention to the above, I have said so far that primary organisms or replicator 1- need to provide energy 2- need to provide security 3- need to adapt to environmental conditions 4-They need to reproduce and successfully transfer genes to the next generation.*

These are the fundamental principles and purposes of the new hypothesis, or natural selection, or biological.

# discussion and conclusion/
# Cell and organisms evolution by the fundamental principles and purposes of natural selection
# Or the purpose of cell and organisms evolution by the fundamental principles of natural selection

## 1_The cell and organisms needs to provide energy.

What was the reason for the evolution of the replicator into the cell by natural selection? The evolution of the following all occurred in the direction of providing energy. Evolution in better supply in the quantity and quality of energy of the first organisms led to the creation of the first cells. As I said, the early replicator needed energy to survive and reproduce. I now argue that later organisms, or later evolution, evolved according to the basic principles of energy supply. Gradually, natural selection accumulated useful errors to provide useful energy, and different replicator evolved. Eventually one of them was able to be accepted more than the others based on the principles of energy supply by natural selection, and thus the early cells evolved.

The early replicator evolved into a cell that converts its nutrients or energy into energy in a chemical process performed by the cellular metabolic system. In a multi-step process, cellular metabolism breaks down materials, stores energy (catabolism), and converts stored energy into cellular materials (anabolism). (Cells make and consume the energy they need and the substances in catabolism and anabolism.)

Anabolism and catabolism are some of the main processes in the study of the growth and development of biological organisms, because the role of energy in such biological processes is fundamental. Life depends on energy conversions. Organisms survive due to the exchange of energy between living tissue / cells and the external environment. Some organisms, such as autotrophs, can obtain their energy through photosynthesis, that is, from sunlight, without the need to consume and break down nutrients. Other organisms, such as heterotrophs, must obtain energy from autotrophs in order to obtain energy by breaking down the chemical bonds in the organic matter of autotrophs during metabolic processes such as glycolysis and the citric acid cycle.

## Catabolism

Catabolism is a set of metabolic processes that break down large molecules to supply cellular energy. These include the breakdown and oxidation of food molecules. The purpose of catabolism reactions is to supply energy and build the components needed by the cell in the process of anabolic reactions. The exact nature of these catabolic reactions varies from organism to organism, and organisms can be classified according to their sources of energy, hydrogen, and carbon. Organic molecules are used by organography as a source of hydrogen atoms or electrons, while lithographs use mineral substrates. While phototrophs convert sunlight into chemical energy, chemotropism depend on redox reactions that involve the transfer of electrons from reduced donor molecules such as organic molecules, hydrogen, hydrogen sulfide, or iron ions to energy-soluble molecules. In animals, these reactions involve complex organic molecules that break down into simpler molecules such as carbon dioxide and water. Photosynthetic organisms such as plants and cyanobacteria use similar electron transfer reactions to store energy absorbed by sunlight. 8(catabolism |Encyclopedia Britannica)

## Anabolism

Anabolism is a set of constructive metabolic processes in which the energy released by catabolism is used to synthesize complex molecules. In general, the complex molecules that make up cellular structures are made step by step from smaller, simpler precursors. Anabolism consists of three basic stages. 1- Production of precursors such as amino acids, monosaccharides, isoprenoids and nucleotides, 2- Activation of them in reactive forms using ATP energy, 3- Combination of these precursors into complex molecules such as proteins, polysaccharides, lipid acids and... chlorophyll is a green pigment found in most plants, mosses, and cyanobacteria and photosynthetic bacteria, or photosynthetic bacteria that have chlorophyll but no chloroplast. chlorophyll absorbs most of the blue and red light and reflects the green and yellow light through the electromagnetic spectra. The green color of plants is due to the reflection of green light from chlorophylls. The function of greenery is to produce energy by the process of photosynthesis, which means that it combines carbon dioxide with the resulting water to make sugar and oxygen, or more simply enables the plant to obtain energy from sunlight. It is a chemical that is present in the leaves and stems of almost all plants and makes them green. Photosynthesis allows plants to stay green. Plants need chlorophyll to make their food. Carbon dioxide in the air and water sucked by the plant roots from the ground react with chlorophyll in the presence of light to produce oxygen and carbohydrates. 9(Anabolism |Encyclopedias Britannica)

It is generally assumed that the complex map of metabolism is the result of natural selection that works at the molecular level. However, natural selection can only work on organisms that have three basic characteristics: 1. Information, 2. Metabolism 3. Membrane. Metabolism must include the ability to produce all cellular structures as well as energy (ATP) from external sources. Information must be created on a material that ensures its durability to protect the goals achieved. the membranes must be able to retain the inner material. 10(Enrique Meléndez-Hevia, Nancy Montero-Gómez, Francisco Montero, 2008)

if we interpret the above according to the new hypothesis.

*1. Genetic information is needed for reproduction, all organisms need information to make exactly one like themselves (need to reproduce) 2. Metabolism, energy and organic matter needed for catabolism and anabolism (Need to provide energy) 3. The need for cell membranes is essential to maintain the security of internal cellular components (need to provide security).*

The different pathways of metabolism are too many and their explanation and interpretation is not included here. I will only briefly mention a few examples.

# Some of the different types of methods for providing energy organisms

## Krebs cycle

It is one of the pathways that is considered central in the metabolism of organic organisms, because the metabolism unites the most important molecules, including proteins, fats and carbohydrates. 11 (Dictionary of Energy ,Second Edition 2015)

## The electron transport chain

The electron transport chain consists of a series of transporters anchored in a membrane. The purpose of this chain is to produce energy in the form of ATP. 12 (Yuanbin Liu, Gary Fiskum, David Schubert,2002)

## Synthesis of fatty acids

Fatty acids are molecules that play a very important role in cells and are mainly found as structural components of biological membranes. For this reason, the synthesis of fatty acids is essential. 13(Salih J. Wakil, Edward B Titchener, David M. Gibson, 1958)

## Nucleotide metabolism

The synthesis of nucleotides is an important event in cellular metabolism, as these are the precursors of the molecules that form part of the genetic material, DNA and RNA, and important energy molecules such as ATP and GTP). 14(Andrew N Lane, Teresa WM Fan, 2015)

## Fermentation

Fermentations are metabolic processes independent of oxygen. They are catabolic and the end product of the process is a metabolite that still has oxidation potential. There are many types of fermentation, but lactic fermentation occurs in our body. 15(Fredric N. Owens, Mehmet Basalan, 2016)

## ATP

(adenosine triphosphate) is the most important form of energy storage in all cells. And energy gains and investments in metabolic pathways are often expressed in terms of ATP molecules. Adenosine triphosphate (ATP) is the main "energy currency" for organisms. The goal of metabolic and catabolic processes is the synthesis of ATP from available raw materials (from the environment) and the breakdown of ATP (into adenosine diphosphate (ADP) and inorganic phosphate) using it in biological processes. In a cell, the ratio of ATP to ADP concentration is known as the "energy load" of the cell. A cell can use this energy charge to transmit information about cellular needs. If there is more ATP than available ADP, the cell can use ATP to do work, but if there is more ADP than available ATP, the cell must synthesize ATP through oxidative phosphorylation. Living organisms generate ATP from energy sources, mainly sunlight or O2, mainly through oxidative phosphorylation. ATP reserves of living organisms are used as batteries to store energy in cells. The use of chemical energy resulting from such rearrangement of molecular bonds enhances biological processes in any biological organism. 16(Jasmine A. Nirody, Itay Budin, Padmini Rang Amani, 2020)

## Glycolysis

Glycolysis is a set of intracellular reactions by which a six-carbon sugar (usually glucose) is broken into smaller carbon compounds (two three-carbon pyruvate molecules) and part of the free energy of sugar is stored in the formation of electron carriers such as ATP and NADH. Glycolysis is the most well-known route of the metabolism routes. According to the studies of the gene sequence of many animals and the fact that the Earth's early atmosphere lacked oxygen, researchers believe that glycolysis is one of the most primitive ways to produce energy from organic fuel molecules. 17(Linda A Fothergill-Gilmore, Paul AM Michels,1993)

## Aerobic respiration

Aerobic respiration requires oxygen to produce adenosine triphosphate, although carbohydrates, fats, and proteins can also be produced as reactants when pyruvic acid is broken down in the glycolysis reaction. During the glycolysis reaction and during the citric acid cycle, pyruvic acid enters the mitochondria and is completely oxidized during the reactions of the citric acid cycle. The products of aerobic respiration include water and carbon dioxide, but the energy (electron) that is produced by the phosphorylation reaction and by energy carriers such as nicotinamide adenine dinucleotide and FED that flow in the electron transport chain to break down adenosine diphosphate and convert it into adenosine triphosphate. In general, the reaction of aerobic respiration is up to 15 times more efficient than the reaction of anaerobic respiration in the cell. Aerobic reaction produces 29 to 30 molecules of adenosine triphosphate for each molecule of glucose, while the reaction of anaerobic respiration produces only 2 molecules of adenosine triphosphate. Although organisms such as methanogens are archaebacteria that produce methane in anaerobic conditions by anaerobic respiration as a definite product of metabolism, and compared to humans, they produce more adenosine triphosphate molecules during the anaerobic respiration reaction. 18(Wu, M., Gu, J., Zong, S. et al.(2020)

Breathing is carried out in almost every living organism, and in higher organisms the breathing apparatus becomes more and more complex. In mammals, respiration takes place in mitochondria. Through different pathways of catabolism, carbohydrates, lipids, cholesterol and some types of amino acids are catalyzed into small electron donor molecules such as NADH and FADH, and subsequently these electron donors enter the respiratory chain located in the inner mitochondrial membrane (IMM).19 ( A. F. Bennett 1991)

Cyanobacteria are among the most ancient of evolutionary lineages, oxygenic photo synthesizers that may have originated before 3.0 Ga, as evidenced by free oxygen levels. Throughout the Precambrian, cyanobacteria were one of the most important drivers of biological innovations, strongly impacting early Earth's environments. At the end of the Archean Eon, they were responsible for the rapid oxygenation of Earth's atmosphere during an episode referred to as the Great Oxidation Event (GOE). 20 (Bettina E. Schirrmeist ,Muriel Gugger, Philip C. J. Donoghue 2015)

## anaerobic

The anaerobic way of life comprises a great metabolic diversity and, correspondingly, diversity of energy-generating mechanisms. The facultative anaerobes have a respiratory system that uses preferentially oxygen, but in the absence of oxygen and presence of alternative electron acceptors, such as NO3 J, NO2 J, Fe (III), or others, alternative electron transport pathways are induced. The situation is completely different in strict anaerobes which can derive energy only by fermentation and/or by ion gradient-driven phosphorylation. In general, the energy yield in strict anaerobes is only a small fraction of the one gained by aerobes. Obligately fermenting organisms rely mostly on substrate level phosphorylation (SLP), and the energy yield ranges from 1 to 4 mol of ATP per mol of hexose fermented. However, a number of organisms have evolved additional mechanisms to increase their ATP yield. Some employ electro genic end product efffux and, in addition, some of the fermentation pathways comprise one or more membrane-bound reactions which result in the generation of a transmembrane ion gradient across the membrane. 21 (Volker Muller 2003)

A scheme for the evolution of anaerobic energy-yielding metabolic pathways of the prokaryotes is proposed. This proposal is based on the environmental pressures which would have been placed on the early prokaryotes and the selective advantages which would have accrued to the prokaryotes which developed mechanisms to overcome these pressures. It is assumed that each of the major metabolic types of anaerobic micro-organisms existing today is composed of those species which have survived from the corresponding stages in prokaryote …22(Raymond S. Horvath 1974)

Why do living organisms make all kinds of chemicals? Evolutionary theory tells us that individuals within populations will undergo mutations, and some of these mutations will be types of enzymes that make new chemicals. A mutant that makes a new chemical for that species will survive in the population only if the "cost" of making the new chemical is lower and the properties and benefits of that new chemical to the organism are greater. The benefits or adverse consequences that a new chemical substance X can confer on an individual organism are not a property of the simple presence of X in the cell, but can be traced to one of the many properties that X will have due to its molecular structure . By considering only four main types of mutations and molecular traits (energy supply, security, reproduction, and adaptation to environmental conditions) and considering how the selection pressure will be different for each type of trait, many Explained the chemical diversity made by

organisms. In general, if we look at the purpose of all the new and useful mutations that formed different pathways of metabolism and were accepted by natural selection, because with these pathways and different methods of metabolism, organisms were able to use different substances through different methods of chemical catalysis. different ways to obtain energy, decompose, store and convert it with different methods. We start by considering, in very general terms, the selective consequences of a new biosynthetic capacity in an individual that produces only one new chemical as a result of a mutation. In this case, it is the intrinsic properties possessed by that new substance, not the properties of the mutated enzyme, that will be the initial focus of selection. The new substance could:

(i) possess properties that are new and enhance the functioning of the cell and hence the organism

(ii) possess properties that are new and adversely affect the cell and hence the organism

(iii) possess properties that are new but have no impact on the functioning of the cell or the organism other than the imposed metabolic cost of production

(iv) possess properties that can substitute for an existing, necessary property with no impact on the functioning of the cell or the organism other than the imposed metabolic cost of production, but with the accrual of potential functional redundancy

(v) possess properties that can substitute for an existing, necessary property with a negative impact on the functioning of the cell hence the organism (via, for example, diversion of substrates). 23 (Richard D. Firn, Clive G. gones,2009)

Now the important question is what molecular properties are subject to selection? What rules determine whether a new biosynthetic capacity created through mutation is retained by natural selection?

By emphasizing the evolution of metabolism on the properties of chemical substances, rather than their constituent enzymes, it is necessary to consider the types of physicochemical properties that substances have that can act as foci of selection. Like human characters, chemical characters have many facets to their personality, and more than one facet may play a role in selection. However, there appear to be a few dominant physicochemical properties.

For example: Because of the nature of protein/ligand interactions, it is necessary for the ligand to have a conformation that exactly fits the binding sites of the protein it interacts with if those binding sites are significantly occupied when the ligand is exposed to real physiological conditions. These are very strict constraints, and therefore few mutagenized chemicals have the appropriate structure to bind to the protein when the ligand and protein are present at low concentrations. 23(Richard D. Firn, Clive G. Jones, 2009)

Based on the fundamental principles of the new hypothesis, from the evolution and acceptance of these different pathways of metabolism by natural selection; We get a general conclusion,

*For an organism to live, there is another level of selection other than physical and chemical molecular selection of material properties. The principles of evolution and biomolecular activities and mutation and creation of chemical diversity should be applied based on the fundamental principles of the new hypothesis whether it leads to energy supply, security, adaptation to environmental conditions and reproduction or not.*

If the new molecule has intrinsic properties that provide the organism with more benefit than cost, selection favors the maintenance of individuals that favor that beneficial variant over those that do not. In fact, the purpose of all the new and useful mutations that formed different pathways of metabolism and were accepted by natural selection was that the new useful mutations were able to catalyze different substances through different methods of metabolism. Various methods of obtaining and providing energy, various methods of decomposition and storage and conversion of materials into energy, use them for the consumption of cell energy in various matters such as catabolism and anabolism.

Different organisms will achieve similar functional optima using different ratios of relatively similar molecules. This explains why individual species may have distinct mixtures of each of these substances. The diversity of flavonoids, xanthophyll's or lipids that characterize many species is simply an inevitable and predictable

consequence of the fact that cells require certain chemicals with specific properties. Thinking of properties of molecules rather than chemical structures, one can predict that any organism must have a collection of molecules with appropriate properties. However, it is the properties that are needed, not the specific molecules. Consequently, it is expected that evolution may cause structural radiation within a functional category, such that different molecules may play similar roles in different organisms because they share similar properties (chitin vs. cellulose, starch vs. inulin, etc.). Likewise, similar chemicals may play different roles in organisms. An operative enzyme variant might only possess new enzyme activity because of a loss of substrate specificity, and the rate at which the new variant mutates further to increase the specificity for a new substrate will be very dependent on the selective advantage that results from increased specificity. For example, if there is no other substrate in the cell (at concentrations that are metabolically significant) then the selection pressure for increased substrate specificity will be negligible. Even if an alternative substrate is available and is being converted at a significant rate to another product but that substance has properties that are selectively neutral, there might be no selection pressure favouring increased enzyme specificity. In other words it is no longer realistic to consider enzymes as being substrate specific, rather, some enzymes, as a result of selection, possess high substrate specificity. 23(Richard D. Firn, Clive G. Jones, 2009)

All organisms, including cells, need nutrients and oxygen as well as cell components. Cells need mitochondria, cytoplasm, nucleus, cell wall, nutrients and air and other components. Without the materials and components that make up the cell, the cell would not exist. So, in order for the cell to be formed, there is a need for building components and required to build the cell. That is, the presence of cellular constituents to provide energy, security, reproduction and adaptation to environmental conditions is a necessary requirement for the cell to form.

## 2- Cells and all organisms need security. The evolution of the immune system or the evolution of the security of cells and all organisms by the fundamental principles of natural selection

Sometimes, even though the cells or organisms are highly reproductive, but they die before reaching reproductive age. because they cannot provide their security or energy. Like fish that give birth to many children. But because their eggs or small children are eaten by predators, that is, their security and safety is weak or they cannot get enough food and nutrients to supply their energy, they will die before reaching reproductive age. Survival and life they will be difficult and impossible.

But there is another cell that reproduces less than these, but because of the defense enzyme or cell wall and other cell defense organs, the offspring have better security and survive. Cell safety means that the cell has a cell wall that does not allow harmful substances to enter the cell and does not damage the cell. Or the cell has a defense enzyme that if unknown and harmful substances enter the cell, they identify them and destroy them and ensure the safety of the cell. Providing security in living beings such as animals, that is, they have ways to escape, hide and blend in with the environment, to protect and secure themselves from the eyes of enemies.

One of the reasons for the successful survival of species is that they have been able to secure themselves. Although these have less or equal reproduction than others, because they have been more successful in provide security, they reach reproductive age, they will be more successful in survival, and their genes will be passed on to the next generation. The features and traits that provide security of organisms are considered, supported and accepted by natural selection.

That primitive creature and all creatures need provide security so that they are not destroyed by other enemies and rivals.

Organisms that competed with each other and those that had characteristics that made them safer than others survived. Beneficial mutations for provide security have occurred and accumulated. Gradually, those early

organisms (RNA, Replicator) evolved into primitive cells that had cell walls and enzymes to protect their organelles. This characteristic of having a cell wall became an evolutionary advantage or an advantage in providing better security compared to those have not a cell wall. Those who did not have this immunity were destroyed by the attackers sooner. This caused the universe to be filled with primordial cells.

Providing security or immunity is divided into two groups: inherent immunity and adaptive immunity. Most organisms have innate immunity, but some have adaptive immunity.

Host responses against invading pathogens are the basic physiological responses of all living organisms. Since the emergence of the first eukaryotic cells, a series of defense mechanisms have evolved to ensure cellular integrity, homeostasis, and host survival. Invertebrates, from protozoans to metazoans, have cellular receptors that bind to foreign elements and distinguish self from non-self. This ability in multicellular animals is accompanied by the presence of phagocytes with different names (ombocyte, hemocyte, coelomocyte) in different groups, including animal sponges, worms, fish, molluscs, crustaceans, insects and urchins (sea). Basically, these cells have a macrophage-like appearance and function, and the repair or fighting functions of these cells are prominent even in the early stages of development. Cells have pathogen recognition receptors (PRRs) that recognize pathogen-associated molecular patterns (PAMPS), which are well-conserved molecular structures expressed by various pathogens (viruses, bacteria, fungi, protozoa, worms). (Kurt Buchmann, 2014)

The evolutionary emergence of vertebrates was accompanied by major morphological and functional innovations, including the development of an adaptive immune system. Vertebrate adaptive immunity is based on the clonal expression of somatically diversifying antigen receptors on lymphocytes. This is a common feature of both the jawless and jawed vertebrates, although these two groups of extant vertebrates employ structurally different types of antigen receptors and principal mechanisms for their somatic diversification. These observations suggest that the common vertebrate ancestor must have already possessed a complex immune system, including B- and T-like lymphocyte lineages and primary lymphoid organs, such as the thymus, but possibly lacked the facilities for somatic diversification of antigen receptors. Interestingly, memory formation, previously considered to be a defining feature of adaptive immunity, also occurs in the context of innate immune responses and can even be observed in unicellular organisms, attesting to the convergent evolutionary history of distinct aspects of adaptive immunity. 25(Thomas Boehm, Jeremy B Swann, Annu. Rev. Anim. Biosci., 2014)

Approximately 500 Mya two types of recombinatorial adaptive immune systems appeared in vertebrates. Jawed vertebrates generate a diverse repertoire of B and T cell antigen receptors through the rearrangement of immunoglobulin V, D, and J gene fragments, whereas jawless fish assemble their variable lymphocyte receptors through recombinatorial usage of leucine-rich repeat (LRR) modular units. Invariant germ line–encoded, LRR-containing proteins are pivotal mediators of microbial recognition throughout the plant and animal kingdoms. Whereas the genomes of plants and deuterostome and chordate invertebrates harbor large arsenals of recognition receptors primarily encoding LRR-containing proteins, relatively few innate pattern recognition receptors suffice for survival of pathogen infected nematodes, insects, and vertebrates. The appearance of a lymphocyte-based recombinatorial system of anticipatory immunity in the vertebrates may have been driven by a need to facilitate developmental and morphological plasticity in addition to the advantage conferred by the ability to recognize a larger portion of the antigenic world. 26(Zeev Pancer, Max D Cooper 2006)

Because the immune system is composed of cells and tissues that do not lend themselves to fossilization, it is impossible to trace the evolution of immunity from the paleontological record. But, because all animals exhibit some general ability to recognize self and to repel foreign substances, it is possible to study the immune capacity of living animals and, based on the relative positions of these animals in the evolutionary tree, A logical evolutionary history of the immune system can be generalized. Immune capacity among invertebrates

## Evolution of provide security capacity among invertebrates

From the lowliest protozoans to the higher marine tunicates, invertebrates have means of distinguishing self components from oneself components. Invertebrates lack antibodies, lymphocytes or other features of the vertebrate adaptive immune system, but they have innate defence reactions. Many of them have an open circulatory system and therefore they need immediate and constitutive mechanisms for the recognition and immobilization of microorganisms and parasites, and for clotting to prevent blood loss upon wounding. Some invertebrates also have inducible defence reactions which are dependent on new or increased synthesis of, for example, antimicrobial proteins. 27 (N.A.RatcliffeC.P.Rhodes 1985)

The arms race between hosts and pathogens (and other non-self) drives the molecular diversification of immune response genes in the host. Over long periods of evolutionary time, many different defense strategies have been employed by a wide variety of invertebrates. 28 (JulieGhosh.L. Courtney Smith 2011)

From the lowliest protozoans to the higher marine tunicates, invertebrates have means of distinguishing self components from nonself components. Sponges from one colony will reject tissue grafts from a different colony but will accept grafts from their own. When tissue grafts are made in animals higher up the evolutionary tree—between individual annelid worms or starfish, for example—the foreign tissue is commonly invaded by phagocytic cells (cells that engulf and destroy foreign material) and cells resembling lymphocytes (white blood cells of the immune system), and it is destroyed. Yet tissues grafted from one part of the body to another on the same individual adhere and heal readily and remain healthy. So it seems that something akin to cellular immunity is present at this level of evolution. Insects engulf and eliminate foreign invaders through the process of phagocytosis ("cellular eating"). They have factors present in their circulatory fluids that can bind to foreign cells and cause clumping, or agglutination, of a number of these cells, an event that facilitates phagocytosis. Insects also seem to acquire immunity to infectious agents.

## Evolution of provide security capacity among vertebrates

The most sophisticated immune systems are those of the vertebrates. Recognizable lymphocytes and immunoglobulins (Ig; also called antibodies) appear only in these organisms. The most primitive living vertebrates—the jawless fishes (hagfish and lampreys)—do not have lymphoid tissues corresponding to a spleen or a thymus, and their immune responses, although demonstrable, are very weak and sluggish. Farther up the evolutionary tree, at the level of the cartilaginous fishes (sharks and rays) and the bony fishes, a thymus and a spleen are present, as are immunoglobulins, although only those immunoglobulins of the IgM class are detectable. Fish lack specialized lymph nodes, but they do have clusters of lymphocytes in the gut that may serve an analogous purpose. It is not until the level of the terrestrial vertebrates—amphibians, reptiles, birds, and mammals—that a complete immune system with thymus, spleen, bone marrow, and lymph nodes is present and IgM and IgG antibodies are made. Antibodies of the IgA class are found only in birds and mammals, and IgE antibodies are confined to mammals. So it appears that the most primitive devices for producing specific, acquired immunity gradually diversified to meet the new environmental hazards as animals moved out of the sea onto the land. The evolution of the complement system (a group of proteins involved in immune responses) may have occurred faster than that of the immunoglobulin system. The jawless fishes have complement components corresponding only to the later-acting (i.e., cytolytic, or cell-killing) aspects of complement function, but all higher vertebrates have components similar to the complete complement system of mammals. The fact that the complement system has been so well conserved during evolution implies not only that it has been of great biological value but also that complement and immunoglobulins have interacted throughout the evolution of the immune system in higher vertebrates.

## The origin of the genetic evolution of the provide security system

Researchers have found many similarities between the structures of proteins involved in antigen recognition and those in cell-to-cell recognition in the immune system. (Antigens are the foreign proteins that antibodies recognize and bind to.) These proteins include the antigen receptors of lymphocytes, the (MHC) proteins, the coreceptors involved in cell-to-cell recognition in immune reactions (such as the receptors named CD4, CD8, and CD28), and the FC receptor that binds to the stem of the Y-shaped immunoglobulin molecule. A number of proteins not involved in the immune system also share structural features with these proteins. The main feature similarity is a structure called the immunoglobulin domain. Each protein is composed of one or more Ig domains of nearly identical size. The domains are formed into a loop by bonds between sulfur atoms on the amino acids at the ends. Although each domain is different and serves a different function in the molecule as a whole, the number and order of the amino acids forming each domain are far more similar than would be expected if each had arisen independently in the course of evolution. Equally remarkable is the fact that nerve cells, thymus cells, and T lymphocytes (T cells) in mice and rats carry a surface protein called Thy-1 (thymus-1 antigen) that also has this same basic structure and a similar arrangement of amino acids. The similarities suggest that the genes for all these molecules originated from some primitive gene involved in the recognition of one cell by another, which is required for orderly development of a complex, multicellular organism, and that during evolution they had acquired different functions. Researchers named this group of genes and their protein products the immunoglobulin superfamily. The processes whereby one ancestral gene could have given rise to such a family

of genes include gene duplication, crossing over, and mutation, all of which are discussed in detail in genetics. 29 (Samuel Scott Perdue, John H. Humphrey. Evolution of the immune system |Encyclopaedia Britannica 2015).

## 3- All organisms need to multiply and reproduce in order for their generation to continue, or in other words to be able to transfer their genes to the next generation.

Reproduction is the most important characteristic of living organisms, which distinguishes them from non-living organisms. Reproduction means the act of producing new organisms of the same species. Reproduction takes place first at the molecular level, then at the cellular level, and finally at the living organism level. That means, first of all, the molecules inside the cell, such as genetic materials, etc., multiply, then the cells divide, and at the end, a new organism is born. All organisms almost generally need to multiply and reproduce and transfer genes to the next generation in order to survive and expand their generation and species. Without reproduction, genes cannot be transferred, and as soon as organisms die, there will be no next generation. Therefore, the life of organisms depends on reproduction so that their species survives. 30 (John Tyler Bonner. reproduction | Encyclopaedia Britannica.)

# The other needs of organisms to meet basic needs

***There are other basic needs in organisms that are in the form of different biological and behavioral traits and characteristics all of which (other needs), They came into being or evolved, to meet (provide) the basic( Fundamental) needs, namely energy and security, reproduction and adaptation to environmental conditions.***

## 1. Different biological needs:

I mean biological needs including all organs of the body, complex metabolic and biochemical interactions in cells and organs of the body, the need for oxygen, food, various vitamins, red and white blood cells, the need for blood vessels and There are blood, heart, liver, intestines, teeth, nose and limbs and many different biological needs. It is impossible for a creature not to need biological organs. Without biological organs, there would be no organisms. All biological activity was designed by natural selection to provide energy, security, reproduction and on the basis of adaptation to environmental conditions.

## 2- Most organisms need communication and behavior to providing their Fundamental needs:

Behavior is the response that the organism gives to needs and stimuli. interpretation based on the fundamental principles of the new hypothesis; Behavior is action and reaction to meet (provide) the Fundamental needs of a organism. I mean all the different behaviors of all organisms such insects, birds, mammals, reptiles, amphibians and humans, all evolved to meet (providing) different needs for energy and food, security, sex and reproduction, survival, and many other needs.

organisms need to communicate with each other to provide food and security, reproduce and adapt to environmental conditions. Communication has evolved to provide energy and security, reproduction, and

adaptation to environmental conditions. There was little or no communication between some primitive creatures. But some primitive creatures could communicate with each other by gestures for reproduction or food and safety.

For example, birds perform specific and demonstrative movements for reproduction. Communication during the mating season of animals is displayed, for example, by nesting, dancing, and showing strength and motivation to mate. Some creatures warn each other by shouting and making noise when the enemy approaches, which happens to ensure their safety.

Some fish can express their intention to provide security and reproduction or to provide energy. Such as communication movement for mating, performing some movement to escape from an enemy or provide security, or showing a food source for energy supply. In most animals, the need for communication is formed by the formation of various behaviors and communication movements to satisfy basic needs.

The need to communicate in organisms has been accompanied by the evolution of communication organs. like the; The development of ears, eyes, tongue and larynx is made to produce sound and communicate. The process and mechanism of natural selection also played a fundamental role in the formation of communication organs.

For example, in humans, the creation and development of ears, eyes, and tongue was in order to provide basic needs such as the need for security, reproduction, energy (food). Even the evolution of different languages of the world, the emergence of writing, culture, the invention of the telegraph and the telephone and the Internet have been to better respond to Fundamental needs.

The signals that animals use to communicate can be classified in several broad categories. Animals can communicate through sound, visual, chemical, tactile (touching), and electric signals.

Many animals transmit information by a sound display. Sound spreads rapidly, and other animals in the vicinity can readily tell from what direction it comes. The most common sounds are vocalizations made by vertebrates (animals with segmented spinal columns), such as birds, reptiles, and mammals. The howls of coyotes, wolves, and other wild canids (members of the dog family) help members of the pack stay in contact and may strengthen social bonds among pack members. A squirrel may vocalize a special bark in the presence of a predator such as a hawk or a cat, thus warning other squirrels in the area to flee( voice for provide the security). Special courtship songs are often an essential part of mating, especially among birds( voice for reproduction).

Many animals use nonvocal sounds to communicate information. Some insects rub one body part against another, an act called stridulation. Although beavers and gorillas can vocalize, they also use nonvocal sounds for some communications. Beavers slap their tails on the water surface to warn other beavers of danger(voice to provide security the group). Male silverback gorillas stand upright and beat their chests to display dominance and strength. (E.S. Ross ©2022 Encyclopedia Britannica, Inc.)

VISUAL

Animals may use a variety of visual signals to communicate information. Badges of bright coloring or antlers are examples of this. Such badges may indicate the sender's identity, such as its species, sex, and age. In some social animals, badges may signal the sender's rank. Bright coloring in many species indicates the animal is poisonous—the bright color is a signal to potential predators that attacking the sender will cause the attacker harm. (Joseph T. Collins, Museum of Natural History, University of Kansas Joseph T. Collins, Museum of Natural History, University of Kansas ©2022 Encyclopedia Britannica, Inc.)

interpretation and conclusion based on the fundamental principles of the new hypothesis; Animals use a variety of visual signals to provide 1-energy and 2-security, 3-reproduce and 4-adapt to environmental conditions. The rank in the group specifies the importance and position of a person in the group who participates in providing security and energy, and reproduction of the group. In all groups of animals in which there is a ranking position, including humans as kings, wives, children, workers, soldiers, etc..., each has a fundamental duty. example 1-to provide security of the group, soldiers and to some extent leader of the group. 2-Providing energy and food for the group, which is the responsibility of the workers. 3-The task of reproduction of the group, which in bees is the responsibility of the queen and the males of the group, in a group of monkeys is the responsibility of the females and the alpha male.

Certain colors that indicate that an animal is poisonous means do not approach me because your safety will be at risk. I have dangerous poison to ensure (provide) my safety.

Some species create a display arena or build a structure that is itself intended as a form of communication. An example is the elaborate bowerlike nest of the bowerbird, which the male builds solely for the purpose of attracting a mate (To reproduce and transfer genes to the next generation). Other visible signs include special dung heaps left by rabbits and the scars left on tree trunks by bears, both of which are used to mark territory. (©2022 Encyclopedia Britannica, Inc.)

Marking a territory in animals as a whole, according to the fundamental principles of the new hypothesis, means that you should not approach this territory, because this territory belongs to me. 1- The foods of this realm belong to me. Because I provide my energy from the foods of this realm. 2- My security in this territory must be ensured. Or I secure my security in this realm. If you enter my territory, your safety will be compromised. 3- This is my territory for reproduction and transfer of my genes. This is the territory of me, my wife and my children or copies of my genes. 4- In this realm, I am compatible with its environment.

Behavioral displays such as postures and dances also are visual cues. For example, a worker honeybee lets the other workers know about a new source of food (based on Fundamental principles of the new hypothesis, for providing group energy)it has discovered by rapidly vibrating its wings and performing a series of movements known as the dance of the honeybee. In many animal species, males compete with each other for mates through elaborate courtship dances. The strutting and bowing of male cranes is an example of this. The highly colorful plumage of the male in many bird species, including peacocks, is a visual signal important at mating season.( based on new Fundamental principles of the hypothesis, for reproduction)

CHEMICAL

Many mammals, fishes, and insects secrete chemicals called pheromones to communicate with others of their species or to issue warnings. Some of these chemicals are distasteful or injurious to other animals. Many animals, for example moths, release pheromones into the air as sexual attractants.(based on Fundamental principles of the new hypothesis; for reproduction) Ants secrete them to lay food( for providing energy) trails or to warn the ant colony of danger(for providing security). The disadvantage of pheromones is the rapid fading of the odor, making them an inadequate means of communication in situations that may change rapidly. Pheromone effectiveness is also considerably decreased in wind and rain. (©2022 Encyclopedia Britannica, Inc.)

TACTILE

Some species of animals, especially birds and mammals, use tactile, or touching, behaviors to convey information. Birds, primates, and cats often engage in mutual grooming that seems to communicate acceptance. Wolves, dogs, and other canids have mock fights to establish and reestablish dominance and rank in a pack.

Tactile signals also involve vibrations transmitted through air, water, and ground. Arthropods make wide use of these types of signals. For example, male copepods (tiny arthropods found in freshwater and ocean plankton) can identify the distinct eddies left by swimming females and track them for mating( for reproduction). Spiders glean information about potential prey and possible danger from vibrations in their webs( provide energy and security).

ELECTRIC

A few species of fishes can emit electrical discharge patterns as part of a sensory system intended to gather information about surroundings and to fend off predators(based on new hypothesis meaning, provide itself security). Similarly, bats, dolphins, and porpoises have a sonar scanning system to enable them to perceive the environment without necessarily seeing it. Some sharks have specialized electroreceptors in their skin that can detect electric discharges produced by fish.

The number of signals in a species' repertoire can range greatly depending on the species. Very simple animals that live a somewhat solitary, or nonsocial, life may have about 5 or 6 different signals. Social insects, such as bees and ants, may have as many as 20 types of signals, and social vertebrates, such as wolves and primates, may have even more. For example, wolves communicate with one another by visual signals (facial expression, body position, tail position), sounds (barks, grunts, and howls), and chemical cues (scent marking). Along with howling, marking of territory with urine and feces lets neighboring packs know they should not intrude. (©2022 Encyclopedia Britannica, Inc.)

# 3. Organisms need to move:

Organisms need to move to better provide their energy, security and reproduction. Some early organisms were eventually able to move through beneficial genetic mutations and natural selection. Without the development of movable organs, the existence of any animal is impossible. In other words, without the development of the necessary motor organs, there will be no minimum capacity for movement. For example, organisms needed energy and food. Some of them were able to move to find energy and food. They moved towards the source of energy and food to provide their energy. In other words, the genetic mutations that led to the movement of the organism and thus the ability to provide energy, they were supported and maintained by natural selection. Movement has also helped organisms to escape from enemies and save their lives. Organisms were competing for security. Those who managed to escape better and faster survived. From these principles, it should be concluded that without movement they could not escape from their enemies and be safe, or find food for themselves without movement, so movement was a necessary need for creatures. For organisms that were male and female, they could not reproduce on their own. They had to find a mate for sex and reproduction, and they had to move (need to move) to find a mate. The cause, purpose, and function of movement and shaking has been to fulfill Fundamental needs. Evolution and natural selection must have created organs to move in the first organisms. Organs of the body were created by chance, but natural selection maintained these organs by considering the principle that this body part can fulfill the Fundamental needs of the organism.

Movement of individuals is an important biological process, exhibited by all organisms. All organisms move at some stage in their lives, with consequences for individuals, populations, species and biological communities (Jones 1977; Nathan et al. 2008). Through movement, individual organisms may locate food, mates, shelter, a place in which to live, etc. or may avoid predators or otherwise hazardous conditions (Jones 1977). Such factors affect the lives of all kinds of organisms ranging from bacteria, viruses and other such ‘simple’ organisms to more complex multicellular organisms and to the wide variety of animal groups. The movement of individual organisms may determine spatial distributions of populations and species, and hence, ultimately the spatial patterns exhibited by biological communities consisting of co-occurring species (Hastings, Petrovskii & Morozov 2011; McLane et al. 2011; Mueller, Fagan & Grimm 2011; Kawai & Petrovskii 2012).

Movement may be active or passive, or a combination of both. Bacteria, for example, propel themselves by rotating flagellar filaments (Berg 2000); animals exhibit an obvious variety of means of locomotion; plants effectively move by growing in one direction or another (Mommer et al. 2012). These are all active processes. On the other hand, movement may sometimes be passive, brought about by currents of air or water, as may occur, for example, in the case of pollen, seed and similar plant propagules, certain small invertebrates, and larval stages of some animal groups.

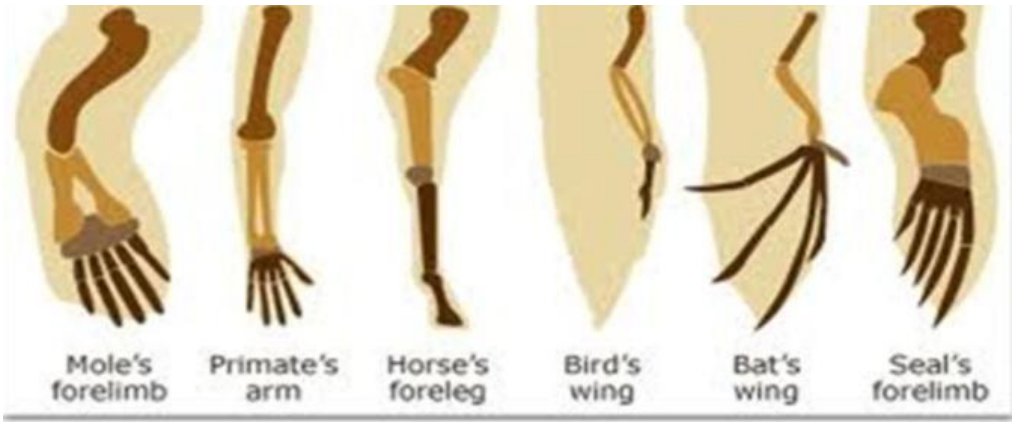
Mobility is genetically determined, but may be influenced by environmental factors. The nervous and musculoskeletal system provides the most mobility for living organisms. Some mechanisms of fluid flow in multicellular organs and tissues are also considered motility, such as motility of the digestive tract.

Motility involves the body's ability to move food through the digestive tract. There are two types of bowel movements. Movement is caused by the contraction of the smooth muscles of the digestive tract, which mix the contents of the lumen with various secretions and move the contents through the digestive tract from the mouth to the anus. The cell surface of the eukaryotic cytoskeleton forces cells to move through the fluid and on the surface, divide into new cells, and the cytoskeleton directs the movement of organelles within the cell. At the cellular level, there are different modes of motility: flagellar motility, swimming motility as seen in sperm moving by the orderly multiplication of their flagella, or E. coli bacteria swimming in a helical prokaryotic flagella. .

Contractile motility is a type of movement in which bacteria attempt to crawl on surfaces using hook-like filaments called type IV pili. At the level of the muscular system, mobility is synonymous with movement. Most sperm have a flagella that helps them swim. The lining of the cervix and the fallopian tubes of the female reproductive system play a more important role in the transfer of sperm to the egg. Cheetahs' speed record is due to their muscular mobility. As the plants grow, they move towards the light to get their energy. Roots of underground plants move towards nutrients, solutes and water to provide energy.

The heart needs movement to pump blood, which is provided by the heart muscle. All living things need muscles to move. Humans and some creatures need to move their hands to lift and carry objects and food to provide energy. Vertebrates need bones to move. Most animals need legs to move. Birds need wings to move. Fish need

fins to move. Organisms need nervous tissue and motor and physical function to move. Lungs need to move to supply oxygen to the body. The evolution of fish fins into amphibian legs was with the fundamental purpose of providing them with energy and security on earth, adapting to environmental conditions on earth, and reproducing them in water.




The evolution of amphibians into reptiles led to the evolution of legs in reptiles with muscles and bones for better locomotion. In birds, wings also evolved for movement. conclusion and new interpretation based on the new hypothesis; Let's examine the different types of movement in the natural environment, all types of movement have evolved to provide energy, security, reproduction and adaptation to environmental conditions.

*Eusthenopteron*, ≈385 Ma

*Tiktaalik*, ≈375 Ma

*Acanthostega*, ≈365 Ma

## 4. need genes to make proteins and organs.

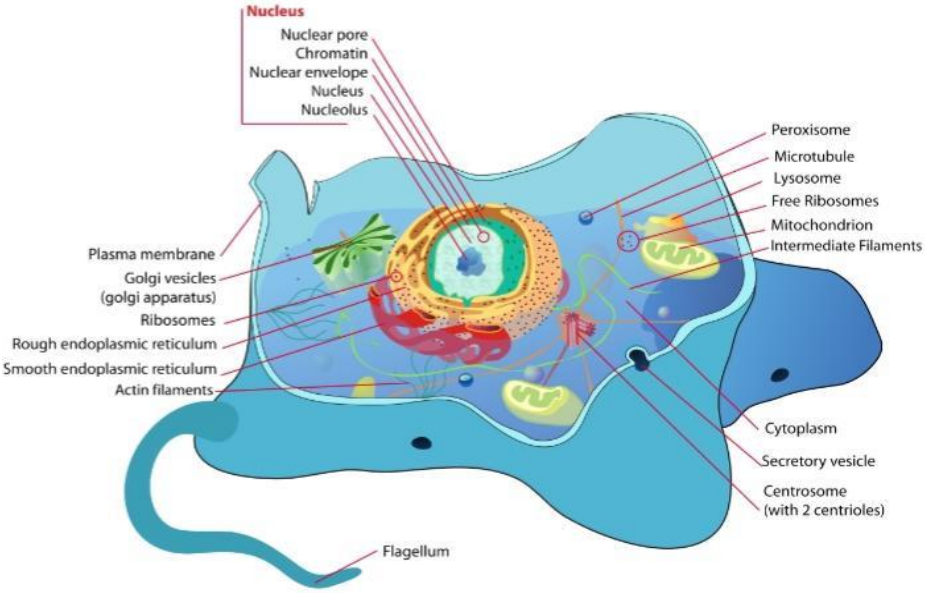
Organisms needed maps, plan and instructions stored in cells to building organs body. This is done by genes. In fact, made different organs body of the organisms, by genes to meet different needs. Based on the mechanism of natural selection, those genes were conserved in organisms that were able to create instructions for the construction of organs and useful traits to meet different needs.

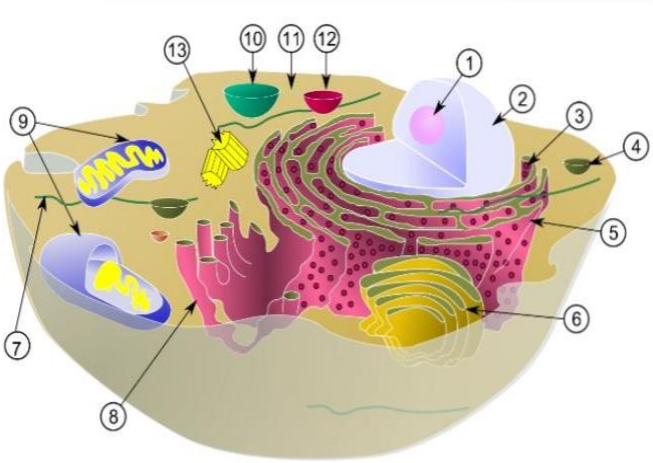
***The new theory is based on the premise that not only is reproduction important in natural selection, but that security, energy, and adaptation to environmental conditions are essential to survival. Therefore, the natural selection of all body organs of organisms and all cellular components and all beneficial genes of organisms, which can provide security and reproduction and energy in different environmental conditions, preserves, supports and selects them.***

# Interpretation of internal and external body parts of organisms based on the fundamental principles of the new hypothesis (fundamental principles of natural selection)

In the following examples, I argue that all body parts of plants and animals and all organisms most likely evolved to meet basic needs. Eye, ear, nose, mouth, jaw, tongue, teeth, bird's beak, hand, foot, finger, nail, eagle's claw, lion's paw, trachea, lung, heart, stomach, liver, kidney, rectum, large intestine, small intestine , spleen, endocrine glands and various glands, hormones, bones and muscles, all cells that are specialized, all work to provide Fundamental needs. If I forgot to mention some parts of the body, it is very likely that they are in the ranks of one of the body structures for providing energy and security, adaptation to environmental conditions and reproduction.

## Interpretation of different cellular organelles based on fundamental principles biological




Structures inside animal cells: (1) Nucleolus (2) Nucleus (3) Ribosome (4) Vesicle (5) Rough endoplasmic reticulum (6) Golgi apparatus (7) Cytoskeleton (8) Smooth endoplasmic reticulum (9) Mitochondria (10) Vacuole (11) Cytoplasm (12) Lysosome (13) Centriole. 31 (Cell Organelles - Types, Structure and their Functions. https://byjus.com/biology/cell-organelles/)

***All cellular organelles were created randomly over the years by genetic mutations and natural selection. But natural selection has principles and these cell organelles have been selected for a specific purpose by Fundamental biological principles or natural selection.***

***Here I want to argue and prove that each cell organelle has a specific function, and that is that each organ or cell organelle provides some of the Fundamental needs of security,***

***energy, reproduction and adaptation to the environmental conditions of the cell. That is, there is no organelle or organ found in the cell whose task is not directly or indirectly providing energy and security, reproduction and adaptation to environmental conditions.***

## 1- The cell needs energy provide and energy conversion (metabolism).

For this purpose, cells have structures and organelles to absorb and obtain and transform nutrients and food in order to produce energy. Plants and animals need organelles called mitochondria to convert food into energy and carry out metabolism in their cells. Plants provide their energy through photosynthesis. Plants need chlorophyll to make their food and react with it. Chlorophyll is a chemical substance that is present in the leaves and stems of almost all plants. The function of chlorophyll is photosynthesis, which means that it combines carbon dioxide in the air with water drawn from the ground by the plant's roots in the presence of light to make sugar (carbohydrates) and oxygen, or simply to enable the plant to use sunlight. gain energy Mitochondria use aerobic respiration to produce ATP energy molecules. There is considerable evidence for the evolution of mitochondria from aerobic bacteria.

Cytoplasm: is a liquid and gel substance that surrounds the intracellular space and the nucleus. Cytoplasm has the role of storing nutrients to supply energy and part of metabolism, removing waste materials and retrieving food and providing energy to cell organelles. For better metabolism, different organelles of the cell need oxygen. Cellular respiration begins in the cytoplasm with anaerobic respiration or glycolysis. Organelles and substances needed for cell survival such as salts, enzymes and other substances are located in the cytoplasm. Most of the cytoplasm is covered with water. The cell needs nutrients such as carbohydrates. The most important functions of carbohydrates in the form of glucose are the production and supply of energy needed by cells.

Lysosome: A bag that contains many enzymes to break down food.

Vesicle: It is a bag that plays a role in transporting nutrients.

Endoplasmic reticulum: They are stretched throughout the cytoplasm and their job is to create communication and transport materials in different parts cytoplasm.

Vacuole: It is a place to store water, food and excrement and also regulates the amount of water in the cell. Pigments in the cell vacuole protect from harmful light.

Golgi apparatus: small bags whose job is to package and distribute materials in the cell and also outside the cell. Collagen secretes an enzyme that helps the cell to metabolize more easily.

Chloroplasts: exist only in plant cells and their task is to make and store energy or food such as starch, fat and protein. Chloroplasts are responsible for photosynthesis or energy production in plants.

With these interpretations, we conclude that the cell needs organelles to absorb food and nutrients and perform metabolism and obtain energy. It is impossible for the cell to survive without energy, food and metabolism, and cell organelles that provide energy, food and metabolism.

## 2- The cell needs security provide

Plasma membrane: ensures the safety of the cell by enclosing the contents of the cell and protecting its constituent organs from external harmful factors. This same cell membrane plays a vital role in regulating the movement of nutrients into the cell to provide energy and remove toxic substances and wastes that the cell does not need and may endanger the cell's safety. The plasma membrane consists of two layers of phospholipids.

According to the scientists' theory, the early RNA was accidentally trapped inside a bubble. This cell wall was adopted by natural selection. Because it leads to more security and thus more cell survival. I called everything that protects cellular organs and even animals and plants as security needs of organisms. Inside the cell, there are enzymes to destroy invaders and remove substances harmful to the cell. In addition to the above, the cytoplasm

also contains pigments such as melanin, which leads to the formation of color in the pigmented cells of the skin. These pigments protect the cell and the internal structure of the body against the harmful effects of the sun's ultraviolet rays. Lysosome: One of the organelles of the cell is responsible for the security of the cell. The lysosome is responsible for secreting enzymes to destroy pathogenic and incapacitating agents.

With this evidence, we conclude that security is one of the basic needs of cells. Because it is not possible for the cell to survive and multiply without ensuring its security. If the cell does not have defense, security and protection structures, it will be destroyed by attackers. Even security has changed in organisms during evolution, and natural selection preserves and supports better options in the best possible way to ensure the security of organisms.

## 3- The cell needs to multiply, reproduce(reproduction) and grow.

Nucleus: Contains DNA (hereditary material) as well as various proteins and the nucleolus.

In eukaryotic cells, the nucleus is surrounded by a nuclear membrane. It is the organelle that controls the hereditary traits of an organism by directing processes such as protein synthesis and cell division.

For prokaryotes, DNA lacks a nuclear membrane. Therefore, the genetic material is attached in the nucleotide region. The nucleus plays an important role in the production of ribosomes. Ribosomes: are small organelles that contain RNA and specific proteins in the cytoplasm. Inside the cell, ribosomes are directly involved in building proteins using their RNA and amino acids.

This process involves decoding the information contained in mRNA and using amino acids to produce the required proteins.

All cells require the DAN translation process for their reproduce. Inside each cell there are different enzymes (lactase can be one of them). All enzymes float in the cytoplasm and wait for their special chemical to act. There are many versions of different types of enzymes depending on the need and the importance of the cell reaction. Enzymes do everything; From breaking down glucose for energy to building cell walls. In a more colloquial way, enzymes are versatile in the cell. Cell division or cell proliferation plays a vital role in survival and meeting (provide) the needs of cells and large organisms. In this way, there are cells with various functions in the organism that multiply regularly and replace old cells to meet the fundamental and diverse needs of organisms (energy, security, etc.).

There are some enzymes in the cell that help the reproduction and multiplication of the cell. Cells need to reproduce to survive. What led me to the fact that cell reproduction is one of the needs of cell fundamental was that it is impossible for a cell to survival without replicating itself. Cell division is different in eukaryotic cells. Cells divide in two ways, meiosis and mitosis. Cell division has different stages. What is important is that without cell division, the continued survival of organisms will be compromised. In the act for reproduced, genes carefully copy and replicate cell organelles. For cell proliferation, there is a need for cell organelles and necessary materials.

## 4- The cell needs to move.

Some cells, such as sperm cells, have organelles called flagella for cell motility.

Many single-celled and microscopic organisms are also motile, using methods such as flagellar motility, amoeboid movement, gliding motility, and swarming motility.

It is now widely accepted that the basic engine for gliding or crawling locomotion is the actin cytoskeleton. 32 (TJ Mitchison, LP Cramer,1996)

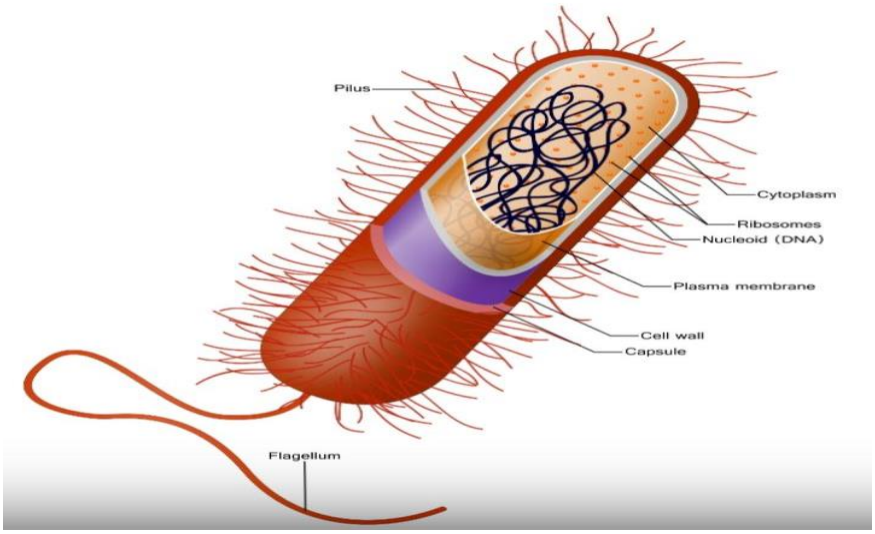
Cell motility or migration is an essential cellular process for a variety of biological events. During embryonic development, cells migrate to appropriate locations for the morphogenesis of tissues and organs. Cells need to migrate to heal the wound in repairing damaged tissue. Vascular endothelial cells (ECs) migrate to form new capillaries during angiogenesis. White blood cells migrate to the sites of inflammation to kill bacteria. Cell migration is a multistep process that involves the integration and coordination of complex biochemical and biomechanical signals. 33 (Song Li, Jun-Lin Guan, Shu Chien ,2005)

Directed, purposeful movement is one of the qualities that we most closely associate with living organisms, and essentially all known forms of life on this planet exhibit some type of self-generated movement or motility. Even organisms that remain sessile most of the time, like flowering plants and trees, are quite busy at the cellular level,

with large organelles, including chloroplasts, constantly racing around within cellular boundaries. Directed biological movement requires that the cell be able to convert its abundant stores of chemical energy into mechanical energy. 34( Daniel A Fletcher, Julie A Theriot ,2004)

Motility helps cells succeed in providing energy and security. Mobility creates a competition for providing energy, security, reproduction and finally adaptation to environmental conditions among competing organisms, and those who are able to provide energy, security, reproduction and adaptation to environmental conditions with better mobility, succeed in survival and transfer genes. 1- By moving inside the body, cells help to provide energy to different tissues of the body (energy supply). 2- Some cells, such as white blood cells, help the safety of organisms by moving towards harmful substances (providing security).

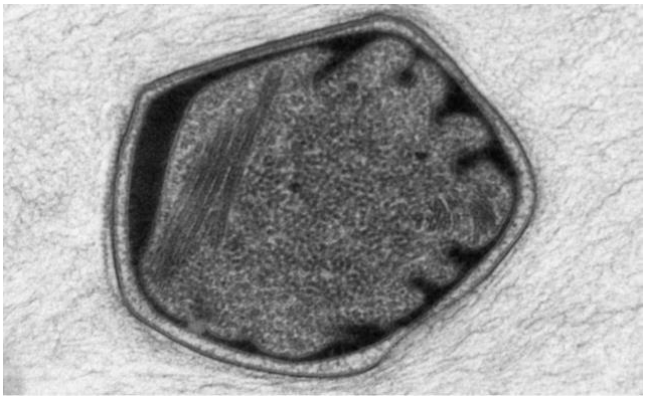
## Interpretation of different prokaryotes organelles based on fundamental principles survival or natural selection




Here I want to argue or prove that all components of prokaryotes, including bacteria organs, evolved to provide Fundamental needs, i.e. security and energy, reproduction and adaptation to environmental conditions.

Prokaryotes are single-celled organisms whose genetic information is not located in a nucleus and does not form a specific nucleus. Bacteria are prokaryotes. Most of the bacteria are single-celled organisms, some of them form colonies, like cyanobacteria. Prokaryotic cells do not have a nucleus, mitochondria and any other membrane-bound organelles, and all their components, including enzymes, ribosomes, genetic material, etc., are located inside and directly with the cytoplasmic fluid. Bacteria need to absorb nutrients, which pilus does. Bacteria need to break down food and metabolism, which is done by cytoplasm, ribosomes.

Bacteria need to reproduce and copy, and DNA and other components that make proteins do this. The bacterium needs its own security, and the wall and protective substances inside the bacterium and defense enzymes perform this task of protecting the bacterium. Bacteria need to move for provide food, water and security, which is what the flagellum does. 35 (bacteria | Cell, Evolution, & Classification | Britannica)



The anammoxosome, pictured here, is an organelle that produces energy for bacteria much as the mitochondrion produces energy for eukaryotes. Despite their similar function, the origins of the two organelles are completely different. 36 (Laura van Niftrik, Willie J. C. Geerts, Elly G. van Donselaar, Bruno M. Humbel, Alevtyna Yakushevska, Arie J. Verklei, Mike S. M. Jetten, Marc Strous.)

That certainly seems to have been the case with energy production: The independent evolution of anammoxosomes in some kinds of bacteria and mitochondria in eukaryotes signify that "the compartmentalization of energy metabolism is beneficial to the cell,"

Interpretation Based on the fundamental principles of the new hypothesis, these bacteria need energy. As mitochondria produce and supply energy to cells, anammoxosome produces and supply energy to bacteria.

## Flagellates

flagellate is a cell or organism with one or more whip-like appendages called flagella. The word flagellate also describes a particular construction (or level of organization) characteristic of many prokaryotes and eukaryotes and their means of motion. The term presently does not imply any specific relationship or classification of the organisms that possess flagella. However, the term "flagellate" is included in other terms (such as "dinoflagellate" and "choanoflagellata") which are more formally characterized.

Flagellates need food, energy and metabolism: Flagellates absorb oxygen dissolved in water in the form of diffusion from the surface of the body and expel carbon dioxide, and in other words, this is how they breathe. The nutrition (provide energy) of flagellates is of three types: Halophytic light growing, Saprophytic, and Holozoic omnivore.

### 1- Halophytic method or photosynthesis for provide energy: in this method, the flagellate makes and uses its food, i.e. carbohydrates, from carbon dioxide, inorganic salts, solar energy and finally with the help of chlorophyll and water through photosynthesis.

### 2- Saprophytic method for provide energy: In this method, flagellates absorb decaying and water-soluble organic matter through the surface of the body and by secreting enzymes on them, they digest and then absorb them.

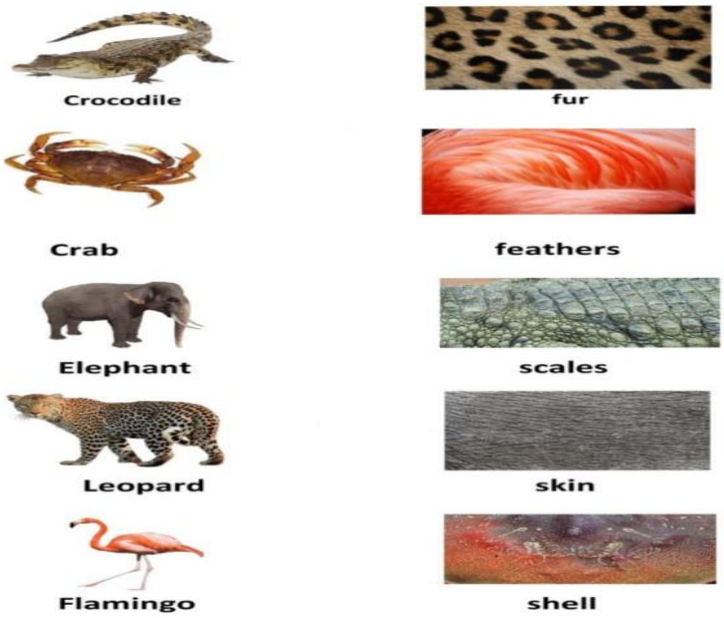
### 3- Holozoic method for provide energy: In this method, the flagellate hunts its prey by swallowing, with the help of false legs or by special vacuoles, and finally uses rod organs. 37 (Robert W. Sanders 2022)

Above, I gave an example of cells and bacteria, all of their components, everything they have and are useful for them, were formed by natural selection based on the fundamental principles of biology (natural selection).

It is possible that during the evolution some of the organs and their functional characteristics change (change in providing other basic needs) or they have no effect at all on the life and survival of organisms, which can also be explained based on the fundamental principles of natural selection. I will do this in future articles.

Some parts of the body of living beings have multiple uses, the purpose of which is to provide several the fundamental needs of organisms.

## The skin in various organisms can provide their Fundamental and multiple needs.




The first line of defense of the body to protect itself skin is the mucous membranes. The skin is not suitable for the life of pathogenic microbes due to its acid content.

The skin sweats because it has salt, and salt is not good for bacteria. Our body has mucus and mucous substance in places such as the nose and respiratory, digestive and urinary tracts that interact with the environment. Mucous secretions with lysozyme kill bacteria. Also, the body has security mechanisms in these parts, for example, the ciliated mucus in the respiratory system prevents the penetration of microbes. Stomach acid destroys food microbes. Mechanisms such as sneezing, coughing, vomiting, feces, and urine cause germs to get out. Tears protect the eyes with lysozyme.

( The body's second line of defense consists of mechanisms that identify foreigners based on their general characteristics. There are various xenophages everywhere in the human body. Macrophage is one of the xenophages.)

The skin is a barrier between the internal and external environment of an organism. Depending on the species, it participates in multiple functions. The skin is the organ that holds the body together, covers and protects it, and provides communication with its environment. It is also the body's primary line of defense, especially for anamniotes. All vertebrates have multilayered skin composed of three main layers: the epidermis, the dermis, and the hypodermis. The vital mission of the integument in aquatic vertebrates is mucus secretion. Cornification began in apmhibians, improved in reptilians, and endured in avian and mammalian epidermis. The feather, the most ostentatious and functional structure of avian skin, evolved in the Mesozoic period. After the extinction of the

dinosaurs, birds continued to diversify, followed by the enlargement, expansion, and diversification of mammals, which brings us to the most complicated skin organization of mammals with differing glands, cells, physiological pathways, and the evolution of hair. Throughout these radical changes, some features were preserved among classes such as basic dermal structure, pigment cell types, basic coloration genetics, and similar sensory features, which enable us to track the evolutionary path. 38 (Esra Akat, Melodi Yenmiş, Manuel A Pombal, Pilar Molist, Manuel Megías, Sezgi Arman, Milan Veselỳ, Rodolfo Anderson, Dinçer Ayaz 2022)

Terrestrial vertebrates have evolved hard skin appendages, such as scales, claws, feathers, and hair that play crucial roles in defense, predation, locomotion, and thermal insulation. The mechanical properties of these skin appendages are largely determined by cornified epithelial components. So-called “hair keratins,” cysteine-rich intermediate filament proteins that undergo covalent cross-linking via disulfide bonds, are the crucial structural proteins of hair and claws in mammals and hair keratin orthologs are also present in lizard claws, indicating an evolutionary origin in a hairless common ancestor of amniotes. 39 (Florian Ehrlich, Julia Lachner, Marcela Hermann, Erwin Tschachler, Leopold Eckhart ,2020)

In different types of organisms, the skin participates in providing almost all the basic needs of the body. For example; The skin protects the internal organs of the body from external invaders. In some organisms, the skin acts to absorb oxygen and its own food and to expel waste and harmful substances. Skin is also used as a basis for sex or mate selection among some organisms. Also, skin in different organisms according to different environmental conditions such as; The sea, hot and dry, wet, cold, etc. environment has evolved.

The skin provides the various needs of the body of organisms.

## The skin provides security and adaptability to environmental conditions by sensory nerves.

The skin contains a variety of cells and nerve receptors that react to heat and cold, touch, pressure, vibration and tissue damage. The skin is the main interface between the body and the environment. As such, it has multiple sensory receptors that allow a person to perceive environmental stimuli in a wide range of ways. The high number of sensory nerve endings in the skin also provide immediate sensory feedback from the environment to the sensory cortex. This leads to reflex actions such as backing away from a hot object to avoid injury. Certain areas of the body have an increased number of sensory nerve endings that allow for specialized functions. An example of this is the tips of the fingers, which have a wide array of receptors that allow precise control of finger movements. Adaptation to environmental conditions by thermoregulation: eccrine glands (sweat) and dilated blood vessels (increased surface perfusion) contribute to heat loss, while constricted vessels greatly reduce skin blood flow and conserve heat. they do. Erector pili muscles in mammals adjust the angle of hair shafts to change the degree of insulation of hair or fur. Adaptation to environmental conditions by controlling evaporation: The skin creates a relatively dry and semi-impermeable barrier to reduce fluid loss. 40 (C. B. Archer 2004)

### 2- Providing energy storage and protein synthesis:

It acts as a storage center for lipids and water. Provision of absorption and excretion of substances and energy through the skin: oxygen, nitrogen and carbon dioxide can spread in small amounts in the epidermis. Some animals use their skin as their only respiratory organ (in humans, the cells that make up the outermost 0.25-0.40 mm of skin are "supplied almost exclusively by external oxygen", although "contribution to respiration is generally insignificant")40 (C. B. Archer 2004)

### 3- Ensuring security through protection:

the skin creates an anatomical barrier against pathogenic and harmful factors, between the internal and external environment in defense of the body. Ensuring safety and resistance to water: the skin acts as a barrier resistant to water and pathogenic agents such as viruses, bacteria, parasites, etc. The first layer of the skin traps pathogens and then they are removed from the with the dead skin. 40 (C. B. Archer 2004)

Providing security by camouflage and blending in with the environment, whether bare skin or covered in fur, scales, or feathers, skin structures provide protective color and patterns that help hide animals from predators or prey.

Many components of the vertebrate immune system have evolved with dual and interrelated functions, both protecting damaged tissues from infection and for tissue maintenance and wound repair. The capacity for limb regeneration, prominent among invertebrates and some phylogenetically early vertebrates, is weak in mammals.

## The evolution of fishes has occurred based on the fundamental principles of the new hypothesis.

Although a great many fossil fishes have been found and described, they represent a tiny portion of the long and complex evolution of fishes, and knowledge of fish evolution remains relatively fragmentary. In the classification presented in this article, fishlike vertebrates are divided into categories, the members of each having a different basic structural organization and different physical and physiological adaptations for the problems presented by the environment. https://www.britannica.com/animal/fish/Evolution-and-paleontology

***In fact, various problems and issues in the environment are the same challenges and problems for providing energy and security, for adaptation to environmental conditions and reproduction. That is, the evolution of early fish has happened by natural selection based on the fundamental principles of the new hypothesis in providing security and energy, adaptation to environmental conditions and reproduction.***

The broad basic pattern has been one of successive replacement of older groups by newer, better-adapted groups. One or a few members of a group evolved a basically more efficient means of (for provide Fundamental needs) provide energy, feeding, breathing, providing security, or swimming or several better ways of living. These better-adapted groups then forced the extinction of members of the older group with which they competed for available food, breeding places, or other necessities of life. As the new fishes became well established, some of them evolved further and adapted to other habitats, where they continued to replace members of the old group already there. The process was repeated until all or almost all members of the old group in a variety of habitats had been replaced by members of the newer evolutionary line.

### Agnatha: early jawless fishes

The earliest vertebrate fossils of certain relationships are fragments of dermal arm our of jawless fishes (superclass Agnatha, order Heterostraci) from the Upper Ordovician Period in North America, about 450 million years in age. Early Ordovician tooth like fragments from the former Soviet Union are less certainly remains of agnathans. It is uncertain whether the North American jawless fishes inhabited shallow coastal marine waters, where their remains became fossilized, or were freshwater vertebrates washed into coastal deposits by stream action. https://www.britannica.com/animal/fish/Evolution-and-paleontology

Jawless fishes probably arose from ancient, small, soft-bodied filter-feeding organisms much like and probably also ancestral to the modern sand-dwelling filter feeders, the Cephalochordate (Amphioxus and its relatives). The body in the ancestral animals was probably stiffened by a notochord. Although a vertebrate origin in fresh water is much debated by paleontologists, it is possible that mobility of the body and protection provided (for providing security) by dermal arm our arose in response to streamflow in the freshwater environment and to the need to escape from and resist the clawed invertebrate eurypterids that lived in the same waters. Because of the marine distribution of the surviving primitive chordates, however, many paleontologists doubt that the vertebrates arose in fresh water.

By the close of the Silurian, all known orders of jawless vertebrates had evolved, except perhaps the modern cyclostomes, which are without the hard parts that ordinarily are preserved as fossils. Cyclostomes were unknown as fossils until 1968, when a lamprey of modern body structure was reported from the Middle Pennsylvanian of Illinois, in deposits more than 300 million years old. Fossil evidence of the four orders of armoured jawless vertebrates is absent from deposits later than the Devonian. Presumably, these vertebrates

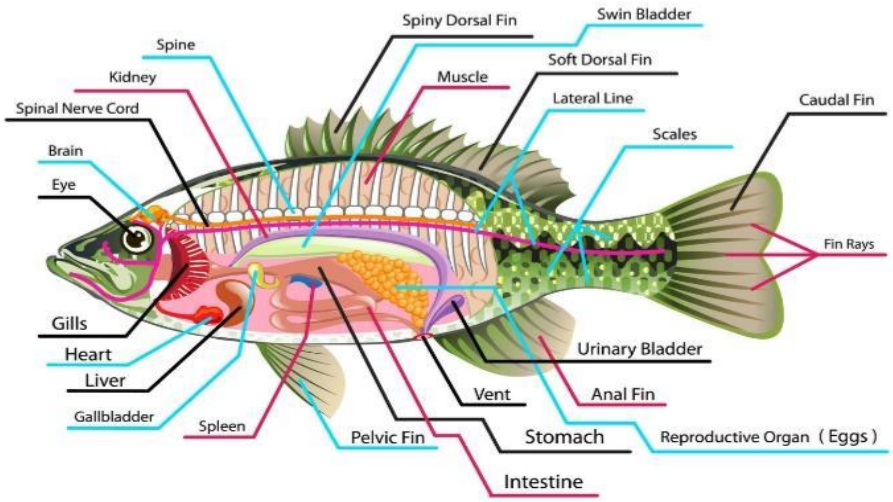
became extinct at that time, being replaced by the more efficient and probably more aggressive placoderms, acanthodians, selachians (sharks and relatives), and by early bony fishes. Cyclostomes survived probably because early on they evolved from anaspid agnathans and developed a rasping tongue like structure and a sucking mouth, enabling them to prey for providing energy, other fishes. With this way of life they apparently had no competition from other fish groups. Cyclostomes, the hagfishes and lampreys, were once thought to be closely related because of the similarity in their suctorial mouths, but it is now understood that the hagfishes, order Myxiniformes, are the most primitive living chordates, and they are classified separately from the lampreys , order Petromyzontiformes.

Early jawless vertebrates probably fed on tiny organisms by filter feeding for providing energy, as do the larvae of their descendants, the modern lampreys. The gill cavity of the early agnathans was large. It is thought that small organisms taken from the bottom by a nibbling action of the mouth, or more certainly by a sucking action through the mouth, were passed into the gill cavity along with water for breathing. Small organisms then were strained out by the gill apparatus and directed to the food canal. The gill apparatus thus evolved as a feeding structure, as well as a breathing on based fundamental principles survival and natural selection for providing energy. The head and gills in the agnathans were protected by a heavy dermal arm our for providing security; the tail region was free, allowing motion for swimming(for moving).

Most important for the evolution of fishes and vertebrates in general was the early appearance of bone, cartilage, and enamel-like substance(for providing security) . These materials became modified in later fishes, enabling them to adapt to many aquatic environments and finally even to land. Other basic organs and tissues of the vertebrates—such as the central nervous system, heart, liver, digestive tract, kidney, and circulatory system for providing energy— undoubtedly were present in the ancestors of the agnathans. In many ways, bone, both external and internal, was the key to vertebrate evolution. fish - Evolution of Agnatha, Acanthodii & Placodermi | Britannica. https://www.britannica.com/animal/fish/Evolution-and-paleontology

## The excretory organ

The primary excretory organ in fishes, as in other vertebrates, is the kidney. In fishes some excretion also takes place in the digestive tract, skin, and especially the gills (where ammonia is given off). Compared with land vertebrates, fishes have a special problem in maintaining their internal environment at a constant concentration of water and dissolved substances, such as salts. Proper balance of the internal environment (homeostasis) of a fish is in a great part maintained by the excretory system, especially the kidney.



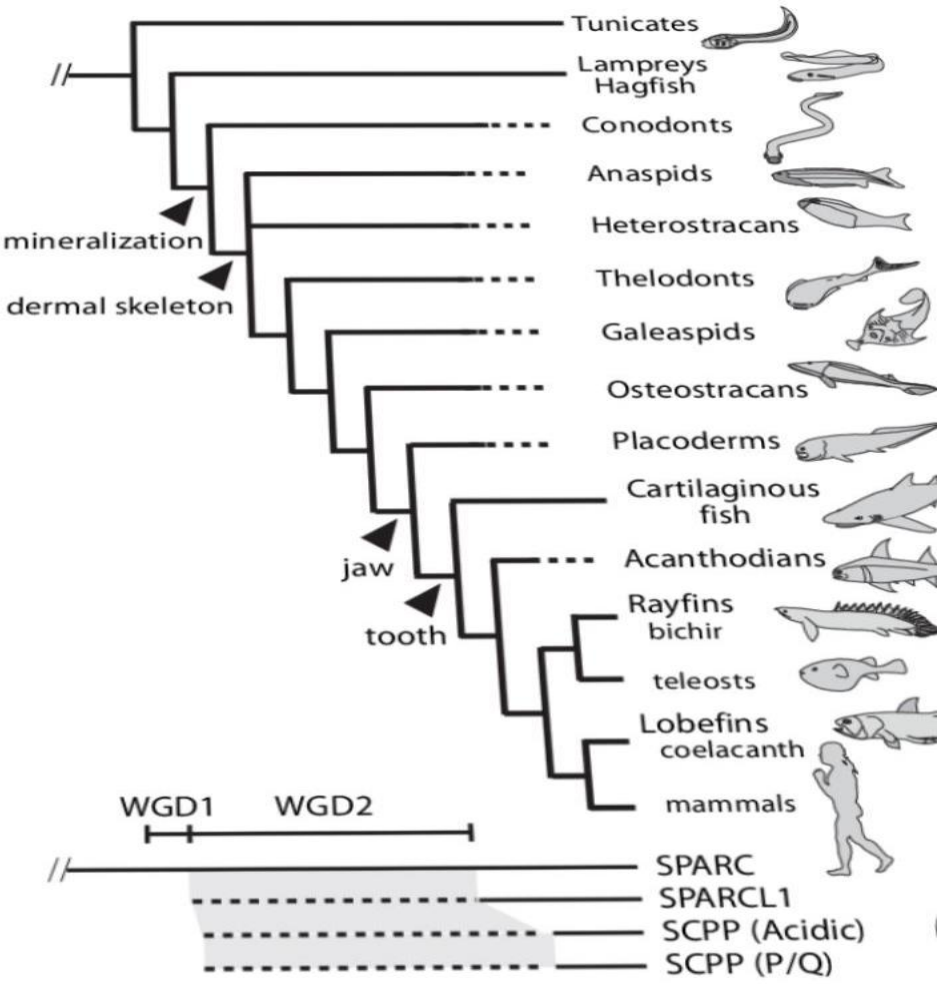

## osmotic regulation in teleost fishes

The kidney, gills, and skin play an important role in maintaining a fish's internal environment and checking the effects of osmosis. Marine fishes live in an environment in which the water around them has a greater concentration of salts than they can have inside their body and still maintain life. Freshwater fishes, on the other hand, live in water with a much lower concentration of salts than they require inside their bodies. Osmosis tends to promote the loss of water from the body of a marine fish and absorption of water by that of a freshwater fish. Mucus in the skin tends to slow the process but is not a sufficient barrier to prevent the movement of fluids through

the permeable skin. When solutions on two sides of a permeable membrane have different concentrations of dissolved substances, water will pass through the membrane into the more concentrated solution, while the dissolved chemicals move into the area of lower concentration (diffusion).

The kidney of freshwater fishes is often larger in relation to body weight than that of marine fishes. In both groups the kidney excretes wastes from the body, but the kidney of freshwater fishes also excretes large amounts of water, counteracting the water absorbed through the skin. Freshwater fishes tend to lose salt to the environment and must replace it. They get some salt from their food, but the gills and skin inside the mouth actively absorb salt from water passed through the mouth. This absorption is performed by special cells capable of moving salts against the diffusion gradient. Freshwater fishes drink very little water and take in little water with their food.

The osmotic pressure of the body can be interpreted as follows based on the fundamental principles of the new hypothesis. The body needs certain substances in certain amounts. Some substances that harm the body or threaten the body's immunity or are more than the amount needed by the body should be removed from the body and the body should be in a stable state and in a state of balance and health. For example, a fish's body needs salt for energy and metabolism. But if there is more salt than the required amount or less than the required amount in the body, the osmotic pressure will bring body salt back to the equilibrium state and required amount.



## Endocrine glands

Endocrine glands secrete their products into the bloodstream and body tissues and, along with the central nervous system, control and regulate many kinds of body functions. Cyclostomes have a well-developed endocrine system, and presumably it was well developed in the early Agnatha, ancestral to modern fishes. Although the endocrine system in fishes is similar to that of higher vertebrates, there are numerous differences in detail. The pituitary, the thyroid, the suprarenals, the adrenals, the pancreatic islets, the sex glands (ovaries and testes), the inner wall of the intestine, and the bodies of the ultimo branchial gland make up the endocrine system in fishes. There are some others whose function is not well understood. These organs regulate sexual activity and reproduction, growth, osmotic pressure, general metabolic activities such as the storage of fat and the utilization of foodstuffs, blood pressure, and certain aspects of skin color. Many of these activities are also controlled in part by the central nervous system, which works with the endocrine system in maintaining the life of a fish. Some parts of the endocrine system are developmentally, and undoubtedly evolutionarily, derived from the nervous system.

Interpretation of fish endocrine function based on the fundamental principles of the new hypothesis. Gonads in fish and vertebrates are needed for sexual activities. Without reproduction, organisms become extinct. Survival of organisms depends on reproduction. Endocrine glands increase the motivation and interest in reproduction in organisms. The necessity of reproduction is one of the fundamental principles of natural selection, Biological and the life of organisms. Gonads work in favor of survival if they keep reproduction high, are supported and maintained by natural selection.

Endocrine glands help provide energy to organisms. They receive the program and instructions from the brain and store fat and make it easy to access food to supply the body with energy.

It should be said that everything that comes from evolution, actually comes from the fundamental principles of natural selection. Because everything in organisms is based on the fundamental principles of energy supply and security, reproduction and adaptation to environmental conditions.

If the evolution of endocrine glands proceeds in such a way that they help provide energy and security, adapt to environmental conditions, and reproduce organisms, this type of endocrine gland will be supported by natural selection.

## The nervous system and sensory organs

As in all vertebrates, the nervous system of fishes is the primary mechanism coordinating body activities, as well as integrating these activities in the appropriate manner with stimuli from the environment. The central nervous system, consisting of the brain and spinal cord, is the primary integrating mechanism. The peripheral nervous system, consisting of nerves that connect the brain and spinal cord to various body organs, carries sensory information from special receptor organs such as the eyes, internal ears, nares (sense of smell), taste glands, and others to the integrating centers of the brain and spinal cord. The peripheral nervous system also carries information via different nerve cells from the integrating centers of the brain and spinal cord. This coded information is carried to the various organs and body systems, such as the skeletal muscular system, for appropriate action in response to the original external or internal stimulus. Another branch of the nervous system, the autonomic nervous system, helps to coordinate the activities of many glands and organs and is itself closely connected to the integrating centers of the brain. The brain of the fish is divided into several anatomical and functional parts, all closely interconnected but each serving as the primary center of integrating particular kinds of responses and activities. Several of these centers or parts are primarily associated with one type of sensory perception, such as sight, hearing, or smell (olfaction).

## Olfaction

The sense of smell is important in almost all fishes. Certain eels with tiny eyes depend mostly on smell for location of food. The olfactory, or nasal, organ of fishes is located on the dorsal surface of the snout. The lining of the nasal organ has special sensory cells that perceive chemicals dissolved in the water, such as substances from food material, and send sensory information to the brain by way of the first cranial nerve. Odour also serves as an alarm system. Many fishes, especially various species of freshwater minnows, react with alarm to a chemical released from the skin of an injured member of their own species.

## Taste

Many fishes have a well-developed sense of taste, and tiny pit like taste buds or organs are located not only within their mouth cavities but also over their heads and parts of their body. Catfishes, which often have poor vision, have barbels ("whiskers") that serve as supplementary taste organs, those around the mouth being actively used to search out food on the bottom. Some species of naturally blind cave fishes are especially well supplied with taste buds, which often cover most of their body surface.

## Sight

Pacific four eyed fish

Sight is extremely important in most fishes. The eye of a fish is basically like that of all other vertebrates, but the eyes of fishes are extremely varied in structure and adaptation. In general, fishes living in dark and dim water habitats have large eyes, unless they have specialized in some compensatory way so that another sense (such as smell) is dominant, in which case the eyes will often be reduced. Fishes living in brightly lighted shallow waters often will have relatively small but efficient eyes. Cyclostomes have somewhat less elaborate eyes than other fishes, with skin stretched over the eyeball perhaps making their vision somewhat less effective. Most fishes have a spherical lens and accommodate their vision to far or near subjects by moving the lens within the eyeball. A few sharks accommodate by changing the shape of the lens, as in land vertebrates. Those fishes that are heavily dependent upon the eyes have especially strong muscles for accommodation. Most fishes see well, despite the restrictions imposed by frequent turbidity of the water and by light refraction.

Fossil evidence suggests that colour vision evolved in fishes more than 300 million years ago, but not all living fishes have retained this ability. Experimental evidence indicates that many shallow-water fishes, if not all, have colour vision and see some colours especially well, but some bottom-dwelling shore fishes live in areas where the water is sufficiently deep to filter out most if not all colours, and these fishes apparently never see colors. When tested in shallow water, they apparently are unable to respond to colour differences.

## Hearing

Sound perception and balance are intimately associated senses in a fish. The organs of hearing are entirely internal, located within the skull, on each side of the brain and somewhat behind the eyes. Sound waves, especially those of low frequencies, travel readily through water and impinge directly upon the bones and fluids of the head and body, to be transmitted to the hearing organs. Fishes readily respond to sound; for example, a trout conditioned to escape by the approach of fishermen will take flight upon perceiving footsteps on a stream bank even if it cannot see a fisherman. Compared with humans, however, the range of sound frequencies heard by fishes is greatly restricted. Many fishes communicate with each other by producing sounds in their swim bladders, in their throats by rasping their teeth, and in other ways.

## Muscular System

The muscular system is an extremely important component of the fish body, and it can constitute up to 80% of the body's mass. Body wall muscles, like those of most chordates, are arranged as partially overlapping, repeated segments called myomeres. In conjunction with an intricate skeletal system, this muscular system can keep some fish species, such as the tuna, swimming almost non-stop.

Most species induce a wave motion along the length of their bodies by alternating contractions of pairs of lateral muscles along the body. The wave motion that is generated ultimately reaches the caudal fin. The caudal fin exerts thrust or force on the water behind the fish, propelling it forward through the water. Other fins, such as pectoral and pelvic fins, are primarily used for steering. However, there are many species that also use their pectoral fins to generate thrust. These species have large, muscular pectoral fins. Cartilaginous fish lack a swim bladder, so they rely on their pectoral fins to help keep them afloat. Sharks are an example of this type of fish. The up and down flapping motion of the pectoral fins creates "lift" in a way that is similar to the flapping of a bird's wings. A comparison of the papery pectoral fins of a rainbow trout to the muscular pectoral fins of a shark is shown in Figure below.

Now I interpret these materials based on the fundamental principles of the new hypothesis; The nervous system has actually evolved to respond to stimuli. Here I argue that the stimuli are actually the same behavior and action for providing energy and security, reproduction and adaptation to environmental conditions. For respond to stimuli or to provide energy and security, adaptation to environmental conditions and reproduction; In all organisms, from

the smallest single cells to multicellular animals and plants, actions and behaviors have evolved in all of them. Organisms face the challenge of responding to stimuli, or in fact, the challenge of providing energy and security, adapting to environmental conditions, and reproduction. In fish and in all vertebrates, the nervous system has evolved to help provide energy and security, adapt to environmental conditions, and reproduce. For example, a fish with the help of the nervous system in its fin moves towards food for providing energy. also fish with the help of the nervous system in ears, in eyes and in sense of smell moves toward food for providing energy. eyes and ears and sense of smell help to better providing energy. In general, if we carefully examine and test; The fin helps the fish move to meet its basic needs. For example, 1- A fish moves towards food to provide energy, 2- It moves towards a mate to reproduce and transfer genes to the next generation, 3- It avoids enemies and secures itself by moving, 4- Moved for Adaptation to environmental conditions . as from a very hot or very cold and unfavorable environment, moves to a good and compatible environment. 1-Eyes, ears, sense of smell and taste evolved to help fish to find food and provide energy. 2- Ears and eyes help to ensure security by being aware of possible dangers such as predators and staying away from dangerous places such as ravines and raging rivers. 3- The sense of smell and taste evolved to understand harmful food that is dangerous for the body's immunity and threatens the safety of organisms. The brain enables the fish to escape from predators by commanding the nervous system in the area of smell, vision, hearing, movement, and creating specific behaviors. When the fish gets out of the water, it tries to return to the water by jumping and tail movements controlled by the nervous system. In fact, it tries to return to an environment that is compatible with it. For the fish to live in the water, must adaptation it is the same environmental. 1- energy supply from water oxygen and marine food 2- safety is provided better in water 3- reproduction is done fish in water. The autonomic nervous system is also programmed by the brain for provide Fundamental needs. example; 1-sexual activities for reproduction, 2-control of biological activities for food metabolism, oxygen supply, blood supply, water supply for providing energy, 3-and for avoiding dangers that threaten the safety of organisms, for provide security.

## Respiratory System

Most fish obtain oxygen from the aqueous environment in which they live by using a pair of gills located on each side of the pharynx. Fish gills consist of many elongated strands of tissue that contain tiny capillaries carrying blood. An example of fish gills are shown in Figure below.

Water is taken in through the mouth and passed over the gills. Here, oxygen is absorbed into the blood within the capillaries through a process known as countercurrent exchange. Countercurrent exchange is the process of transferring a substance enriched in one pool of fluid to a different pool that has a much lower concentration of that substance. In fish, blood flowing through the capillaries flows in the opposite direction of the water that is pumped over the gills from the fish’s mouth. The flow of blood and water in opposite directions is a critical component of the counter current exchange process.

interpretation based on the fundamental principles of the new hypothesis; All organisms need energy to survive. Oxygen is one of the important elements for providing energy to all organisms. Fish need oxygen for provide energy. Fish take oxygen from water. It receives oxygen through the gills.

## Evolved circulatory System for provide energy and provide security

Fish have a fairly simple closed-circulatory system with a two-chambered heart. In a closed circulatory system blood flows throughout the body contained inside of blood vessels for provide energy of all cells and all organ body. In fish, blood flows in one continuous loop from the tissues to the heart to the gills and back to the tissues. The two chambers of the fish heart are called the atrium and the ventricle. Both of these chambers have thick, muscular walls. The aorta is a large artery that brings the blood from the heart to the gills, where it becomes oxygenated. Oxygen-enriched blood then travels through blood vessels to the tissues of the organism for provide energy.

The circulatory system also has immune cells such as macrophages and white blood cells to ensure the safety of tissues, cells and all body organs. The circulatory system sends harmful substances that threaten the body's immunity to the outside of the body through the kidneys and some through the lungs.

## Digestive System

Fish have complete digestive systems that include various glands and organs in addition to the digestive tract itself. For example, most fish have a pancreas that secretes digestive enzymes into the stomach to help break down ingested food. Many also have a liver that aids both in digestion and in the storage of digested nutrients for provide energy. A common feature of the fish digestive tract is the presence of one or more finger-like organs, which extend from the stomach, called pyloric caeca. Pyloric caeca is a part of tract and aid in digestion and absorption of nutrients for provide energy.

Jawed fish initiate digestion using their jaws to grind up their food before passing it through the esophagus to the stomach. Fishes that lack jaws have tooth-like projections surrounding their mouth region, but these projections have only a limited ability to break up food. They are primarily used to pull chunks of food from the bodies of prey for itself provide energy.

## Immune System

Although many invertebrates have a basic system, called an innate immune system, for defending against infection, they do not have what is termed an adaptive immune system. In an adaptive immune system there are cells that can detect features of a particular infectious organism and produce new proteins designed to specifically attack that particular infectious species. Most fish species have some type of an adaptive immune system that helps them fight infections. Immune system organs include a number of glands including the thymus and spleen, where the specialized cells that identify and destroy foreign invading organisms are produced. Jawless fish do not have specific immune organs, but they do have specialized tissues called lymphoid tissues that are capable of producing immune cells. All other fish species have true immune organs.

The immune system by natural selection exists in all organisms either innately or adaptively. Because the immune system in fish and all creatures has evolved to provide security or in another sense to protect themselves.

Sharks and bony fish have a sensory system for detecting motion in the water around them, called the lateral line system. The lateral line system consists of a long canal that runs along each side of the body, fish contains a series of sensory organs that can detect small pressure changes and vibrations from water currents. This helps fish sense movements nearby, alerting them to prey for provide energy. Also, this feature helps the fish to be aware of the activities of predators and provide itself security.

Most primitive fishes, such as lampreys, sharks, and rays, and some bony fishes, such as eels and catfish, are capable of sensing electrical current. They use electroreceptors to locate other animals by detecting their bioelectric fields (weak electrical currents generated by the cells of living organisms). In addition to being able to sense electricity, there are a number of fishes that can also generate electrical currents for use in defense and hunting.

If I interpret this fish work based on the fundamental principles of the new hypothesis; Fish use electric power for defense to ensure their security. Fish use electrical power to hunt in order to obtain their own energy or provide their own energy.

These organisms combine their electric generating and reception abilities to locate objects or animals in their vicinity. They do this by sending out electrical pulses and then sensing any distortions in those electrical fields that occur due to the presence of an object or animal. The pulses are generated by electric organs composed of modified muscles and neurons that, in some cases, may make up most of the fish's body mass. The electricity generating organs take up almost 80% of the fish's body mass.

In all the countless organisms we know, unicellular and multicellular, fish, trees, viruses, algae, mammals, reptiles, amphibians, birds; If we examine and observe the body parts, tissues, behavior, traits and characteristics clearly, we will see that, evolved all the constituent parts of prokaryotes and eukaryote body parts are in order to provide Fundamental needs, i.e. providing energy and security, reproduction and adaptation with environmental conditions.

# Interpretation of body parts of amphibians based on the fundamental principles of the new hypothesis

The circulatory and respiratory systems work with the integument to provide cutaneous respiration for provide energy. A broad network of cutaneous capillaries facilitates gas exchange and the diffusion of water and ions between the animal and the environment. Several species of salamanders and at least one species of frog (Barbourula kalimantanensis) are lungless. Amphibians also employ various combinations of branchial and pulmonary strategies to breathe. The buccal pump mechanism, which involves the pushing of air between the lungs and the closed mouth, is present in amphibians and some groups of fishes, which is All for provide energy.

In addition to its roles in respiration and maintaining water balance, the integument of amphibians contains poison glands that release toxins. Specific toxins are found only in amphibians and are used to defend against predators for provide itself security. amphibian - Form, function & features | Britannica. https://www.britannica.com/animal/amphibian/Form-and-function

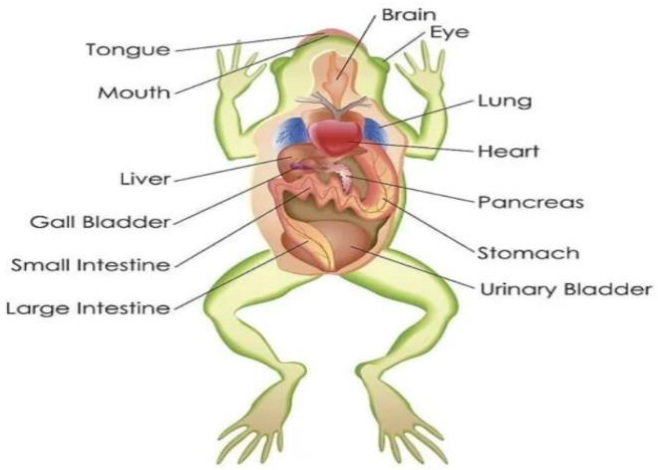
The digestive system of the frog includes the alimentary canal (alimentary tract) and the various associated digestive glands. It is a long, coiled tube of varying diameter that extends from mouth to cloacal aperture of the frog.

## Mouth

The alimentary canal of the frog starts from the mouth. It is part of the head. The mouth of the frog is bounded with two bony jaws that are covered with immovable lips. The upper jaw is fixed and immovable like in higher animals. But, the lower jaw is movable and moves up and down to close and open the mouth. In all animals, the mouth is used to enter food and water and sometimes oxygen to provide energy. Teeth and saliva break the food into pieces and soften it. The tongue is usually used to taste food, whether it is good for the body or bad for the body, or whether the body needs this food or not. But the frog uses its long and sticky tongue to hunt insects and for provide itself energy.

## Buccal cavity

The mouth of the frog opens into a large, shallow oral cavity, which is called a buccal cavity. The buccal cavity is lined with ciliated columnar epithelial cells that contain mucus. This mucus is helpful in lubricating the food and inside the buccal cavity. The lower jaw lacks teeth, but some conical and backwardly pointed teeth occur in a row on either side on the premaxillae and maxillae bones in the upper jaw. The teeth in the frog are not meant for the chewing; they are simply required for the catching of their prey, holding it firmly, and prevent its prey from slipping from its capture.




## Pharynx

In a male frog, on the floor of pharynx on either side near the angle of two jaws, is present the small opening of a vocal sac. And these vocal sacs act as resonators during croaking or to call upon their mate for mating. based on fundamental principles natural selection, Frogs use sound to find mates and reproduce and pass on their genes to the next generation. The stomach in the frog, and in all organisms that have a stomach, has evolved to break down food to obtain the energy they need from food.

## Small Intestine

The small intestine of a frog is a long, coiled narrow tube , about 30cm long, and it attaches mid-dorsally to the body wall by mesenteries.

The small intestine is composed of two parts : a small anterior duodenum and longer posterior ileum. The mucosal lining of the intestine consists of two types of cells besides intestinal glands, large goblet cells, and small absorbing cells. The goblet cells contain oval vacuoles and granular substances, which secretes mucus. The absorbing cells have oval nuclei near the base.

## Duodenum

The duodenum runs parallel to the stomach forming a U shaped structure. It receives hepatopancreatic duct from the liver and pancreas, which brings bile and pancreatic juice. The internal mucous forms the low transverse folds. The small intestine and duodenum secrete substances or bring them from the liver and pancreas, which are used to break down food to provide energy.

## Ileum

The ileum is the longest part of the digestive system of the frog, which makes several loops before dilating into the large intestine. The internal mucous lining of the ileum forms many longitudinal folds, but there are no true villi seen in frogs. Digestion of food and the absorption of the same is done here in the small intestine for provide energy.

## Large intestine or Rectum

The large intestine or rectum is a short, wide tube, about 4 cm long. It runs straight behind to open into the cloaca by the anus. The anus is guarded by anal sphincter. the inner lining has many longitudinal folds. The main function is re-absorption of water and preparation and storage of feces.

The function of the large intestine is to reabsorb the substances that the body needs, which is the supply of energy. Feces are substances that the body does not need and may even be harmful to the body and endanger the safety of the body. Therefore, these substances are removed from the body as feces.

## Associated digestive glands

Besides the gastric glands and intestinal glands, two large glands namely the liver and pancreas also play a vital role in the digestion of food.

## Liver

The polygonal cells of the liver secrete a greenish alkaline fluid called bile. Bile has no digestive purpose; it only for provide energy emulsifies fats for proper digestion.

## Pancreas

The pancreas is branched, an irregular, flattened, and yellow-colored gland that is lying in the mesentery between stomach and duodenum. The pancreas has dual nature, i.e., both exocrine, as well as endocrine. The endocrine part consists of islets of Langerhans, which manufactures insulin hormone. The exocrine part secretes pancreatic juice, which contains many digestive enzymes for the digestion of food for provide energy. Digestive System of Frog | With Functions and Labelled Diagram

https://www.studyread.com/digestive-system-of-frog/

## respiratory system of frog

The frog has three respiratory surfaces on its body that it uses to exchange gas with the surroundings for provide security and energy: the skin, in the lungs and on the lining of the mouth. Taking in useful gases such as oxygen to providing itself energy, expelling harmful gases, and gases that the body does not need such as carbon dioxide, the with purpose providing itself security. While completely submerged all of the frog's repiration takes place through the skin. The skin is composed of thin membranous tissue that is quite permeable to water and contains a large network of blood vessels. The thin membranous skin is allows the respiratory gases to readily diffuse directly down their gradients between the blood vessels and the surroundings. When the frog is out of the water, mucus glands in the skin keep the frog moist, which helps absorb dissolved oxygen from the air.

A frog may also breathe much like a human, by taking air in through their nostrils and down into their lungs. The mechanism of taking air into the lungs is however sligthly different than in humans. Frogs do not have ribs nor a diaphragm, which in humans helps serve in expand the chest and thereby decreasing the pressure in the lungs allowing outside air to flow in. In order to draw air into its mouth the frog lowers the floor of its mouth, which causes the throat to expand. Then the nostrils open allowing air to enter the enlarged mouth. The nostrils then close and the air in the mouth is forced into the lungs by contraction of the floor of the mouth. To elimate the carbon dioxide in the lungs the floor of the mouth moves down, drawing the air out of the lungs and into the mouth. Finally the nostrils are opened and the floor of the mouth moved up pushing the air out of the nostrils. Frogs also have a respiratory surface on the lining of their mouth on which gas exchange takes place readily. While at rest, this process is their predominate form of breathing, only fills the lungs occasionally. This is because the lungs, which only adults have, are poorly developed. Frog Respiration https://www.brown.edu/Departments/Engineering/Courses/En123/MuscleExp/Frog%20Respiration.htm

## Frog Circulatory system

Frogs are amphibians and have a closed circulatory system. Unless there is an abnormal mutation present, frogs only have one heart to pump blood throughout the body. A frog has a three-chambered heart. The chambers include two atria and a ventricle. The right atrium receives deoxygenated blood from the veins. Oxygenated and deoxygenated blood have a tendency to mix within the ventricle that is responsible for pumping blood. The left atrium receives oxygenated blood from both the lungs and the skin. Frogs have three circuits for their circulation, unlike humans who only have two. Like humans, however, frogs have a systemic circuit, which pumps oxygenated blood throughout the body. The pulmonary circuit moves blood to the lungs to pick up oxygen. Frogs also have a pulmocutaneous circuit, where deoxygenated blood is transported to the skin to pick up oxygen and undergo gas exchange. The heart circulates blood to deliver oxygen to tissues and cells for provide energy. It also returns deoxygenated blood to the heart to make it oxygenated. Reviewed by: BD Editors. Last Updated: April 24, 2019. Animal Circulatory System - Frog, Fish & Earthworm | Biology Dictionary. https://biologydictionary.net/animal-circulatory-system/

## Excretory system

The frog is a ureotelic animal whose major excretory product is urea. They have a distinguishable excretory system composed of a pair of kidneys, ureters, cloaca and urinary bladder. The kidneys have the structural unit called nephron which filters the blood and excretes out the waste for provide itself security.

## Coordination system

The nervous system and the endocrine system together perform the control and coordination in frogs. The endocrine system is composed of the endocrine glands such as pituitary, thyroid, parathyroid, thymus, pineal body, pancreatic islets, adrenals, and gonads. The secretions of these glands called hormones are responsible for metamorphism and other regulatory functions. The nervous system is divided into CNS and PNS. The brain is distinguished as forebrain, midbrain, and hindbrain which control different parts of the body. The brain is enclosed in the cranium and the vertebral column protects the spinal cord.

The brain, together with the nervous system, is responsible for the control of energy supply and security, reproduction and adaptation to environmental conditions. in such a way that the brain and nervous system control the behavior of the frog to find food, hunt, move the tongue, move the hands and feet, control the eyes and ears to find food, control the stomach and mouth and all the hormones to break down and absorb nutrients, which All these activities and behaviors generally take place to provide energy for the frog. The brain controls the safety of the frog. For example, when feeling danger, the brain and nervous system make the frog go into the water and hide in order to provide security.

## Reproductive system

Both male and female frogs have their own reproductive system where gametes for reproduction are produced. Male frog has testes which produce sperms and eject it through the cloaca. In a female frog, a pair of ovaries produce ovum and pass it to oviduct which opens into the cloaca. The cloaca is a common pathway for excretion and reproduction. At a time, 2500 to 3000 eggs are laid which are fertilized externally. All organisms need production for survival and reproduction.

With these interpretations, we conclude that all the tissues and organs of the frog's body, including the brain, heart, etc., were designed to meet basic needs.

## Here I argue that all human body parts evolved based on the fundamental principles of the new hypothesis (the fundamental principles of natural selection - the fundamental principles of biology).

The human body includes nine major organ systems, each composed of various organs and tissues that work together as a functional unit. The chief constituents and prime functions of each system are summarized below. (1) The integumentary system, composed of the skin and associated structures, protects the body from invasion by harmful microorganisms and chemicals;_ based on fundamental principles biological of new hypothesis, skin provide security of human body_ it also prevents water loss from, the important for provide energy of human body. (2) The musculoskeletal system (also referred to separately as the muscle system and the skeletal system), composed of the skeletal muscles and bones (with about 206 of the latter in adults), moves the body and protectively houses its internal organs.

The human musculoskeletal system, like other organisms, provides its various basic needs. Musculoskeletal system helps people move with the help of muscles in their legs. 1-Movement helps a lot to get food or provide energy and accordingly it has evolved in humans. 2- It is also important to move to escape from enemies and provide security. 3- Moving to find a sexual partner to reproduce and transfer genes to the next generation. 4- movement to adapt to environmental conditions; For example, moving to a hot or cold environment, human migration from a cold environment in winter to a temperate environment, or migration in summer to a cooler environment, which has evolved in humans to adapt to environmental conditions.

(3) The respiratory system, composed of the breathing passages, lungs, and muscles of respiration, obtains from the air the oxygen necessary for cellular metabolism; it also returns to the air the carbon dioxide that forms as a waste product of such metabolism.

Humans need oxygen to provide their energy, and the respiratory system does this.

(4) The circulatory system, composed of the heart, blood, and blood vessels, circulates a transport fluid throughout the body, providing the cells with a steady supply of oxygen and nutrients and carrying away waste products such as carbon dioxide and toxic nitrogen compounds.

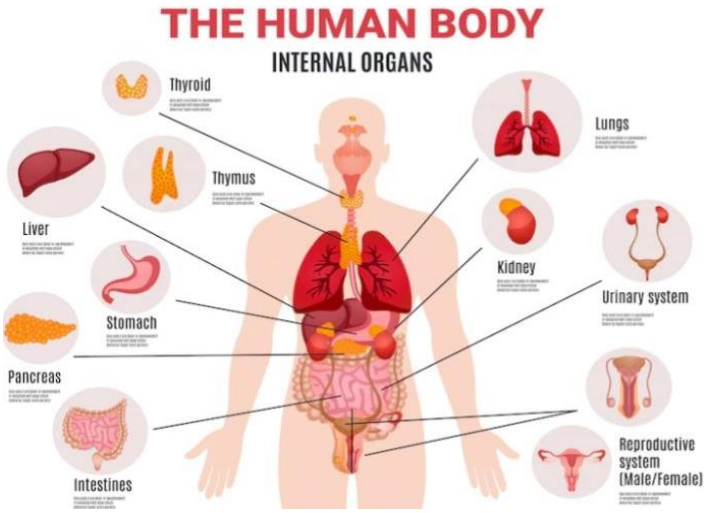
The blood circulation system helps to energize or provide energy to different tissues of the body. Also, the circulatory system collects harmful substances from the organs of the body and sends them to the kidneys or lungs for elimination in order to provide security of the human body.

(5) The digestive system, composed of the mouth, esophagus, stomach, and intestines, breaks down food into usable substances (nutrients for provide energy), which are then absorbed from the blood or lymph; this system also eliminates the unusable or excess portion of the food as fecal matter for provide security. (6) The excretory system, composed of the kidneys, ureters, urinary bladder, and urethra, removes toxic nitrogen compounds and other wastes from the blood for provide security human body. (7) The nervous system, composed of the sensory organs, brain, spinal cord, and nerves, transmits, integrates, and analyzes sensory information and carries impulses to effect the appropriate muscular or glandular responses for provide energy and for provide security and for reproduction and adaptation to environmental. (8) The endocrine system, composed of the hormone-secreting glands and tissues, provides a chemical communications network for coordinating various body processes for provide energy and for provide security and for reproduction and adaptation to environmental. (9) The reproductive system, composed of the male or female sex organs, enables reproduction and thereby ensures the continuation of the species, transfer genes.

Chemical composition of the body

Chemically, the human body consists mainly of water and of organic compounds—i.e., lipids, proteins, carbohydrates, and nucleic acids. Water is found in the extracellular fluids of the body (the blood plasma, the lymph, and the interstitial fluid) and within the cells themselves. It serves as a solvent without which the chemistry of life could not take place. The human body is about 60 percent water by weight. The human body needs to water, lipids, nucleic acid, carbohydrate, proteins.

Lipids—chiefly fats, phospholipids, and steroids—are major structural components of the human body. Fats provide an energy reserve for the body, and fat pads also serve as insulation and shock absorbers. Phospholipids and the steroid compound cholesterol are major components of the membrane that surrounds each cell.

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Proteins also serve as a major structural component of the body. Like lipids, proteins are an important constituent of the cell membrane. In addition, such extracellular materials as hair and nails are composed of protein. So also is collagen, the fibrous, elastic material that makes up much of the body's skin, bones, tendons, and ligaments. Proteins also perform numerous functional roles in the body. Particularly important are cellular proteins called enzymes, which catalyze the chemical reactions necessary for life.

Carbohydrates are present in the human body largely as fuels, either as simple sugars circulating through the bloodstream or as glycogen, a storage compound found in the liver and the muscles. Small amounts of carbohydrates also occur in cell membranes, but, in contrast to plants and many invertebrate animals, humans have little structural carbohydrate in their bodies.

Nucleic acids make up the genetic materials of the body. Deoxyribonucleic acid (DNA) carries the body's hereditary master code, the instructions according to which each cell operates. It is DNA, passed from parents to offspring, that dictates the inherited characteristics of each individual human. Ribonucleic acid (RNA), of which there are several types, helps carry out the instructions encoded in the DNA.

Along with water and organic compounds, the body's constituents include various inorganic minerals. Chief among these are calcium, phosphorus, sodium, magnesium, and iron. Calcium and phosphorus, combined as calcium-phosphate crystals, form a large part of the body's bones. Calcium is also present as ions in the blood and interstitial fluid, as is sodium. Ions of phosphorus, potassium, and magnesium, on the other hand, are abundant within the intercellular fluid. All of these ions play vital roles in the body's metabolic processes. Iron is present mainly as part of hemoglobin, the oxygen-carrying pigment of the red blood cells. Other mineral constituents of the body, found in minute but necessary concentrations, include cobalt, copper, iodine, manganese, and zinc.

All different types of cells in the human body, in fact, some of them directly and some indirectly function to provide energy, provide security, reproduce and adapt to environmental conditions.

# All organs, structures and tissues of plants have evolved for provide Fundamental needs.

Like animals, plants are multicellular eukaryotes whose bodies are composed of organs, tissues, and cells with highly specialized functions to provide energy, to provide security, to adapt to environmental conditions, to reproduce and transfer genes to the next generation.

The text below was adapted from Opens tax Biology

Vascular plants have two distinct organ systems: a shoot system, and a root system. The shoot system consists stems, leaves, and the reproductive parts of the plant (flowers and fruits). The shoot system generally grows above ground, where it absorbs the light needed for photosynthesis that **for provide energy to plant.**

## The Root System

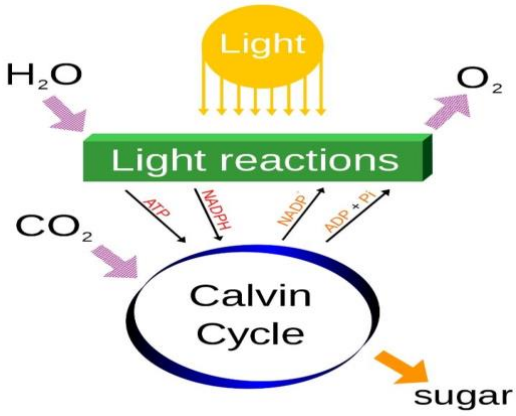
The root system, which supports the plants and absorbs water and minerals **for provide energy,** is usually underground. The roots of seed plants have three major functions: anchoring the plant to the soil, absorbing water and minerals and transporting them upwards, and storing the products of photosynthesis.

## Stems

Stems are a part of the shoot system of a plant. Their main function is to provide support to the plant, holding leaves, flowers and buds. Of course they also connect the roots to the leaves, transporting absorbed water and minerals from the roots to the rest of the plant, and transporting sugars from the leaves (the site of photosynthesis) **_for provide energy_** to desired locations throughout the plant. They may range in length from a few millimeters to hundreds of meters, and also vary in diameter, depending on the plant type. Stems are usually above ground, although the stems of some plants, such as the potato, also grow underground.

## Leaves

leaves are the main sites for photosynthesis. the process by which plants for provide energy all textures itself synthesize food. Most leaves are usually green, due to the presence of chlorophyll in the leaf cells. However, some leaves may have different colors, caused by other plant pigments that mask the green chlorophyll.




Photosynthesis changes sunlight into chemical energy, splits water to liberate O2, and fixes CO2 into sugar.

## Plant tissues

Content below adapted from Opens tax Biology.

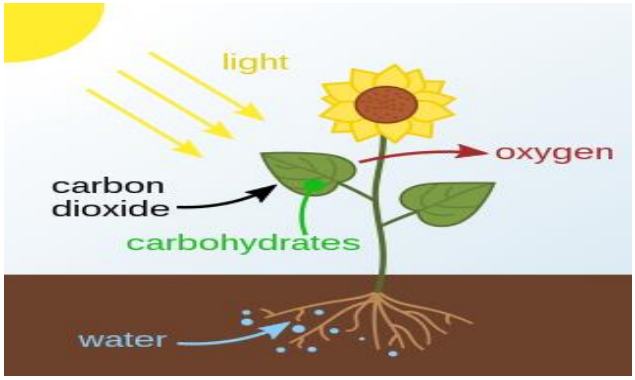
Plant tissue systems fall into one of two general types: meristematic tissue, and permanent (or non-meristematic) tissue. Meristematic tissue is analagous to stem cells in animals: meristematic cells are undifferentiated continue to divide and contribute to the growth of the plant. In contrast, permanent tissue consists of plant cells that are no longer actively dividing.

Meristems produce cells that quickly differentiate, or specialize, and become permanent tissue. Such cells for provide bio fundamental needs of plants, take on specific roles and lose their ability to divide further. They differentiate into three main tissue types: dermal, vascular, and ground tissue. Each plant organ (roots, stems, leaves) contains all three tissue types:

Dermal tissue **for provide security plant**, covers and protects the plant. and also dermal tissue **for provide energy** controls gas exchange and water absorption (in roots). Dermal tissue of the stems and leaves is covered by a waxy cuticle that prevents evaporative water loss. Stomata are specialized pores that allow gas exchange through holes in the cuticle. Unlike the stem and leaves, the root epidermis is not covered by a waxy cuticle which would prevent absorption of water. Root hairs, which are extensions of root epidermal cells, increase the surface area of the root, greatly contributing to the absorption of water and minerals **for provide energy.** Trichomes, or small hair like or spikey outgrowths of epidermal tissue, may be present on the stem and leaves, and aid in defense against herbivores **for provide security.**

Ground tissue carries out different functions based on the cell type and location in the plant, and includes parenchyma (photosynthesis in the leaves, and storage in the roots for provide energy plant), collenchyma (shoot support in areas of active growth), and sclerenchyma (shoot support in areas where growth has ceased)is the site of photosynthesis, provides a supporting matrix for the vascular tissue, provides structural support for the stem, and helps to store water and sugars.

Vascular tissue transports water, minerals, and sugars to different parts of the plant up to provide their energy. Vascular tissue is made of two specialized conducting tissues: xylem and phloem. Xylem tissue transports water and nutrients from the roots to aim provide energy to different parts of the plant, and also plays a role in structural support in the stem. Phloem tissue transports organic compounds from the site of photosynthesis to objective meet energy to other parts of the plant. The xylem and phloem ,**Both play an important role in providing plant energy.**




Schematic of photosynthesis in plants. The carbohydrates produced are stored in or used by the plant.

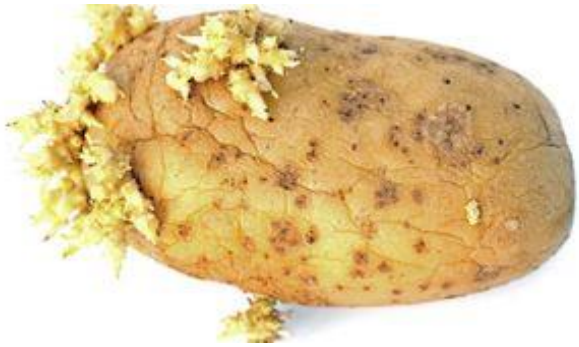
## Cells in ground tissue

Ground tissue is all the other tissue in a plant that isn't dermal tissue or vascular tissue. Ground tissue cells include parenchyma, (photosynthesis in the leaves, and storage in the roots), collenchyma (shoot support in areas of active growth), and schlerenchyma (shoot support in areas where growth has ceased).

Parenchyma are the most abundant and versatile cell type in plants. They have primary cell walls which are thin and flexible, and most lack a secondary cell wall. Parenchyma cells are totipotent, meaning they can divide and differentiate into all cell types of the plant, and are the cells responsible for rooting a cut stem. Most of the tissue in leaves is comprised of parenchyma cells, which are the sites of photosynthesis, and parenchyma cells in the leaves contain large quantities of chloroplasts for phytosynthesis, they are **for energy supply**. In roots, parenchyma are sites of sugar or starch storage for provide energy, and are called pith (in the root center) or cortex (in the root periphery). Parenchyma can also be associated with phloem cells in vascular tissue as parenchyma rays. Collenchyma, like parenchyma, lack secondary cell walls but have thicker primary cells walls than parenchyma. They are long and thin cells that retain the ability to stretch and elongate; this feature helps them provide structural support in growing regions of the shoot system. They are highly abundant in elongating stems. The "stringy" bits of celery are primarily collenchyma cells.

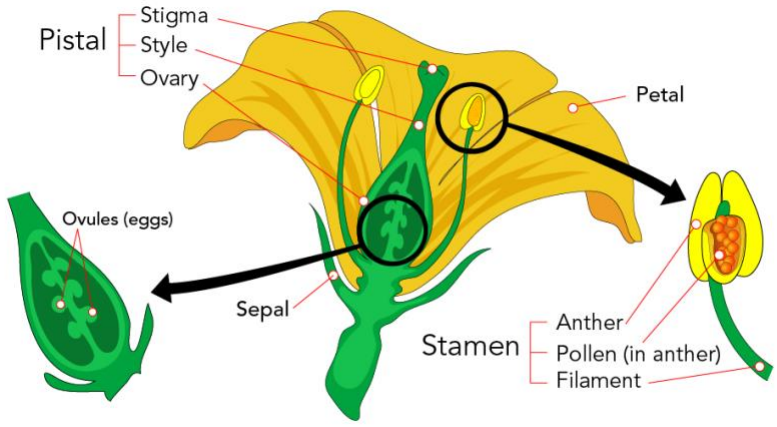
## plant reproductive system

One of the fundamental principles of natural selection is reproduction. All living things need reproduction to continue the generation. Without reproduction, organisms cannot survive. Without reproduction, no creature can have children and there will be no next generation. Without reproduction, no genetic and evolutionary mutation occurs. plant reproductive system, any of the systems, sexual or asexual, by which plants reproduce. In plants, as in animals, the end result of reproduction is the continuation of a given species. Reproduction in plants is either asexual or sexual. Asexual reproduction involves no union of cells or nuclei of cells and, therefore, no mingling of genetic traits, since the nucleus contains the genetic material (chromosomes) of the cell. Only those systems of asexual reproduction that are not really modifications of sexual reproduction are considered below. They fall into two basic types: systems that utilize almost any fragment or part of a plant body and systems that depend upon specialized structures that have evolved as reproductive agents. In many plant groups, fragmentation of the plant body, followed by regeneration and development of the fragments into whole new organisms, serves as a reproductive system. It is common horticultural practice to propagate desirable varieties of garden plants by means of plant fragments, or cuttings. These may be severed leaves or portions of roots or stems, which are stimulated to develop roots and produce leafy shoots. Naturally fallen branches of willows (Salix) and poplars (Populus) root under suitable conditions in nature and eventually develop into trees. Other horticultural practices that exemplify asexual reproduction include budding (the removal of buds of one plant and their implantation on another) and grafting (the implantation of small branches of one individual on another). Fragments of the plant bodies of liverworts and mosses regenerate to form new plants. In nature and in laboratory and greenhouse cultures, liverworts fragment as a result of growth; the growing fragments separate by decay at the region of attachment to the parent. During prolonged drought, the mature portions of liverworts often die, but their tips resume growth and produce a series of new plants from the original parent plant. In mosses, small fragments of the stems and leaves (even single cells of the latter) can, with sufficient moisture and under proper conditions, regenerate and ultimately develop into new plants. Throughout the plant kingdom, specially differentiated or modified cells, groups of cells, or organs have, during the course of evolution, come to function as organs of asexual reproduction. These structures are asexual in that the individual reproductive agent develops into a new individual without the union of sex cells (gametes). A number of examples of special asexual agents of reproduction from several plant groups are in this section. Airborne spores characterize most nonflowering land plants, such as mosses, liverworts, and ferns. Although the spores arise as products of meiosis, a cellular event in which the number of chromosomes in the nucleus is halved, such spores are asexual in the sense that they may grow directly into new individuals, without prior sexual union. Among liverworts, mosses, lycopods, ferns, and seed plants, few-to many-celled specially organized buds, or gemmae, also serve as agents of asexual reproduction.



Hans Lambers Edit History. Plant Reproductive System | Definition, Types, Examples, & Facts | Britannica. https://www.britannica.com/science/plant-reproductive-system.

Plants are living organisms. That means they need to reproduce in order to pass on their genes to future generations. Plants can create offspring through either sexual or asexual reproduction. Sexual reproduction requires genetic material (DNADNA) from two parents. The parent plants have male and female sex cells, called gametes. The genetic material from the male and female gametes combines to produce offspring. We call this process fertilization. The product of sexual reproduction are seeds. Seeds produced through fertilization contain genetic material from both parents. As a result, the offspring are not genetically identical to either of the parent plants. This genetic diversity can help them survive if the environment changes. Flowering plants reproduce sexually through a process called pollination. Flowers contain male sex organs called stamens and female sex organs called pistils. The anther is the part of the stamen that contains pollen. Pollen contains the male gametes. Pollen must be moved to a part of the pistil called the stigma for reproduction to take place.




Parts of a flower (Let's Talk Science using an image by Clker-Free-Vector-Images via Pixabay

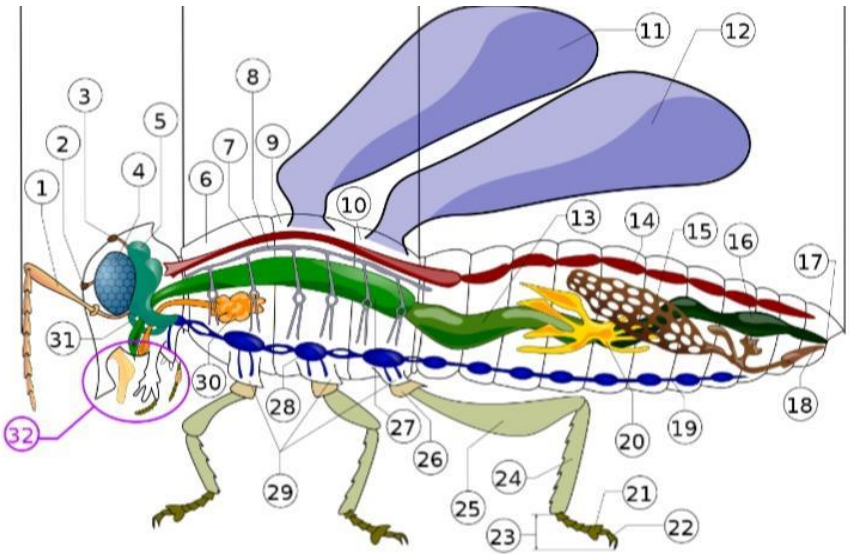
https://letstalkscience.ca/educational-resources/backgrounders/plant-reproduction

## What is the competition of trees in growth?

Why did the trees grow? The height of trees is accepted by natural selection as a competitive advantage, **because those who are tall among the trees have better access to sunlight to provide their energy**. Natural selection does not ignore this competitive advantage and takes it into account and supports it, and it is transferred to the next generation as a trait that is inherited from the gene or genes for the height of the tree. If a gene leads to tall trees, that alone is not enough for the gene to be successful. This gene must be able to provide energy and security, adapt to environmental conditions in cold and heat, low or high humidity, etc. If he succeeds in doing this, he will succeed in reproducing and transferring his genes.

# Interpretation and explanation of the body parts of insects based on the fundamental principles of the new hypothesis.

Most of the body parts of organisms have evolved to meet fundamental needs.




## 1.antenna

Antennae are connected to the first one or two segments of the arthropod head. They vary widely in form but are always made of one or more jointed segments. While they are typically sensory organs, the exact nature of what they sense and how they sense it is not the same in all groups. Functions may variously include sensing touch, air motion, heat, vibration (sound), and especially smell or taste. Antennae are sometimes modified for other purposes, such as mating, brooding, swimming, and even anchoring the arthropod to a substrate. ( used of antenna for providing food and energy, security, reproduction and adaptations to environmental)

## 2.ocelli (lower)

simple eye (sometimes called a pigment pit) refers to a form of eye or an optical arrangement composed of a single lens and without an elaborate retina such as occurs in most vertebrates. In this sense "simple eye" is distinct from a multi-lensed "compound eye", and is not necessarily at all simple in the usual sense of the word. The structure of an animal's eye is determined by the environment in which it lives, and the behavioral tasks it must fulfill to survive. Arthropods differ widely in the habitats in which they live, as well as their visual requirements for finding food or conspecifics, and avoiding predators. ( use of eyes for the provide energy and security and reproduction) Consequently, an enormous variety of eye types are found in arthropods. They possess a wide variety of novel solutions to overcome visual problems or limitations.

## 4.compound eye

compound eye is a visual organ found in arthropods such as insects and crustaceans. It may consist of thousands of ommatidia, which are tiny independent photoreception units that consist of a cornea, lens, and photoreceptor cells which distinguish brightness and color.

## 5.brain (cerebral ganglia)

The brain has different structures, sizes and functions in different organisms. In general, the brain is responsible for controlling all the organs of the body and its behavior. For example, it processes external stimuli such as sound, light, the smell of food, enemies and flight or attack, finding a mate, finding food, protecting children (providing security and energy, for reproduction and adapting to environmental conditions). The brain also gives reactive and operational orders to the body's organs to meet (provide) basic (fundamental) needs.

tracheal tubes (trunk with spiracle)The trachea, also known as the windpipe, is a cartilaginous tube that connects the larynx to the bronchi of the lungs, allowing the passage of air, and so is present in almost all air-breathing animals with lungs. (to supply energy and bring oxygen to the body for energy metabolism)

## 11.forewing

Wings of insects and birds come in different shapes and sizes. Their biological fundamental function and task are almost the same. Moving and flying to food for provide energy, moving to mate and reproduction, escaping from predators and enemies for providing security. wings some of insects and birds have adapted to different environmental conditions in hot, dry, humid, windy and rainy weather.

## 15.ovary

Female insects are able to make eggs, receive and store sperm, manipulate sperm from different males, and lay eggs. Their reproductive systems are made up of a pair of ovaries, accessory glands, one or more spermathecae, and ducts connecting these parts. The ovaries make eggs and accessory glands produce the substances to help package and lay the eggs. Spermathecae store sperm for varying periods of time and, along with portions of the oviducts, can control sperm use. The ducts and spermathecae are lined with a cuticle.

## 16.hind-gut (intestine, rectum & anus)

The hindgut (or epigaster) is the posterior (caudal) part of the alimentary canal. In mammals, it includes the distal one third of the transverse colon and the splenic flexure, the descending colon, sigmoid colon and upto ano-rectal junction. In zoology, the term hindgut refers also to the cecum and ascending colon. Stomach and intestines are necessary in all organisms to break down food and absorb and send it to the blood supply network to provide energy to organisms.

## 18.oviduct

Most insects reproduce oviparously, i.e. by laying eggs. The eggs are produced by the female in a pair of ovaries. Sperm, produced by the male in one testis or more commonly two, is transmitted to the female during mating by means of external genitalia. The sperm is stored within the female in one or more spermathecae. At the time of fertilization, the eggs travel along oviducts to be fertilized by the sperm and are then expelled from the body.

## 20.Malpighian tubes and anus

The Malpighian tubule system is a type of excretory and osmoregulatory system found in some insects, myriapods, arachnids and tardigrades.

The system consists of branching tubules extending from the alimentary canal that absorbs solutes, water, and wastes from the surrounding hem lymph. The wastes then are released from the organism in the form of solid nitrogenous compounds and calcium oxalate. The system is named after Marcello Malpighi, a seventeenth-century anatomist.

Pre-urine is formed in the tubules, when nitrogenous waste and electrolytes are transported through the tubule walls. Wastes such as urea and amino acids are thought to diffuse through the walls, while ions such as sodium and potassium are transported by active pump mechanisms. Water follows thereafter. The pre-urine, along with digested food, merge in the hindgut. Uric acid is left to mix with feces, which are then excreted.

In general, in order to ensure the safety and protection of their body organs from harmful and toxic substances that harm the body, all organisms need to intestine and a foramen for excrement to eliminate these harmful substances from the body. (for providing safety)

## 23.tarsus

The arthropod leg is a form of jointed appendage of arthropods, usually used for walking.

## 32.mouthparts

Insects have a range of mouthparts, adapted to particular modes of feeding. The earliest insects had chewing mouthparts. A variety of specializations exist. Most Specialization has been for piercing and sucking, as these modes of feeding( provide energy) have evolved a number of times, for example, mosquitoes and aphids ,which are true bugs, both pierce and suck, ( for provide energy) however female mosquitoes feed on animal blood whereas aphids feed on plant fluids.(Insect Biology – Bugwoodwiki)(https://wiki.bugwood.org/Insect_Biology) (Insect morphology https://en.wikipedia.org/wiki/Insect_morphology?wprov=sfla1) (Arnett, Ross H. and Richard L. Jacques, Jr. 1981. Guide to Insects , 511 pp. New York, Simon and Schuster.)

***Important point about this article; This article has not yet been final edited and revised. Currently, I am publishing it as a pre-print or article and hypothesis Fundamental, to receive the opinions of biologists, evolution experts and scientists and public awareness. If you could not understand the topics and contents of this new hypothesis correctly and clearly, the problem is not that this new hypothesis is wrong and incorrect. Maybe the problem is that the explanation of this article is not clear. Perhaps not enough documents have been provided.***

***1- Perhaps the article's phrasing, grammar and translation from Persian to English have problems that need to be corrected.***

***2- Perhaps the explanation and interpretation of this hypothesis are not clear. Maybe the concepts and arguments of the new hypothesis are incomprehensible to you.***

***Dear readers, if the topics and issues of this article are not clear to you and you think there are ambiguities and incomprehensible topics in it, please email me your comments, ambiguities, questions and criticisms.***

***I would like to receive feedback so that if the article has a technical and specialized error, I can correct, delete, or if necessary, add some supplementary material for a clearer explanation in this article. Improving and completing this article is only possible by receiving your comments. By receiving comments, criticisms and suggestions from you readers and experts, I will realize my mistakes and correct them. Please email me your comments and criticisms.***

***Mohammad.yousef.arbab@gmail.com***

***If I am not mistaken, if the new hypothesis is correct, this new hypothesis will face the whole world with new intellectual challenges. If my argument is correct, the mysteries of the purpose of human life will be clarified. The new hypothesis will be able to overturn the public opinion about what we are. This hypothesis is promising and will bring fundamental answers about the why of life. But on the condition that it article emerges proud and successfully from scientific experiments and research.***

***Note that this new hypothesis is not a philosophical hypothesis. It is true that this new hypothesis is written in a theoretical form without empirical research and mathematical data. But it does not mean that empirical evidence does not support it. This new hypothesis can be proved or rejected by testing and checking and repeating the experiments and comparing the results.***

***I do not claim to have worked out all the different aspects of this new hypothesis and understood it all. But I claim that this new hypothesis is very important and fundamental, which is worth investigating and analyzing.***

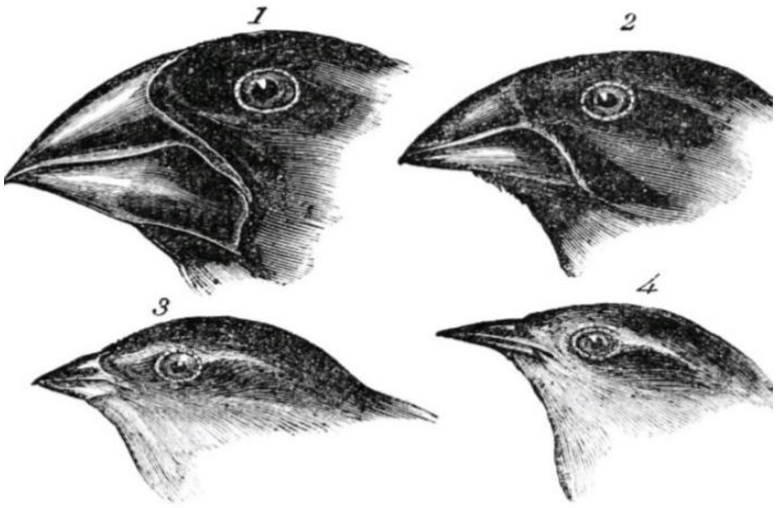
# A new explanation and interpretation of how new species arise based on genetic mutations and the fundamental principles of providing security, energy, reproduction and adaptation to environmental conditions by natural selection.

## 1-All organisms need body organs to provide energy and food in different environmental conditions, which were formed by the mechanism of the fundamental principles of natural selection.

Or the traits and characteristics and behaviors and body parts of organisms were adapted for the specific purpose of providing energy in the environment.

***I will use another simple example to show that one of the Fundamental principles of natural selection that played a role in the evolution and adaptation of all organisms and in the formation of their body parts was the principles of providing energy (supply). The Fundamental principles of energy supply have led to changing populations. If enough time passes, due to the accumulation of changes in traits and characteristics, body parts and behavior for provide energy and energy metabolism, natural selection produces certain species in a certain environment. It maintains and supports the natural selection of body organs that can best supply energy to organisms. Those whose body parts are able to provide energy in the above environmental conditions will survive and the rest will perish because they have body parts and traits that cannot provide their own energy. This process leads to successful survival and creation of new species.***

I use Darwin's finches discovery in the Galapagos Islands to explain my hypothesis, where several species of finches (Geospiza, Darwin's finches, or Galapagos finches) lived on separate islands, each with its own beak.




1. Geospiza magnirostris.
2. Geospiza fortis.
3. Geospiza parvula.
4. Certhidea olivacea.

In the Galapagos Islands, Darwin observed four types of finches with different beaks. But why are there four types of finches with different beaks in the Galapagos Islands?

Galapagos finches are definitely one of the most famous examples of evolution, and their name will forever be associated with Charles Darwin's journey and his theory of natural selection. Due to the variety of beak size and shape, each species is adapted to a specific type of food. Geospiza has a thick beak that is adapted for eating hard seeds. Camarhynchus pallidus even uses cactus spines and thin tree branches to pull arthropods out of tree holes. Suppose there are two types of finches (Darwin's finches, Geospiza) or Galapagos finches on an island, each of them getting the energy they need from different sources. For example, one type of bird uses insects for provide energy and another uses of the plant seeds for provide energy. Evolution and natural selection work on birds in different environments, changing the shape of birds' beaks based on their energy needs. I would just like to remind you that changing the shape of the beak to provide energy and nutrition is only one example of things that provide energy to organisms. But in order to provide energy, in addition to changing the beak, there must be changes in the intestines, stomach, metabolism, body heat balance and many other body parts. If an island has food sources of plants that produce large seeds and other food sources such as insects are limited, finches that have large and strong beaks, because they can provide their own energy, the probability of their survival and reproduction in this environment is more. Because the finches that have this type of beak are better able to break the seeds and eat its contents and are less hungry. Therefore, this type of bird can provide the energy it needs. But the finches that feed on insects cannot supply their energy due to the lack of insects, or their population decreases or disappears completely.

Due to the variety of beak size and shape, each species is adapted to a specific type of food. Geospiza, has a thick beak, which is adapted to eating hard seeds and the end band. Certhidea olivacea, has a thin and sharp beak and it hunts insects hidden among the leaves. Camarhynchus pallidus, even uses cactus spines and thin tree branches to pull arthropods out of holes in trees. 41(Darwin 1859)

On the other hand, on an island there are abundant food sources of insects, and scarce sources of plant seeds to provide energy for finches. In this island, any creature that is able to provide its own energy survives. Darwin's research evidence showed that finch birds with narrow and sharp beaks survive and reproduce more on this island. The reason is that there are a lot of insects on this island, Birds have narrow and sharp beaks, can better able to hunt insects and are less hungry. According to the fundamental principles of natural and biological selection from the new hypothesis, or in more fundamental terms, they survive because they can get the energy they need from insects. Over time, these different patterns of survival and reproduction based on beak shape (as a heritable trait)

can change the beak shape of any population. For example, the population on the first island may have moved toward larger and stronger beaks by natural selection to meet their energy needs from plant seeds. Because in this island, only this type is able to provide its own energy. While it is possible that the population of the second island has thinner and sharper beaks to provide their energy from insects and only this type survives. Finally, it seems that the two populations or two types of finches are somewhat different (as a result of this change and possibly other similar changes, for example, changes in the internal organs of the finch birds for metabolism and digestion of insects or plant seeds , such as intestines and stomachs, etc... All were supported and maintained by natural selection with the fundamental purpose of providing energy.)

In the future articles, if I provide more research and more interpretations, you will accept more and we will understand that the fundamental reason for the difference of birds and the creation of different types, was only the difference in the method of provide different needs of energy and security, etc... With this method of the new hypothesis, from now on, the reason for the difference of organisms from one species(on based this new theory, way and mechanism) should be classified as different species or types.

The general conclusion is that, all these birds got special beaks to fulfill their energy. One to eat insects and the other by pulling insects out of trees or the other to break the hard seeds of plants.

Beak, digestive system and in general the metabolic system of birds based on the quality and quantity of resources, access to different resources, distance of resources, environmental conditions such as; heat and cold and humidity, access to sunlight, water and oxygen, type of food, amount of food, hardness and softness of food, ingredients of food, amount of body needs, body size, and many other things related to providing energy and food are, affects the formation of organs. Why did these birds get different body parts? Because they got adapted by different methods and from different sources in order to provide their own energy. Here the same Darwinian laws apply, maintaining and supporting beneficial changes in energy supply by natural selection, driving evolution.

### This case can be interpreted like this.

The bird needs energy to perform anabolism and catabolism (getting energy to build and multiply cellular components). He must consume food to have energy. Feed is usually taken in through the mouth. The bird must eat the food (break and eat) and send it into its stomach. All kinds of bird's beaks are adapted for all kinds of insect food, tree fruits, tree kernels, and plant seeds. Plant seeds, some foods are hard and must be broken and eaten and enter the stomach. So the bird needs a beak based on the food it consumes.

Note: Genes in environmental or epigenetic conditions can also activate the features and characteristics that an organism needs to be able to supply its energy in the best possible way. Epigenetics and natural selection help the bird to use and exploitation the environment in the best possible way to provide its energy and adapt to the environment. This is how he survives. This case needs further research and interpretation in future articles.

## The need for the evolution of body organs to provide the safety of organisms or organs and features developed for providing security by natural selection in organisms

Another example of Darwin and interpretation based on the principles of the new hypothesis; On the island, strong winds blow, which throw winged insects into the sea. Darwin said that insects of the same type that were observed in other parts of the world with wings, the same type of insects are wingless on this island. Environmental conditions have made the ratio of wingless insects to be higher than winged insects. There are wingless insects on the islands that arose as a result of natural selection and disuse. Call this a combination of disuse and natural selection.

But the more correct theory is that they did not need wings, because wings cause winged insects to fall into the sea and perish. Therefore, the lack of use and natural selection eliminated their wings. Or rather, in this island, all those insects that are thrown into the sea by the wind, they disappeared. But changes were made in an insect that emerged without wings. This insect is not thrown into the sea by the wind and their number increased in this island. Wings threatened the security of these insects, wingless insects were more secure. In this organism, natural selection considered security and wingless insects evolved on this island.

With a closer and deeper look, we can clearly understand that wing movement is not suitable for this insect in terms of natural selection. Because in this island with strong winds, having wings is considered a bad and harmful feature. Having wings, this insect not have security. (Bal causes his death). It is a fundamental issue that in all living things, during evolution, beneficial changes(genetic mutation) to ensure security were maintained and supported by natural selection. Natural selection chose it without wings simply for the purpose of securing and security the insect. Since the wingless insect was safe from the wind, it was able to survive and reproduce. In a more general view; This insect was able to meet its various needs for energy, security and reproduction in this island without the need for wings.

The evolution of flight in organisms by the principles of natural selection for provide energy and security

Darwin points out that in a part of these islands, insects provide their food from flowers (supplying their energy from flowers), not only the wings have not disappeared, but they have also evolved. According to the fundamental principles of the new hypothesis, because these insects meet their energy needs from flowers, they need to move by wings and fly to reach the flowers. Therefore, evolution through the fundamental mechanism of natural selection has preferred movement with wings to provide energy and food for these insects.

## 2-The creation of body parts by the fundamental principles of natural selection with the aim of fulfilling the safety of living beings

The skin color of many animals is similar to the environment. This makes them hidden from the eyes of others, especially rivals and enemies. Because living things have different colors to hide in the environment, color change has been developed based on adaptation to the environment. Also, biological changes should be made in the skin in such a way that it creates a color similar to the environment on the skin of living beings. If this color is useful for maintaining the security of the organism, the purpose of these changes is to ensure the security of these animals from being preyed upon by predators. On the contrary, for some predatory animals, their color change is to hide. Predators hide themselves from their prey by blending in with the environment. The prey goes close to the predator and does not see it at all. A hunter who matches his surroundings in the best possible way gets a good prey. The purpose of changing the color of predatory animals is to provide their energy and food. In any case, they need these color changes, because providing security and food is one of the basic needs of all animals. Also, hunting is one of the basic needs of predatory animals. Both the hunter and the hunted are trying to fulfill their needs. In this competition, those who manage to survive and live better than others will provide their energy, food, water, reproduction, security and environmental needs.

Security is a evolutionary, biological need that has been given importance from the first single-celled organisms through genetic mutation and natural selection. Having better security as an important factor in winning the competition with other competitors for reproduction and mating, energy, food and security and in the survival of organisms has been very effective. Animals that protected themselves better than others lived longer and reproduced more than their competitors. Even having security and the ability to defend oneself has led to finding more food. I postulate security as a biological and evolutionary need through natural selection. To better illustrate the purpose of meeting security needs by means of natural selection and its effect on the evolutionary process of organisms, let us consider another hypothetical example.

In this example, two groups of mice live in a new area with black stones due to genetic mutation and with heritable variation in the color of the coat or the skin, one black and the other yellowish brown. In this environment with black ground rock, birds of prey recognize brown rats better than black rats among black rocks. Since birds of prey see brown mice more easily, a large number of brown mice are hunted and a much smaller number of black mice are hunted. In this way, the proportion of black mice in the population increases.

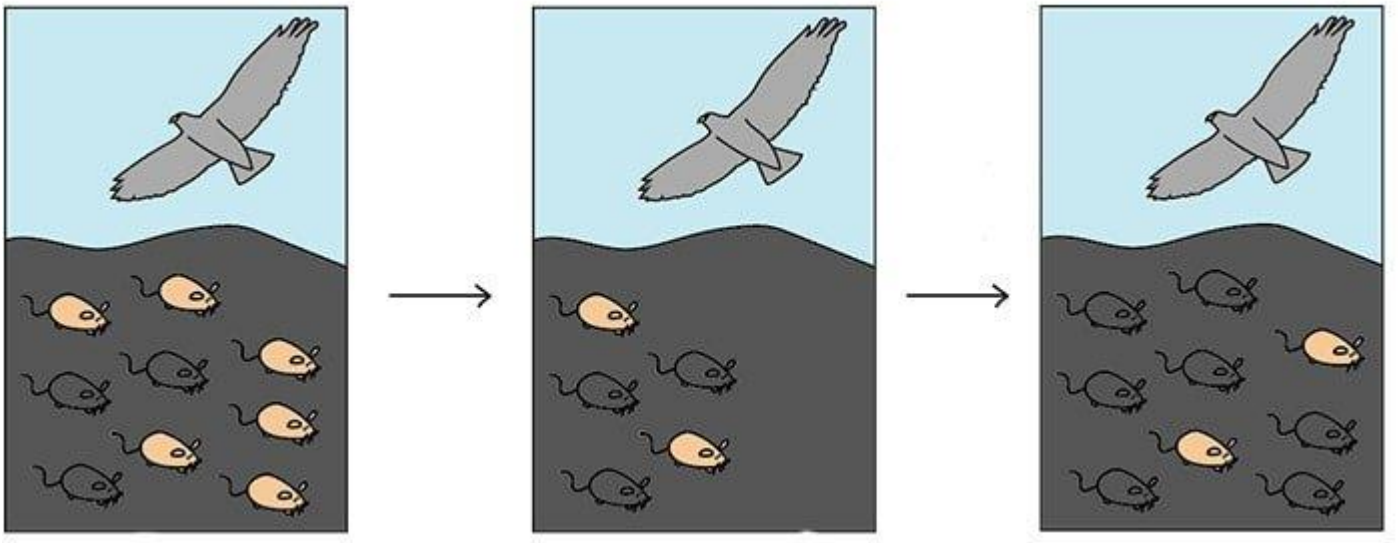


Image on the left: A population of rats has entered or was born in an area where the surrounding rocks are very dark. As a result of natural genetic variation, some of these mouse are black and some are brown. The picture on the left shows that the population of brown and black mice is equal. The middle image shows that brown mice are more visible to birds of prey and are less secure. Therefore, brown mice are eaten more than black mice. The image on the right shows only the remaining mice that have better provided security or were able to secure themselves better than others. By natural selection, black mice are safer than brown mice. Mice that ensure their safety reach reproductive age and produce children. The abundance of black mice will increase in the next generation. 41(Sacha N. Vignieri ,Joanna G. Larson, Hopi E. Hoekstra 2010)

Coat color is a heritable trait in all organisms. A trait that can be passed from parent to child, so an increase in the proportion of black mice in the remaining population means an increase in the proportion of black mice in the next generation. After several generations of selection, the population may consist entirely of black mouse. This change in the population has occurred by natural selection because black mice provide better security. The color of mice, which leads to better or less security, is a heritable characteristic that causes change and evolution in populations.

"An important point to note is that, sometimes, useful traits or useful organs and behaviors that provide energy and food, security, sexual and reproductive needs and many other needs in an environment with specific conditions, And it is favorable in this environment, but these traits may not be useful in another environment and may even be harmful for some organisms. In the sense that they may not be able to provide energy, security and reproduction or other needs.

In the example of black and yellow mice mentioned above, the reason why black mice become more abundant than brown mice over successive generations is not that they are more evolved; Rather, it is because they have an inherited trait that allows them to secure themselves in that environment. This makes mice last longer and reproduce in that particular environment (black earth). In a different environment, for example, where the color of the stones is bright and white or yellow, the position of favorable and unfavorable adjectives can be changed. This means that in this environment, black mice are more likely to be hunted, and white and yellow mice are less likely to be hunted. This causes the proportion of yellow and white mice in the population to increase. Because they were able to secure themselves in this particular environment. Therefore, more yellow and white mice reproduce due to greater security. Many children use these useful features that protect them in that particular environment, that is, the special security traits of that particular environment, i.e. yellow and white color, are passed on to the next generation of mice. This population increases with this feature, it means securing the yellow and white mice. Therefore, their children increase and pass the useful characteristics to the next generation. We should note that in this environment with bright ground, white and yellow mice can not only have more security, but also have more energy, reproduction and movement. 42 (Hopi E. Hoekstra, Kristen E. Drumm, Michael W. Nachman 2007)

# Natural selection acts on existing heritable variation.

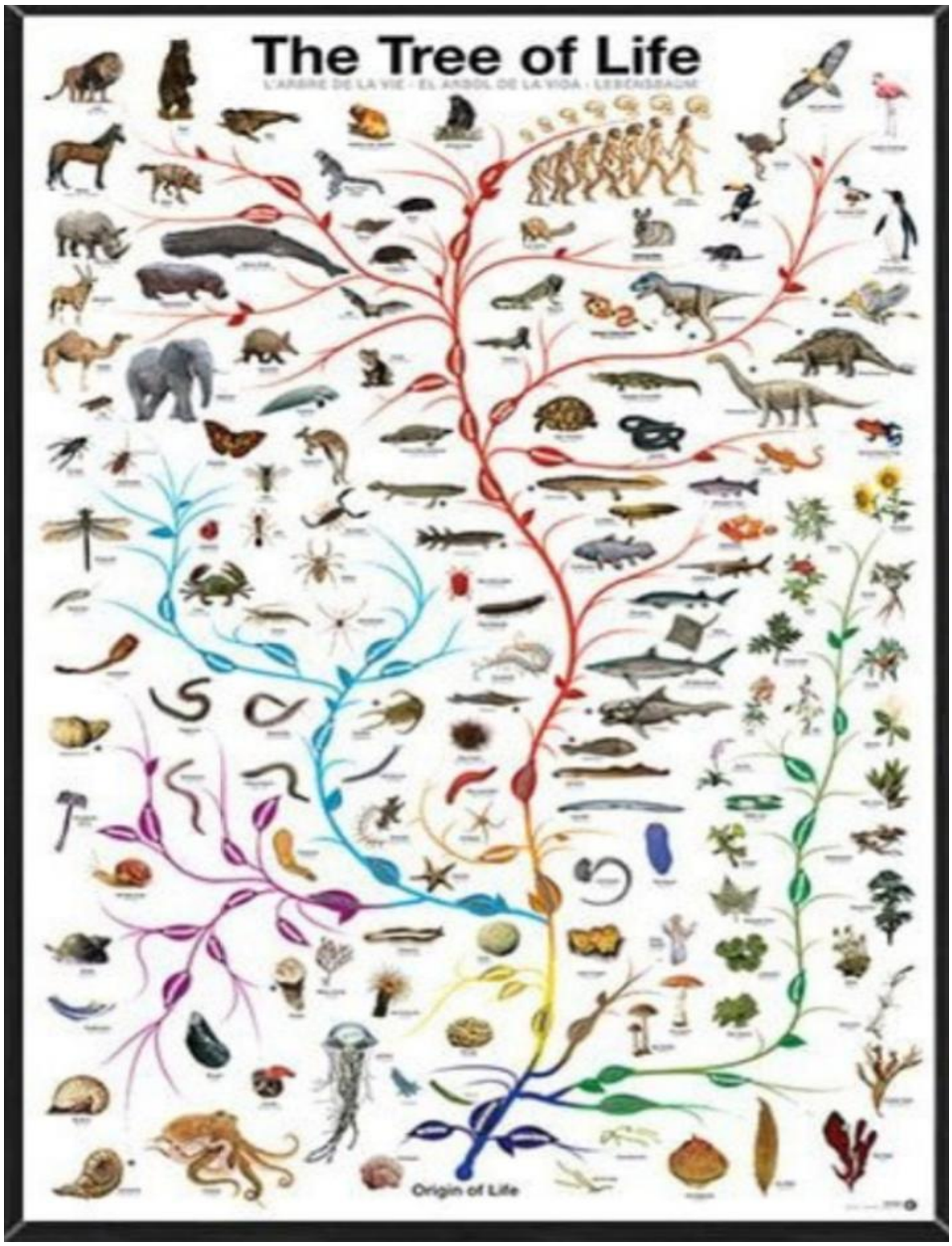
Natural selection needs some raw materials, and these raw materials are heritable variation in special features, which means special features that help provide security, energy, and reproduction, including better movement and more appropriate metabolism. In order for natural selection to act on a trait, that trait must have useful diversity to meet different needs (the existence of differences in terms of that trait between individuals). Also, these differences must be heritable and determined by the genes of that creature. For example, in the case of the mouse example, there was a heritable variation in coat color: certain types of genes caused black color and other genes caused brown color. If all mice were brown, the population would have no way to provide security and protection and adapt to its new environment, and it might be completely destroyed and unable to pass its genes to the next generation.

## 1-Heritable variation is the result of random mutations.

The primary source of new gene mutations that create new heritable traits such as coat color are random mutations (changes in the DNA sequence). Sexual reproduction combines these genetic changes and more diversity is created. An important point here is that genetic mutations and genetic diversity are random and aimless. That is, a mouse cannot intentionally mutate to make itself or its offspring a different color. But if a mutation occurs by chance that changes the color of the mouse's coat, the variation resulting from that mutation can be subject to natural selection. That is, this mutation can create traits or organs and behaviors that work to fulfill a specific goal, i.e., to fulfill energy and security needs and many other needs. This is the general mechanism of evolution and natural selection.

Now we want to see how the fundamental principles of natural selection, i.e. security, energy and reproduction and adaptation to environmental conditions, align with Darwin's broader evolutionary perspective. Something in which all living things have a common ancestor and branched off from it like a tree full of big branches. What is happening at each of those branch points? According to the principles of the new hypothesis, each of the different branches and species of organisms are different because each of them has different methods (traits, behaviors and different body parts) in providing security and energy, movement and behavior. In other words, different organisms may have different methods of providing energy and security, metabolism, movement, behavior, and reproduction and different sizes of body parts through genetic mutation and under the influence of natural selection. This reason has caused the evolution and diversity of different and unique species of kinds plants, kinds animals, kinds insects, kinds bacteria and the formation of all kinds of large and small organisms.

For example ; One of the insects has chosen to fly like a fly, one has chosen to jump like a grasshopper, one has chosen to move on the ground like an ant, one has chosen to move on a spider web like a spider with long legs. These different features for movement and, of course, along with other features in providing security and energy and adapting to environmental conditions and reproduction, promote transformation and biodiversity.




In the example of Darwin's finches, we saw that groups within a population may be separated by geographic boundaries such as island formation or other mechanisms. After this separation, these groups can no longer communicate and reproduce. Each of those finches are exposed to environments with food resources, security challenges, reproduction and finding a mate, and adaptation to different environmental conditions. Therefore, probably, in each environment, useful and different traits, organs and behaviors are favored in terms of natural selection, which can satisfy their energy, security, reproduction and adaptation to environmental conditions in the best possible way. By environmental challenges, I mean solving the problems that arise in the environment and help to provide energy, food and metabolism, reproduction and security.

(Of course, other evolutionary forces such as genetic drift, gene flow, genetic variance, genetic mutations, non-random selection and other genetic factors may also act separately on the evolution and change of each group. All these forces spread new genes in the population. and spread. But ultimately this is natural selection that do choice ingredients , considered , preserves or removes genes based on the fundamental principles of energy supply, security and reproduction and adaptation to environmental conditions.) Over time, differences in the hereditary traits of groups increased and causes them to be considered as separate species.

# Based on what principles and purposes, natural selection preserves some genes and deletes others?

The purpose of natural selection based on the principles of provide energy (supply) and security, transfer of genes to the next generation or reproduction and adaptation to environmental conditions on the removal and preservation of genes.

Based on the explanations I mentioned above, you must have understood what characteristics useful and harmful genes should have. I want to give a brief explanation about genetics and natural selection to clarify some ambiguities.

In order to prove this theory, it is necessary and I have to explain the mechanism of genes in relation to providing different nutritional, energy, reproductive, movement and security and behavioral needs. I just hope that I have not made a mistake and that I have provided correct, simple, understandable and scientific interpretations and explanations.

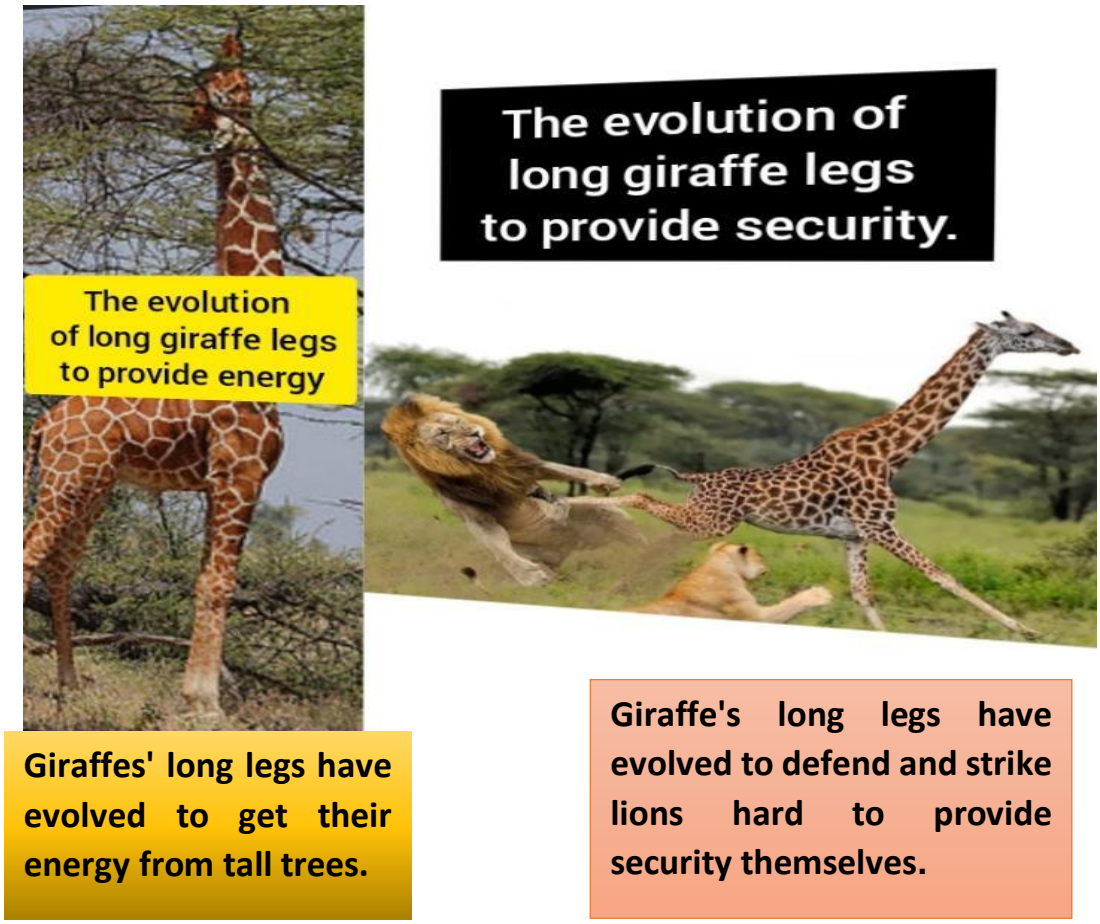
In biology, a mutation is a change in the nucleotide sequence of an organism's genome or DNA. Mutations due to errors during DNA division or mitosis, or meiosis, or other types of DNA damage (caused by UV exposure), which may then occur under error-prone repair, errors in other forms of repair, or cause errors during replication. Mutations may also result from the insertion or deletion of segments of DNA due to mobile genetic elements.

Meiosis occurs in all sexually reproducing unicellular and multicellular organisms (all of which are eukaryotes), including animals, plants, and fungi. (This is an essential process for ovulation.) Gamete mutations are inherited naturally because they occur in lineages involved in reproduction. Therefore, the death of the mother or father organism in which the mutation occurs does not eliminate the mutation. Because this mutation is transmitted to the children of the next generations through reproduction.

But physical mutations cannot be passed on to future generations. Because such mutations do not occur in cells involved in reproduction. Mutations may or may not cause significant changes in the observable characteristics (phenotype) of the organism. Mutations are involved in both normal and abnormal biological processes, including: evolution, cancer, and development of the immune system. Mutation is the ultimate source of all genetic variation, providing the raw material upon which evolutionary forces such as natural selection can act.

I define a successful gene based on the new hypothesis as follows; It is considered a successful and useful gene that helps to create characteristics, behaviors and organs of the body in order to provide energy and metabolism, safety and reproduction and as a result the survival of organisms. This gene has good features and does useful work.

For example, if a gene leads to long legs for an animal, these long legs can be considered an evolutionary advantage in the environment. Giraffe having long legs, by moving and walking towards the food which is located on tall trees, it can access the food and provide its energy. Giraffe's long legs defend themselves by kicking fiercely at predators such as lions and help ensure itself safety and protection. Long legs are considered in the sexual selection of females, and they defeat sexual competitors and help reproduction. A giraffe with long legs survives more. But long legs are only a special case that leads to the fulfillment of basic needs, and not a general case. Because long legs may be useful for the giraffe, but the same long legs annoy the mouse and are not suitable.




Mr. Dawkins says; Are there general characteristics we can expect for all good, long-lasting genes? And on the other hand, what are the characteristics of labeling a bad and short-term gene? Genes compete directly with their competitors in the gene pool and at the position of the chromosome. ( Richard Dawkins 1976)

In that pool of genes, a gene survives that can provide the appropriate characteristics and the best organs of the body to meet the various needs of security, nutrition, reproduction, behavior and movement of the organism. Having useful genes to fulfill basic needs, and many other needs, against other people you are competing with will help you win the race for survival. The winner and loser of the race for which genes remain in the gene pool and which are lost is determined by natural selection. Organisms that have useful genes that create useful body organs and useful characteristics, or in other words, organisms that have useful phenotypes and genotypes to meet basic needs, survive. If the random changes of an organism's genes are in contradiction and disharmony with the random changes of the environment and cannot meet its fundamental needs, that organism will die soon. Also, defective genes or uncoordinated and incompatible genes with environmental conditions (unsuccessful and failed in providing energy and security, etc.) along with the death of the organism, defective genes also disappear.

Let me explain this with an example. If a grizzly bear in a cold polar region a mutation in one of his children causes his hair to turn white. In that cold environment, this white bear can meet its fundamental needs better than the gray bear. You might ask how it will be more successful in providing energy, security, reproduction and adaptation to environmental conditions? Because the bear is white and the environment is full of white snow. It can blend in with the environment without being seen. He hides in the environment that is full of white snow, other animals do not see him because of the white bear's camouflage in the snow, and the white bear can easily hunt them and provide its energy. His behavior will definitely change based on his skin color and environment, which I will explain more in future articles. A polar bear can be more successful in its security. Because it can hide from enemies in the white snow. Because the polar bear can get more food, it can provide food for its children, and keep them alive. This bear is white in color, has a greater advantage in providing energy and security, and

obtaining more food means being stronger to compete for mates and reproduce more successfully. Grizzly bears are becoming weaker in competition with white polar bears for food, security and sexual needs. Because the gray bear loses from the white bear in the competition for energy and security, reproduction and adaptation to environmental conditions. Polar white bears can have more food, more security, more reproduction than grizzly bears. This causes the polar bears to expand gradually more population in that environment. And these genes are white hairs that reproduce abundantly in this area, because in that polar environment the white hair genes were able to provide food, movement, security and reproduction. The white hair gene for the polar bear is a successful gene in natural selection.

The best explanation of why genes are removed and preserved by natural selection can be this, natural selection destroys an organism that has failed to provide itself fundamental needs. By destroying that organism, it practically and automatically destroys useless and non-functional genes. The new hypothesis says; The cooperation of different genes with each other affects the useful characteristics and successful survival of an organism in order to provide it fundamental needs.

Natural selection affects all parts of the body, every cell of the body and all genes based on the provision of basic needs.

In the first chapter of the book "The selfish Genes" Mr. Dawkins(1976) says, evolution proceeds through natural selection, and natural selection means the survival of the fittest. But the most suitable breed or species? He then considers the gene as a unit of natural selection.

In my opinion, the most suitable genes can be described in such a way that the most suitable genes are the genes that can meet food, security, reproduction, metabolism and various needs of the organism. Also, the most suitable species are those in which all individuals of that group and species can provide their energy, food, metabolism, safety and reproduction in an environment as a successful species.

Mr. Dawkins(1976) considers durability, fecundity, and fidelity in replication to be the traits that make natural selection work. Mr. Darwin said that these species engaged in a race that he called the struggle for survival. But the struggle for survival is only one goal of evolution. In fact, species are competing to meet( provide) their various needs (energy, security, and reproduction).

Mr. Dawkins in is book: "The Blind Watchmaker"(1986) that cells and small organisms have no consciousness, so they have no purpose. But I made it clear to you that beings like cells or trees and viruses do not need consciousness to have a purpose. All of them aim to fulfill their different needs. Humans have a real purpose in creating various sciences including mechanics, engineering and industry, all the devices built for cities, cars, houses, roads, computers and mobile phones, which I will briefly explain in the following chapters.

In my opinion, the goal in general means to do certain things for achieve and attain and get one or more specific results. Or, according to the principles of the new hypothesis, doing things to provide or meet one or more needs.

Mr. Dawkins(1986) also gives an example of how genes control organisms. For example, he has mentioned a computer programmer for playing chess, who does not need to teach all possible ways to play the game to the computer. Rather, it only teaches him the key points and how the pieces move. I use this example to show and interpret the role of genes based on the fundamental principles of the new hypothesis, in relation to the organs, traits and behaviors of organisms and humans. Genes, like computer programs, are responsible for planning and controlling the body of living organisms. But not in such a way that they interfere in all their work. Rather, they program the brains of living organisms in general. In this way, what are the most basic needs of living beings? What is the solution and how to provide basic needs? Deciding on quality and quantity and how and motivation to meet and provide various needs, energy and food, security and reproduction, etc. is the responsibility of the brain.

Mr. Dawkins says in the book The Selfish Gene:

"Experiments were arranged in which the mice were brought together into a chamber. They put a lot of food there. The birth rate increased and the population became very large. But after some time the crowd started to decrease. "The researchers found that female mice regulated their reproduction with the amount of resources and food."

If we interpret based on the fundamental principles of the new hypothesis, the females consider the amount of food to provide energy. They regulate itself energy supply success, the energy supply of their offspring, as well as the energy supply of the entire group.

If females do not do this, natural selection can adjust the reproduction rate to the amount of food for provide energy.

Natural selection regulates the mouse population by eliminating the children and individuals of the mouse group who cannot provide their own energy due to the lack of resources and food.

Mr. Dawkins says in the book River out of Eden: When a monkey(Gorilla) falls from a tree, some of them have strong bones and remain healthy. But some break their arms or legs. Monkeys use their hands more, that's why the bones of their hands are big and strong, but their legs are not.

If their leg breaks when they fall from a tree, it is not an important issue for natural selection, because the monkey needs more hands. The monkey eats with his hands, climbs the tree and finds shelter and food with his hands. Natural selection has accumulated beneficial changes in the bones of the hand, creating a strong hand so that it does not easily break when falling from a tree. It is most likely that those with weak hand bones broke their hands when they fell from the tree and faced problems to climb the tree and get food, mate and shelter. Therefore, they could not survive and pass on their genes.

Richard Dawkins considers this interpretation to be the reason for the monkey's survival.

But how does the fundamental principles of natural selection explain the resistance of bones and the development of strong bones by means of the new hypothesis?

If a monkey(Gorilla) falls from a tree and its hand remains healthy because of a strong bone, because it had a strong bone, in fact, the monkey can still use its hands 1- to provide energy and food, 2- to provide security and protect itself, 3- and Climbing the tree by hands during rain and cold and heat to adapt to environmental conditions. 4-Finally, this monkey can continue to reproduce with healthy hands. By reproducing, this monkey transmits the strong bone characteristics to its offspring. But the monkeys who fall from the tree and break their arms and legs, most likely to get and provide energy and food, provide security, reproduce and adapt to their environmental conditions will be reduced or zero. 1- Therefore, it is possible that he will die of starvation or lack of energy supply. 2- Or being hunted by hunters and not being able to ensure his safety. 3- If there is rain and flood or cold and heat, this broken monkey has little chance to find a shelter and cannot adapt to the environmental conditions. 4- Therefore, a monkey with a broken arm and leg has little chance of finding a mate for reproduction and passing on the weak bone characteristics to the next generation.

This is a better interpretation to explain the example given by Mr. Dawkins in the book River out of Eden.

*Note: I used the terms energy supply, security and reproduction too much. I know that these repetitive words are very boring for some readers. But in order to clarify the ambiguities and accurately understand the principle of the new hypothesis, which for all people with different knowledge in terms of emphasis, I think it was necessary to emphasize a lot and unusual. Maybe I will remove and delete some of them in the next edition, after receiving comments and suggestions.*

The official language of genes means providing energy, providing security, adapting to environmental conditions, all of which are necessary for reproduction.

In the book The Selfish Gene, Richard Dawkins describes the theory of the selfishness of genes. He sees the sacrifice as actually another example of selfishness to help reproduce the genes of the relative.

In fact, sacrifice occurs for the reproduction of genes of close relatives who share genes. But sacrifice means sacrificing and abandoning our right to provide energy and endangering our own security to defend the safety of our children and genetic relatives, which can be these close genetic relatives of the same family, group or fellow citizens of a city or country. Or giving up the right to provide for our own security, and sacrificing the reproduction that one does not produce so that others can reproduce. Perhaps there is a sacrifice in adapting to the environmental conditions when the organisms leave the favorable and suitable place so that the close genetic relatives can benefit from the favorable environment.

But selfishness means only thinking about providing energy and food for yourself. Or just thinking about securing yourself.

The investment of parents for their children or their own genes has been through investing to provide energy or giving food to the children.

Protecting children is actually the investment of parents to provide security and ensure the safety of genes or to ensure the safety of children.

All these activities are carried out for the transfer of genes to the next generation and the survival of organisms.

How do useful genes spread in future generations and advance evolution?

I interpret one of Mr. Richard Dawkins' theories in the book The Selfish Gene with new hypothesis (new theory).

A female cuckoo spreads her genes by laying her eggs in the nests of other birds. The cuckoo chick has genes for making loud noises. By making a loud noise, the cuckoo chick attracts the attention of its step-parents to provide its energy or food. Step parents have genes that provide chicks energy by feeding and giving food when the cuckoo chick or their own chick makes a loud noise. By providing energy to the cuckoo, the loud noise of the cuckoo will be reduced and quiet. In fact, by silencing the cuckoo chick, they want to ensure the safety of other chicks and the cuckoo chick that they think is their baby. Because the loud noise of chickens may attract predators to them and endanger their safety. The gene for paying attention to loud chicks is spread among parents. These parents feed or provide energy to the noisy chicks earlier and more often than the rest of the chicks. Birds that did not have this gene most likely did not pay attention to and feed the children that made loud noises. Or in other words, they did not provide the energy of the children who were loud. So the loud noise will attract the attention of the predators towards the chicks and they will be eaten by the predators.

So the gene to not feed a child who makes loud noises is not propagated. But the gene that feeds the kids that produce loud noises is spread. Because by supplying energy to these children, they become quiet and do not attract the attention of predators. Therefore, by staying silent or supplying them with energy, it has ensured their security.

The gene of cuckoo chick that make loud noises is spread in the next generation because it was able to get the attention of its parents by making loud noises to provide its own energy.

That cuckoo chick or chicks whose voice was less than this chick, could not attract the attention of the parents to provide energy. They will probably die of starvation or lack of energy. Therefore, chickens that have a low voice, their genes are not transmitted to the next generation.

# Analysis of the behavior of organisms based on the fundamental principles (new hypothesis) of natural selection

Termites, honey bees and common bees, their workers are sterile and do not give birth to children. According to the research of biology and genetics, these termites are responsible for protecting the eggs of their siblings to grow up. In all living things, siblings most likely have identical copies of the same genes. The environment determines whether workers will become queens or males. Also, because these brothers and sisters are the closest genetic relatives of the workers and they are almost identical versions of their own genes. That's why they take care of their gene copies. (Dawkins 1976)

Their division of labor can be interpreted according to the fundamental principles of the new hypothesis. The division of labor is based on the principles of providing security, energy and reproduction. 1-For example, some workers are responsible for providing security and defend the queen, the hive, the queen's children and their siblings and protect them at any cost. They fight the invaders to the death to ensure the safety of their group. 2-Some workers have a duty and mission to find food to provide the energy (water and food) of their brothers and sisters, the queen mother. 3-The queen mother and some males are responsible for reproduction.

Factors that occur outside organisms, i.e. in the environment, inform organisms how to provide their basic needs, i.e. security, adaptability to environmental conditions, energy and reproduction.

For example, seeing a predator such as a lion, snake and tiger, how can they maintain their safety? Or by feeling the smell of good food, how they get it, eat it and get their energy from it. And when they see bad and rotten food, avoid it in order to maintain the safety of their body parts. Or always seek mating and reproduction with all their might. This was only a brief interpretation of the behavior of organisms based on the new hypothesis. I will cover it more in the future.

# Analysis of car components based on the fundamental principles of the new hypothesis

Usually, cars have a body and a room to protect occupants from wind, rain, accidents, heat and cold. Also, cars have various facilities to protect the occupants, such as seat belts, various types of brakes, discs and brake pads, steel chassis and one to several long and short layers, without chassis, the thickness of the body sheet. Some cars, like tanks, like some organisms, are responsible for the defense of internal organs of the body and itself group members. tank usually protecting soldiers inside the tank (with the general goal of protecting the homeland and fellow countrymen) against the enemy. The battle tank is equipped with various weapons to destroy the enemy and defend itself.

The car has an energy supply system. Also, just like organisms, for breaking down and converting energy (metabolism), types car's has a different types fuel system, different types fuel combustion, different types injection, carburetor, high fuel and low fuel. Some cars are fueled by CNG gas, gasoline, diesel, sunlight, electricity and other energies.

The car moves by the power of the engine and its transmission to the wheels. Since their inception, cars have been evolving to better meet basic human needs. Providing human food and shopping, providing better and faster human movement to provide energy and food and feed, transporting food.

All kinds of machines to adapt to environmental conditions such as cold. Heat, on the ground, on the sea, on the air, rainy, stormy environment equipped with different technology and equipment.

Riding your wife or girlfriend to go out and have fun and have children to successfully pass on your genes and reproduce.

Even advanced electronic devices and equipment, beauty and luxury, radio, glass and all can be interpreted based on the fundamental principles of the new hypothesis. This is enough explanation for now.

# Highlights of the new hypothesis

These concepts were accepted by many biologists that natural selection does not make Body parts, traits and characteristics of organisms according to the needs of them, natural selection alone cannot change organisms based on needs.

Fundamentally inaccurate descriptions of the life of organisms and their biological and evolutionary purpose are alarmingly common.

For example; In the process of evolution of organisms and also in their life, there is no purpose, you should remove this false belief from your mind and leave it completely.

It is obvious to me that current theories cannot explain the origin of species. Darwin 1859

Darwin said this sentence and now I repeat it and tell Darwin and other biologists that the current theories cannot explain everything about the evolution, behavior, and life of organisms. I intend to argue that my theory can better explain various aspects of evolution.

Why were organisms so well designed for their environments?

For what purpose do these features help organisms survive?

Does the mechanism of natural selection have rules that designed organisms based on environmental conditions and pressures?

The issue of the relationship between the theory that I proposed and how the process of changes in evolution and natural selection occurs is extremely complex. There are many more issues and concepts and topics than I can explain here. I do not pretend to fully understand all aspects of the issue. But now in this case, I feel that my findings should be examined by evolution experts and biologists, and if necessary, more research to prove and clarify different aspects of this hypothesis with the cooperation of researchers, university professors, evolution experts and biologists. This theory has many hidden angles. Challenges, complex relationships between chemistry, physics, molecular biology and genetics and natural selection and the principles of energy supply and security and reproduction and adaptation to environmental conditions.

Perhaps this misunderstanding arises in the new theory that natural selection has an ultimate goal that can predetermine the shape and progress of the goal of evolution. This opinion has no place in the new theory and is wrong. The evolution and the mechanism of natural selection has a purpose that proceeds according to the rules of natural selection or the provision of basic needs for food, security, movement and behavior, metabolism and energy metabolism.

Many biologists accept and claim that the body parts of organisms were designed for a specific purpose. Biologists say: It seems that these structures were designed to perform certain tasks related to reproduction and survival. In fact, they did not know that the purpose of designing body organs by the principles of natural selection is not only for reproduction, but also to provide energy and security (fundamental needs) of organisms that help survival and reproduction (this is main purpose).

We can talk about the goals and principles in natural selection, provided that we have correctly understood the meaning and scientific meaning of these concepts, that is, the fundamental goals of natural selection. There is nothing wrong with considering the principles of natural selection as the fundamental purposes in the mechanism of natural selection. It should only be explained well and clearly enough that the meaning of *natural selection goals* is not conscious, intelligent and forward-looking goals.

I agree that natural selection is not a conscious and forward-looking decision maker. Although indirectly and unconsciously, it supervises future vision and goals through the fundamental principles of providing security and energy and adapting to environmental conditions and reproduction.

What is not the purpose of natural selection? It is a mistake to think that exposure to antibiotics directly causes bacteria to become resistant, but rather that natural selection simply changes the relative frequency of resistant versus non-resistant bacteria by eliminating the non-resistant and the weak and it causes evolution. example of the evolution of organisms based on the fundamental principles of the new hypothesis.

Bacteria that cause disease exist in large populations, and not all bacteria in that group are alike. If some bacteria have characteristics due to genetic mutations that make them resistant to antibiotics, these bacteria will survive antibiotic treatment and the rest will gradually die out. In fact, this bacterium was able to secure (provide security) itself against antibiotics. When the provide security of this bacterium is ensured, they use the human body's organs that are inside it, for provide energy. Then they reproduce. As a result, resistant bacterium leave more offspring than susceptible bacteria. So that every time a new generation is produced, the proportion of resistant bacteria increases. When only the descendants of resistant bacteria remain, it can be said that the bacterial population has become resistant to antibiotics. ( This bacteria can provide itself security)

For example, if there are two organisms A and B, A randomly has a layer that can be transmitted to the next generation, but organism B does not have this layer. Which organism can protect its internal organs more? Organism A is more likely success in provide security, because it has a cell wall that prevents the penetration of foreign invaders.

Examples A and B can be used in the case of body defense enzymes, deer and rhinoceros horns, animal skins, lizards, hedgehogs, bee stings and snakes.

I believe that this simple law and condition can be realized in all plants and animals in nature. These fundamental but simple principles caused the formation of things in nature that amaze and astonish us.

Other fundamental needs such as the need for useful and different genetic mutations, the need for chemical interactions, the need for chemical laws, physics, gravity, atmosphere, pressure, weather, rain, earth, the need to maintain the internal balance of the body , Homeostasis means stable and stable condition and balance of the natural state of the body. Lack of water, oxygen and nutrients (lack of energy) or the accumulation of cell waste products such as carbon dioxide and nitrogenous waste products (harmful substances that threaten the safety of the organism) are among the things that threaten the continuation of life. Maintaining the internal state of the body in a constant range is a basic need for the continuation of life.

Homeostasis is one of the basic needs of all living things to survive. If the internal state of the body is out of balance, some substances reach the cells in excess of the need and some less than the need. For example, in diabetes mellitus, when the amount of blood sugar increases, it causes serious complications such as heart disease, blindness, and kidney failure. Kidneys are one of the basic needs of the body of some organisms for metabolism.

Kidneys are effective in maintaining a steady state and maintaining the balance of water, oxygen, and minerals, iron, sugar, calcium, and salt (supplying energy). Kidneys also help in maintaining the body's balance in eliminating toxic and harmful substances that threaten the body's safety and that the body does not need.

When I see that a bird is like a thorn bush, or another is like a leaf, another is like a tree trunk, another is like snow, another is like a mountain rock, one must ask oneself what is the use of this bird, which has been preserved by natural selection?

According to the new theory, this can be interpreted like this, each of these birds was able to ensure their security by blending in with the environment. When their safety is ensured and no danger threatens them, they can easily get their energy and food. Their coloring similar the environment has caused them to move safely in the environment and meet their energy, nutritional, sexual or reproductive needs. ( meet fundamental needs, by camouflage and to be the same color to environmental)

Metaphorically, it can be said that natural selection or nature itself is present everywhere to observe the smallest changes on the organism that are created to meet and provide various biological and nutritional needs, energy and metabolism, security, movement, sexual and many other needs. It is suitable for those creatures, to preserve them. Natural selection considers how much these changes in the chance of death and competition for survival or non-survival, in front of conspecifics and competitors and enemies. Natural selection discards anything that cannot meet the various needs of the organism. But it collects, stores and uses those useful properties that usefully lead to meeting the macro-needs of various and organisms.

Individual and partial differences in different types of organisms are considered as an important factor in natural selection if they help to meet different needs even if a little better than before and can meet different needs a little better. Always throughout the history of evolution, these small changes that satisfy different needs, however small, are repeatedly created in a small way. This accumulation factor about small changes in the traits and behaviors and body parts of living organisms to provide security and energy and adapt to environmental conditions and reproduction, which were preserved and collected by natural selection, has been the engine of evolution for the formation of all kinds of organisms.

It takes time for this theory to provide enough evidence to be accepted. To explain this hypothesis, I have to do a lot of research. Before making any presuppositions of thought, you must pay attention, understand, understand, research the new meaning of the word need as defined in this new theory, because otherwise you will be mistaken and may not accept this theory as it deserves and do not understand correctly.

# The important concepts of evolution should be defined based on the new hypothesis as follows:

Natural selection means; Selection in providing energy, selection in providing security, selection in reproduction, selection in adaptation to environmental conditions.

Organisms are slaves to their fundamental needs.

Basically, it is these genes that force the organism to meet its fundamental needs.

The brain is responsible for controlling the provision of basic needs in organisms.

The fundamental principles of the new hypothesis are the radix laws, the basis laws, the base laws, the root laws for explaining the evolution, life, behavior and everything of organisms.

The teeth of animals are obviously adapted to the type of food they ate. Such is the beak of birds. But it is better to say that animal beaks and teeth are compatible for provide energy and even security under environmental conditions. The body parts of most animals have evolved in intense competition and specifically to provide energy,

security, reproduction, movement and many other needs. The evidence of fossils should show that the further back we go, organisms in different species biologically evolved based on the principles of providing security and energy and reproduction, movement and many other needs.

An important point to make in the context of evolution is that natural selection favors beneficial changes (beneficial genetic mutations) that provide better security, energy, and reproduction. Sometimes natural selection has placed more value on meeting some needs than meeting other needs. For example, in mammals, reproduction is less valued so that parents can meet other nutritional and security needs of the offspring. But in fish, reproduction is very valuable and they give birth to thousands of eggs and children, and it is not the responsibility of the fish parents to ensure the safety and food of the children.

According to the evidence that I found based on the mechanism of the principles of natural selection in all organisms, it became clear to me that the genetic diversity of organisms is all for provide security, energy, food and metabolism, reproduction, movement and behavior. so Natural selection acts on genes to satisfy or not satisfy these different needs by organisms.

Favorable mutations and harmful mutations guide the process of evolution and the mechanism of natural selection. Mutations are random. But the selection of genes by the mechanism of natural selection is not random.

Of course, we must note that natural selection is not the only mechanism for the evolution of living organisms. For example, at the same time as organisms migrate, genes can be transferred from one population to another, a phenomenon called gene flow and another example of the order and function of genes also changing due to random drift. If this work is repeated again and again, it becomes the main factor of change and evolution in life. In addition to natural selection, there are other evolutionary forces that can play a role in this change, including genetic drift, gene flow, mutation, and non-random mating. (Nonrandom Mating) and "Environmental Variances".

The purpose of evolution of the multicellular organisms, (plants and animals, etc.)

The evolution of multicellular organisms is due to the division of specific tasks and functions. Different cells gathered together. Working together, they undertook a task based on their ability.

For example, some cells come together in an organized group (as an organism), each of which has the task of providing a primary need or a secondary task that ultimately provides the fundamental needs. For example, their gathering is based on cooperation. The function of some body parts is to provide security, for example, with skin, hair, hands and feet, and the function of some body parts is to provide security to the internal organs and fight against pathogenic agents by defense enzymes and defense cells. Some were responsible for finding food such as the sense of smell, some were responsible for eating food, some were responsible for breaking down and metabolizing food and turning it into energy, and some were responsible for reproduction. The formation and evolution of multicellular organisms took place based on cooperation to provide fundamental biological principles.

According to biologists, gradual and cumulative changes caused the evolution of organisms. But it is better to say that the gradual changes in the way (quantity and quality) of providing energy and security and adaptation to environmental conditions in organisms underwent a cumulative evolution.

The competition for survival is actually the same competition for providing energy and security and adapting to environmental conditions.

Natural selection only acts on differences in success in providing energy, security, success rate in fertility or transfer of genes to the next generation and reproduction, adaptation to environmental conditions (heat, cold, light, moisture, pressure, soil type, etc.)

Slightly deleterious mutations are not eliminated by natural selection, but why? Biologists say because they do not prevent reproduction. But it is more appropriate to say; Because they do not prevent reproduction or prevent energy supply and security, adaptation to environmental conditions. Any harmful mutation must be able to prevent reproduction, and no provide security and energy and adaptation to environmental conditions, this causes organisms that have a very harmful mutation and cannot meet their fundamental needs to die before reproduction.

During the evolution, the function and use of some body parts and traits may change (it is better to say: function changes to meet other basic needs) or they may not have any effect on the life and survival of organisms. Some

parts of the body of living beings have multiple uses. in such a way that some parts of the body evolved in such a way that they have different characteristics and skills and expertise, by means of different methods. their purpose is to provide one or  There are several basic needs of organisms. Like feet or hands and eyes and many parts of the body that are used directly or indirectly to provide energy and security and adapt to environmental conditions and reproduction.

In the process of natural selection, the strongest and most advanced organisms do not necessarily survive, but those organisms survive whose changes (genetic mutations) in the structure and organs of the body can provide energy, food, and metabolism, the security of reproduction at the possible cost in those conditions. For example, in the dinosaur extinction event, all dinosaurs died. Only small mammals, fish and insects remain, but why?

Based on the new hypothesis of natural selection, this issue can be better interpreted. Because these organisms that survive extinction, were able to provide their security, food, energy and metabolism (do reproduce) in any possible way despite difficult and harsh environmental conditions. In other words, to survive they were more successful than competitors (dinosaurs and other organisms) in providing fundamental needs.

An example of beneficial changes in difficult environmental conditions.  For example, imagine an antelope that has strong and fast legs to escape from carnivores and its enemies, and their number increases in the next generation.  So the legs help keep him safe.  Another mountain goat has a lot of hair that can protect him from the cold in winter.  But in climate change, for example, if the weather gets cold and the ice age comes, fast feet do not help the security of an antelope, but it is an antelope with a lot of hair that is safe and survives, and its genes are passed on to the next generation. The abundance of genes increases in antelope with a lot of hair.  Natural selection pays particular attention to the security of organisms as an important principle.

## The Covid-19 virus, which was first released in Wuhan, China in 2019, reproduced so quickly that the human immune system could not destroy it.  The only way was to quarantine the infected so that they don't come into contact with healthy people.

The supply of energy and immunity and reproduction of the virus may become weaker or stronger by mutation.

The virus mutated into alpha, delta and omicron and, etc.

The alpha virus spread more widely in the whole world because its immunity was stronger and more and was not destroyed by the human body's defense system. In other words, the human immune system could not provide security itself against the alpha virus. But the discovery of the corona vaccine and its injection made the human immune system stronger.

Later came the mutated virus and the delta virus, and it could survive longer against the human immune system than the alpha virus. This made the human immune system unable to destroy him. He killed many people to fuel himself and reproduce, and he expanded and became much more. But the human body became stronger by injecting the second dose of the vaccine and the virus was destroyed by the human immune system and could not take its energy from the human and its reproduction stopped.

Corona has mutated and caused changes in securing the security of the COVID-19 virus. And the mutated Omicron virus came and killed many people because it was able to protect itself against the human immune system. Omicron can provide its safety with excellent quality compared to previous species. This caused him to draw his energy from humans. It had a stronger immune system, faster reproduction and energy supply, and used the vital organs of the human body, such as the lungs, for provide food and energy.

But injecting the second and third doses of the vaccine strengthened the human body's immunity and, along with the quarantine, kept the human body away from the virus. Accordingly,  human can provide itself security better, the new virus was destroyed by the strong immune system of the human body.

## Probably, all body parts of all organisms, whether on Earth or on other planets, are classified in this way.

1- Those that have evolved to obtain or provide energy or food.

In the case of all the organisms on earth and in other possible planets that are capable of life and bio, a law can be true in all of them, it is general, life must first be created by consuming energy that is created by nutrients and organic matter. They were materials that could provide energy for reproduction and growth. that if the conditions can be created for sufficient evolutionary diversity to occur,

Some organisms may obtain energy from the chemical substances of the planet's soil, air and direct light, that is, they are autotrophs. Some organisms may feed on other organisms, carnivores and omnivores, herbivores, these organisms are heterotrophs.

2- They must reproduce. All creatures in other parts of the universe must reproduce in order to continue the survival of their species.

3- In order to protect their children and themselves, they must have behaviors and body parts and defensive enzymes, or similar things in other parts of the universe, to protect their body's immunity from possible dangers.

4- All the organisms in other points of universal, if they exist, must have features to adapt to environmental conditions, temperature, cold, gravity, pressure, etc.

It is very important that in order to understand this theory, you must have sufficient familiarity with the theory of evolution and natural selection in organisms and sufficient knowledge about the operation of natural selection in genes.

Natural selection affects all parts of the body and every cell in the body and all genes.

In the first chapter of the book The Self Genes, Mr. Dawkins(1976) says, evolution proceeds through natural selection, and natural selection means the survival of the fittest. But the most suitable breed or species? He then considers the gene as a unit of natural selection.

In my opinion, the most appropriate genes can be described as follows: they are genes that can provide fundamental needs, i.e., providing energy and security and adaptation to environmental conditions, and finally help to the successful transfer of their genes to the next generation, or reproduction.

Also, the most suitable species are those that can provide their fundamental needs better than other species in a common and specific environment.

Is adaptation to environmental conditions, temperature, cold, and pressure to protect the body parts of organisms, and are these body parts, traits, behaviors, and characteristics included in the group of providing security?

# New hypothesis testing and research

Countless experiments can be proposed to confirm and prove the new hypothesis, the topics related to this hypothesis and the experiments and researches about it are infinite and have no end. But I suggest several things that have both general and scientific aspects.

The independent variable here is the amount of supply ( provide, meet) energy and security, and the dependent variable is the rate of survival and reproduction.

Or the independent variable can be reproduction and adaptation to environmental conditions, and the dependent variable can be considered survival rate. But the latter case has been sufficiently tested in biology and the result was positive, that is, the rate of reproduction and adaptation to environmental conditions affects the rate of survival.

A hypothesis is acceptable if it can be rejected by experiment. In other words, the new hypothesis must be able to be tested and researched based on experimental observations, and if there is no empirical evidence, it can be rejected. (to be refutable) not to remain only as a hypothesis, guess, speculation and philosophy, or scientific bias. (It must be observable and researched in the real and experimental world.)

I am very interested in conducting research with the help of researchers and specialists and evolutionary biologists to test this hypothesis. Then I can explain that if the fundamental principles of the new hypothesis do not agree with reality and real empirical evidence, I will reject this hypothesis. (reject able)

Do organisms not desire (not want, not tendency, not propensity) to provide their own energy and security? This experiment ( provide energy and security) can be traced in the behavior and evolution of body parts of organisms. Based on the hypothesis and the verdict in the future experiment, I predict that the desire in the organism is strongly in their behavior and motivation to secure security and energy. But the evolution of organisms to provide energy and security has not been based on their desire. Rather, they were formed by the fundamental principles of natural or biological selection.

It can be proven by numerous experiments that natural selection provides security in all organisms. pine trees, rabbits, cats, pigeons, eagles, elephants, bacteria, bees, sharks, turtles, roses, mosses, seaweed, parrots, squirrel, dolphin, salmon, etc. In all these organisms, the defense system has evolved to provide security . (Choosing, natural selection for provide security) During evolution, new mutations that lead to better security have been supported by natural selection. The reason for the evolution of B and T lymphocytes, macrophages, innate and specific immunity, and other substances... were to provide (ensure) the safety of organisms. if it is otherwise, the new hypothesis is rejected.

The effect of energy supply in all organisms can be tested in their body parts and behavior, and in the same way.

If it is proven that natural selection in the process of evolution did not support mutations and changes in better energy supply of the organism, the new hypothesis is rejected.

Many experiment and research can be arranged. Simple experiment; why can't fish live out of water?

If a fish lives out of water, natural selection will destroy it. Because it cannot provide its energy on earth. Here the fundamental energy is oxygen. Fish evolved to provide oxygen and food in the water.

Why can't humans live in water?

If a creature like a human is inside the water, natural selection will destroy it. Because humans have evolved to supply their oxygen from outside water and on earth from air. There are exceptions in this case, for example, a person can survive in water for a while with an oxygen capsule. But our discussion is based on the characteristics that have evolved naturally.

Why are wild or livestock animals required to adapt to a wide range of environmental conditions, in terms of climate, safe and clean housing facilities to ensure security and protection from enemies and microbial and parasitic contamination? For example, do chickens need a peaceful and stress-free social environment away from stressful pressure and disease in order to produce good eggs and meat? A clean chicken nest that is free from bacteria, insects and harmful organisms. It means providing security and protection

Why do animals fear their rivals? Is fear not to protect oneself?

Why do animals fight to the death over food? Isn't this a deadly struggle for provide self-energy?

Why did features such as deer horns and elephant tusks, lion paws, cow horns evolve? Is it not to provide security and when necessary to fight for food or to provide energy and fight for mating and reproduction?

Why is water and oxygen important for animals? Is it not for providing energy and energy metabolism?

Why are plants, plankton or almost algae the priority for the food cycle of all organisms on earth? Is it because they are at the beginning of the energy supply chain?

Why do animals and plants need food and drink? Does this prove that all living things need energy to carry out their biological activity?

Why do all plant and animal organisms have defense mechanisms? Isn't this to ensure their security?

Why should the lion hunt? Is it to provide energy for yourself or your children and the group?

Why should deer be afraid of lions and tigers? Is it to secure or protect itself-body? Is the protection (security) of the body and organs important for life and reproduction?

Why the organisms have, traits and characteristics and body parts and... really needed to have? Do they really need different and unique body parts and traits to meet their basic needs?

Does the difference in energy intake mean the difference in the quality of food ingredients (barley, fodder, various types of vitamin-fortified feeds, concentrates, etc.) that they eat have an effect on livestock breeding? Because the size of the organism's body is related to the amount of energy supply (barley, fodder, vitamins, etc.) and protein production, metabolic systems and body organs?

Can it be experimentally proven that natural selection selects for the protection of organisms?

Examine different animals, plants, and organisms of the same type or species, or in a population, or a family, for example, if the type of body defense enzymes in organisms and their body parts are different in defense and security, If these differences are very different or slightly different, are they subject to natural selection and how effective are they in survival?

experiment; How much does a bee sting affect his safety? Consider other things as well. Maybe the bees provide their safety in another way better than the sting. Such as camouflage, fast flight, etc.

How effective is the effect of the rabbit's behavior, feet, and skin color on the quality and quantity of the rabbit's safety and security?

Plants whose leaves have thorns, compared to those without thorns, was their survival due to their safety due to having thorny leaves? Because the spiny leaves prevented them from being eaten by herbivores?

Major evolutionary changes in the legs of animals compared to their ancestors, were these useful changes that helped animals in providing energy, security, reproduction, and adapting to environmental conditions? Regarding the evolution of the wing relative to the ancestor, the metabolism relative to the ancestor, was there a special reason for providing energy and security?

Is the rate of survival of the organisms compared to the ancestor, due to the position in providing energy and security and adaptation to environmental conditions and finally success in transferring their genes to the next generation or reproduction?

It is possible that an organism fails to reproduce for various reasons, but does this organism that does not reproduce need to provide security and energy and adapt to environmental conditions in order to life? So providing energy and security for life can be more important than reproduction in any situation.

It is impossible for organisms to survive without traits and characteristics and body parts and behaviors to provide security and energy.

A review of evolutionary history and fossil evidence should show that the further back we go, organisms in different species have evolved based on the principles of security and energy and reproduction, movement, and many other biological needs.

Evolution and natural selection force all small and large organisms, animals, plants, and bacteria to do certain things. Why ?.

What is the purpose of doing these things?

Examining the relationship between security and survival rate

Investigating the relationship between energy supply (metabolism type) and survival rate

For example, we examine the different metabolisms of a species. Why those with less expensive metabolism, aerobic and anaerobic, how effective are soil and mineral resources and water in accessing energy and causing survival.

What kind of metabolism has evolution considered in different environmental conditions?

The amount of energy intake and survival and reproduction

The immunity of the body, tissues and skin and having innate and specific immunity increases the protection of organisms against invaders (viruses, parasites, fungi and enemies).

Comparison of survival and reproduction of animals that ate plants, fruits and meat, with those that ate only plants or only meat

The comparison of different types of metabolisms and the reasons for choosing natural selection and supporting and preserving them in the process of evolution can show why natural selection has preserved some methods of cell and body metabolism, environmental conditions, lower costs, and access to water, air and mineral resources. and nutritious has been effective.

The eagle that can identify its prey from a distance with its super sharp eyes is more successful, or the one that cannot identify it's prey from a distance? on based fundamental principles of natural selection, super sharp eyes supported because the body needs energy and the choice of better methods such as the eyes super sharp provides support in energy supply.

Hunting at night, like bats or owls, has succeeded in supplying them with energy.

# The main purpose of human life.

Our human world is suffering from aimlessness and wandering. People are wandering and unaware of their purpose in life. As if they don't know what purpose they live for? So far, science and philosophy have not clarified the main purpose of life in a way that is accepted by all people. There is no theory that all actions and behaviors and feelings and emotions and thoughts and biological and love and affection and hatred and anger and sadness and suffering, science, home building, car making, mobile and computer, psychology and sociology and economic and law And to make politics, religion and culture in all peoples on the planet justifiable and scientific definition has not been found so far. The confusion is over. Undoubtedly, the news of revealing the purpose of human life and all organisms was found during evolution. We have to wait for scientific and research judgments to prove the validity of this claim or new hypothesis.

*Our purposes in life is to fulfill our basic needs.*

*In other words, we came to this world to meet (provide) our fundamental needs.*

I saw this text in an article that explicitly opposes the purpose of life, the purpose of biology, the purpose of evolution. Just to inform you, I mentioned what the opponents who believe that there is no purpose in life and the evolution of organisms say. This is just one random article of many examples of opposition to the purpose of evolution.

"Many human experiences involve overcoming obstacles, achieving goals, and meeting needs. Not surprisingly, human psychology contains a strong bias toward thoughts about the "purpose" or "function" of objects and behaviors—what Kelemen and Rosset (2009) call the "human performance composite." This bias is particularly strong in children, who tend to see most of the world objectively. For example, he even suggests that "stones are pointed to prevent animals from sitting on them" (Kelemen 1999a, b; Kelemen and Rosset 2009). This tendency toward goal-based explanations ("teleological") is profound and continues throughout high school (Southerland et al. 2001) and even into graduate school (Coleman and Rust 2009). Indeed, it has been argued that the default mode of teleological thinking is, at best, suppressed rather than replaced by introductory scientific training. So it reappears easily even in those with some basic scientific training. For example, in describing ecological balance ("fungi grow in forests to aid decomposition") or species survival ("finches have diversified to survive"; Kelemen and Rosset 2009)."

"Teleological explanations for biological properties go back to Aristotle and remain very common in naïve interpretations of adaptation (eg, Tamir and Zohar 1991; Pedersen and Halden 1992; Southerland et al. 2001; Sinatra et al. 2008; Table 2). On the one hand, teleological reasoning may preclude consideration of mechanisms if merely identifying a current function for an organ or behavior is considered sufficient to explain its existence (eg, Bishop and Anderson 1990). On the other hand, when mechanisms are considered by teleological thinkers, they are often in the context of changes that occur in response to a specific need. Obviously, this contrasts sharply with a two-step process involving undirected mutations followed by natural selection."

# Subsequent articles or books

I will interpret each of the following topics based on the fundamental principles of the new hypothesis and publish them separately as a book or article. Some topics and articles below are somewhat ready for publication.

1: The purpose of evolution and occurrence of the natural selection mechanism in all organisms, interpretation based on of the new theory

What purpose does Lamarck's theory point to in the mechanism of nature?

There is a hidden purpose in Darwin's theories. Interpretation of Darwin's theories based on the new theory.

Interpretation of the theories of Mr. Richard Dawkins, interpretation of various behaviors of organisms (animals and plants), interpretation of anger and battles and competitions, interpretation body parts of organisms

What was the purpose of the evolution and occurrence of the natural selection mechanism in plants?

What is the purpose of evolving and occurrence of the natural selection mechanism in animals?

What is the purpose of the evolution and occurrence of the natural selection mechanism in insects?

What is the purpose of fish in evolution and occurrence of the natural selection mechanism in fish?

2: The Purpose of Human Evolution

What was the purpose of the evolution and occurrence of the natural selection mechanism in primates?

Interpretation of cultures and civilizations, values, rituals and customs of different people of the world.

The purpose of the need for the evolution of Homo habilis, the evolution of Homo erectus, the evolution of Neanderthal man, the evolution of Homo sapiens.

What is the purpose of theories of the various anthropological theorists, such as the theories of Sir Edward Tyler, Louis Henry Morgan, Franz Boas, Ruth Benedict, the theories of Margaret Mead, and the theories of Marxist anthropology?

3: What is the purpose of evolution in meeting the various biological, physiological, sexual, food, respiratory, motor, security, reproductive, and environmental needs of human beings?

The purpose of creating different languages in humans

The most important question that has occupied the human mind for nearly thousands of years is what is the purpose of revealing the functioning of grief systems?

what the purpose of the system of satisfaction and happiness, the need for an immune system, digestive system, sensory system, nervous system, metabolism, brain and the purpose of all organs of the human body?

4: The purpose of human need for different emotions and feelings and behaviors, what is the purpose of human need for psychology and counseling and psychiatry?

I briefly prove what was the purpose of the theories of great psychologists such as Freud, Alfred Adler, Jung, Martin Seligman, Maslow?

I also prove that, what is the purpose of different emotions in human beings such as fear, anxiety, depression, love madness, love, dependence, psychosis, stress, happiness, satisfaction, laughter, happiness, mood, good mood, jealousy, resentment , hatred, murder, aggression?

5: What is the purpose of human in forming social and society? Why does man need sociology? Why does human need human social relations?

I briefly prove that Creation of society and various organizations of social life by human beings, different theories of great sociologists such as August Kent, Karl Marx, Max Weber and many other sociologists have emerged based on the different individual and social needs of human.

6: The Purpose of human the Need for Philosophy Introduction.

Purpose of various theorists of philosophers, theories of Thales, Pythagoras, Heraclitus, Confucius, theories of Buddha, theories of Socrates, Plato, Aristotle, Epicurus, Francis Bacon, Hobbes, Rene Descartes, Baruch Spinoza, John Locke, Jean-Jacques Rousseau , Hegel , Soren Kierkegaard, Arthur Schopenhauer, Nietzsche, Bertrand Russell, Martin Heidegger, Albert Camus, Jean-Paul Sartre Theories ...

7: Different human / human needs requires different skills.

What is the purpose of meeting different needs in a healthy and natural way?

The purpose of the need to learn different skills.

What is the main purpose of strange human emotions? such as feeling sympathy, feeling attention, feeling crazy, feeling love, feeling understanding each other, pain, suffering, mental and psychological torture, the goal of physical pain such as cutting and breaking a finger, the goal of self-confidence, self-belief, the goal of self-esteem, the goal Socialization and group attraction, sense of belonging, and...

The goal of playing a good role is one of the basic needs and basic skills needed in human life. The World Health Organization states that every human being needs different skills to survive and thrive. And many of the basic and different human needs that they should have.

8: The Purpose of Man's Need for God and Religion

The purpose of the emergence of various religions and religions around the world in the remote tribes of Africa and the Pacific Ocean. My needs (my necessity) from God. We do not need the devil. Need for prophets. The Prophet Adam and Eve. The Prophet Noah. The Prophet Ibrahim. The Prophet Moses. The Prophet Jesus. The Prophet Muhammad.

9: What is the purpose of man's need for political science?

Brief description of the purpose of the various political theories, democracy, socialism, elections, dictatorship, diplomacy, dialogue for peace, the three forces, freedom, based on the new theory of evolution.

10: What is the purpose of human needs for human rights and laws?

The purpose of the various theories of law, justice, equality, national law, freedom of the people, welfare and justice for the people. The purpose of human rights based on the new theory of evolution.

11: What is the purpose of man's need for poetry?

What was the purpose of the poetry of the great poets of the world such as Shakespeare and Iranian poets such as Hafez, Saadi and Ferdowsi? Interpretation based on the new theory of evolution.

12: What is the purpose of macroeconomic and various human needs?

The purpose of the various economic theories of Adam Smith and other economists and the purpose of economics, interpretation based on the new theory of evolution.

13: What is the purpose of human need for exercise for mental and biological health?

Man's goal of sport and trying to win a sporting match, the purpose of the Ronald's and Messi's goal, football goal, What is the purpose of feeling the joy and excitement of football fans.

14: What is the purpose of human need for medicine and health care?

The purpose of health and treatment and creating a medical job and making medicine, creating a nursing job, all interpretation of this based on the new theory of evolution.

15: The purpose of the need for innovation is to better meet human needs.

The purpose of new inventions, the purpose of inventions, the purpose of inventing wheels, the purpose of inventing airplanes, the purpose of inventing cars, the purpose of making television and radio, the purpose of inventing electricity, the purpose of making smart phones by Steve Jobs, the purpose of making computers by Bill Gates, Interpretation Based on the New Theory of Evolution.

16: What is the purpose of human need for music?

The purpose of human interest in various music such as Bach, Mozart, Michael Jackson, Enrique Iglesias, Pit Bull, Jennifer Lopez, Linkin Park, Alois Presley, Justin Bieber and Selena Gomez, all interpreted according to the new theory of evolution.

17: What is the purpose of man's need for film and cinema?

The purpose of Cinema invention, the purpose of Charlie Chaplin, the Marx brothers, Marilyn Monroe, Harry Potter film, The Matrix film, Mr. Bean, Benny Hill, The Avengers film, joker film, interpretation based on the new theory of evolution.

18: What is the purpose of making a cartoon?

The purpose of making and popularizing SpongeBob, mouse and cat cartoons, barnyard, interpretation based on the new theory of evolution.

19: What is the purpose of the need for human curiosity about the universe?

Is the purpose of life for space creatures like terrestrial creatures? Do space creatures have the same needs as different food, security, movement, behavior, metabolism, emotional, social, political, economic, and cultural needs? How do space people solve their different needs such as hope, nutrition, peace, politics? The law of interpretation based on the new theory of evolution. If space creatures have similar needs to ours, what solutions did they find to meet the various emotional, sexual, motor, metabolic, economic, political, and social needs? Did they make much better progress in meeting different needs?

20: The Purpose of Civilization and the Need for Historical Learning.

What is the purpose of creating different civilizations of the world such as Egypt, Babylon, Sindh, Maya? What was the purpose of the historical figures of Sargon the Great, Cyrus the Great, Alexander the Great, Hannibal, Napoleon Bonaparte, Hitler, Che Guevara, Gandhi, Mandela? Interpretation of all this based on the new theory of evolution.

21: The human purpose of the need for humanity

The need for humanity.

World Humanity Day.

The need for a common universal language of humanity.

The global movement for the salvation of humanity.

The need for human rights.

The World Football League of humanity.

22: Scientific Knowledge of Human Macro Needs.

New science must recognize the different needs of organisms and humans. There are important points about the science of macro biological and physiological needs and many other needs.

23:Short important sentences about the theory of the macro nature and human needs.

MARX BROS - ROOM SERVIC
HUMANITY
POEMS ABOUT YOU AND ME
MATRIX RELOADED
JOKER
HUMANITY
Harry Potter
FILM
Human Rights
God
GUEVARA
The Best of Benny Hill
"If you can't fly, then run,
if you can't run, then walk,
if you can't walk, then crawl,
but whatever you do,
you have to keep moving forwar
— Martin Luther King

# Summary and final conclusion

If this new hypothesis comes out of the benchmark and scientific experiments and is correct, you experts will be ahead of me in the interpretation of biology and other fields.

This new hypothesis provides and proposes a new theory of evolution. My new theory proposes that not only the rate of reproduction is important in natural selection, but also the provision of security and energy and adaptation to environmental conditions are fundamental and important.

A fundamental bio requirement and necessity is a general law, or a fundamental hypothesis. Necessity in living organisms requires that they must have internal and external body parts and traits and behaviors. Necessity means that without these traits, behaviors, and structures of body parts, it is impossible for organisms to exist. The theory of the biological law of organisms fundamentally and obligingly requires that the traits, behaviors and structures of internal and external body parts are needed for organisms to exist. But if what an organism needs does not exist, it will not exist. This is not a philosophical discussion.

This hypothesis says that for the creation of a small organism, even the first organisms, organic chemical substances are needed. For evolution, the need for genetic mutations and errors in copying and the need for different methods of genetic mutations and environmental changes, genetic drift, migration, isolation in a distant land, natural barriers, over time changes create new species. which fall under the choice of principles of energy supply and security. For the formation of a new organism, genetic mutations and natural selection are needed, and we must consider the time required for the effect of these changes to form a species.

I named, all the organic substances (carbohydrates, fats, protein or amino acid, DNA, etc.) that the organism needs for the process of catabolism and anabolism, the need for energy supply.

I understood something that is still not possible the understanding, or difficult, for all ordinary people, even educated and experts in biology and evolution. Because I have to explain the ambiguities in simple and understandable language. To better understand and prove this hypothesis, I can make this article simpler and even more scientific and add more interesting content, I am just waiting for feedback and receiving comments and criticisms and views from readers, experts and scientists.

The meaning of providing energy is all the materials needed to build a body and metabolism inside it. such as water, oxygen, protein, amino acid, carbohydrates, vitamins, nucleic acid, digestive enzymes, food-decomposing bacteria in the intestines and stomach, etc.

Providing energy and security and adapting to environmental conditions is equal to successful reproduction and successful transfer of genes to the next generation.

I wanted to clarify or explain everything fundamentally, that's why it took so long.

"Our unconditional acceptance of old theories makes it difficult to accept new theories

Without food and energy, without the transmission of genes to the next generation and reproduction, without security and self-protection, without adaptation and appropriate response to environmental conditions, life cannot be created, and it is impossible.

These principles are part of the basic and fundamental laws of life that are necessary and requirements to survive as an organism.

What characteristics should living organisms have to be called living organisms?

Organisms are called carnivores and herbivores in terms of energy supply. One is the enemy and the attacker, the other must defend himself against the attacker and the enemy. It provides a basis for selection and evolution and competition. The one who defends, if he has traits, behavior and body parts that can defend himself against hunting, that means he has been able to ensure his security against the enemy. But if the hunter has the right characteristics and behavior to hunt that organism, then the hunter has actually succeeded in supplying his energy.

The competition for survival among carnivorous and herbivorous organisms is one competition to provide energy, and the other is to provide security.

Obviously, the teeth of animals are adapted to the type of food they ate. Such is the beak of birds. But it is better to say that the beak and teeth of animals are adapted to provide energy and even security in environmental conditions. The body parts of most animals have evolved in intense competition and specifically to provide energy, security, reproduction, movement and many other needs. Fossil evidence should show that the further back we go, organisms in different species evolved based on the principles of security and energy and reproduction, movement, and many other biological needs.

Of course, we should note that natural selection is not the only mechanism for the evolution of living organisms. For example, genes can be transferred from one population to another during the migration of organisms, a phenomenon called gene flow and another example of the order and function of genes changing due to random drift. If this work is repeated many times, it becomes the main factor of change and transformation in life. In addition to natural selection, there are other evolutionary forces that can play a role in this change, including genetic drift, gene flow, mutation, and non-random mating. (non-random mating) and "environmental variances".

This new hypothesis can create practical and function changes in human life, in addition to understanding the nature of behavior and the purpose of our own life, we can know the achievement of perfection and happiness (achieving victory and success) better than before.

I have a huge knowledge of psychology and sociology, culture and anthropology, politics, philosophy, law, movies, cartoons and music, and I am waiting for the publication of the first article to receive support to complete the rest of the articles and books. More evidence and arguments to strengthen the framework of the new hypothesis, or to prove the new theory.

Not paying attention to these simple but very important issues has led to the creation of major errors in relation to evolution and natural selection and the purpose of human and animal life.

This important issue about the purpose of evolution - the purpose of human life - the purpose of life of creatures - has been incorrectly understood and interpreted and creates a misunderstanding of the natural world and the relationships between different organisms and a misunderstanding of the laws of nature .This has caused us to not know the truth of the purpose of human life and creatures, the purpose of evolution and natural selection.

The currently accepted truth of biology and evolution may have become scientific prejudices in some people. Sometimes insisting and emphasizing too much about old scientific theories makes it very difficult to accept new theories.

If there were no mammals such as bats that fly and whales that swim and live in the sea, probably some biologists, of course I emphasize that they are the type of biologists who make quick judgments and issue laws quickly, They will say; according to the law, mammals can never fly, and no mammal can live in water, swim and give birth. A new look at the important issues of the new hypothesis is as simple as accepting new intellectual developments about the laws of human life and creatures.

All living beings do not go here and there in vain and do nothing without a purpose.
They move to find food and energy, or to escape from enemies and provide security, or to search for a mate and reproduce, or when environmental conditions change. They move from the sun to the shadow and to the photo. Change in environmental conditions, such as temperature, light, humidity, pressure, etc., dust coming and moving away from it. Marine animals each evolved differently with sea water pressure. For example, some fish cannot withstand the pressure of the deep oceans. For this reason, this fish does not go into the deep sea.

The nutritional needs of children and human, animal and plant populations have been researched. But this research has not been studied from the aspect of the fundamental principles of natural selection, as a fundamental principle or the principle of life and biology.

All organisms have body parts to provide energy and security.

1- In all organisms, plants and animals, single cells, viruses and bacteria, in all of them there are body parts or organs for breaking down materials and converting them into energy. Body organs such as the mouth, teeth,

stomach, intestines, and liver, and in plants and bacteria, there are similar organs for breaking down substances into energy. In all organisms, energy is used in two processes. Anabolism and catabolism.

2- All organisms have organs, enzymes and behaviors that protect them. Such as cell walls, defensive enzymes, animal and plant skin, cow and goat and deer horns, lion and bear teeth and claws, bee and snake stings, gorilla and human hands, bird wings for escape, special defense and Non-specific defense, defensive behaviors such as escape, camouflage, etc.

An important point to note in the context of evolution is that natural selection favors beneficial changes (beneficial genetic mutations) that provide security, energy, and better reproduction. Sometimes natural selection values some needs more than others. For example, in mammals, reproduction is less important so that parents can provide other nutritional and security needs of children. But in fish, reproduction is very valuable and they give birth to thousands of eggs and children, and it is not the responsibility of the fish parents to ensure the safety and food of the children.

According to the evidence I found based on the mechanism of the principles of natural selection in all organisms, it became clear to me that the genetic diversity of organisms is all about security, energy, food and metabolism, reproduction, movement and behavior. Therefore, natural selection acts on genes to meet these different needs of organisms. From now on, it should be said that favorable mutations and harmful mutations (in the direction of providing or not providing basic needs) guide the process of evolution and the mechanism of natural selection.

I will bring a new argument based on this point that the evolution process in two stages; Mutation and natural selection occur. As most biologists have stated, mutations occur without a purpose. No mutation knows in advance how genes are put together and what traits it forces. But the important thing is that the target is determined by natural selection. Therefore, natural selection should consider the biological and environmental principles and the living characteristics of organisms. Natural selection should design healthy and natural organisms that reproduce successfully and pass their genes on to the next generation. Natural selection preserves beneficial mutations and removes harmful ones. Organisms can successfully pass their genes to the next generation (successful reproduction) that can provide their basic needs.

Any biology can understand that when a characteristic is common in all organisms, it means that this characteristic must have been supported by natural selection to all present organisms and those that lived and had it in the past and from its evolution. supported Such as the creation of traits and behaviors and internal and external body parts that were created to meet the basic needs of security and better and more energy supply.

Evolution revolves around three keys.

Variation, heredity, selection

Based on the principles of the new theory; Diversity in organisms means diversity in energy supply and security and reproduction and adaptation to environmental conditions.

Inheritance means the successful transfer of one's genes to the next generation, of course, energy and security must be provided.

Selection for features and body parts and behavior is based on the fundamental principles of the new hypothesis, i.e. providing energy, security, reproduction and adaptation to environmental conditions.

Explain the reason why success in survival of an organism is not based on progress and being better, but based on adaptation to the environment? In an environment, organisms that evolved may not succeed in adapting, and organisms that did not evolve may succeed in adapting. This can also be interpreted in a general way that because the characteristics and traits in new organisms could not provide the basic needs of security and energy and adaptability to environmental conditions.

It is possible that in an environment organisms that evolved fail to adapt and organisms that did not evolve succeed in adapting. This can also be interpreted in a general way that because the characteristics and traits in the organisms that evolved, when the environmental conditions changed, they could not provide the basic needs of security and energy and adaptability to the environmental conditions. For example: insects that evolved and got

wings, but due to environmental changes, wind and storms, they are thrown into the sea, and wingless insects were better adapted to the windy island.

Natural selection favors genes that exploit the environment in the best possible way and provide their basic energy and security needs.

The need for (energy) food + nutrients, oxygen and in some organisms carbon dioxide + movement + metabolism + security + reproduction and reproduction of organs and suitable environmental traits, many other needs = survival rate of the organism.

All organisms respond to environmental stimuli. For example, after touching the hand with a hot object, they pull it back. Because he must keep his hand healthy, or in other words provide safety of his hand.

Eyes, ears, and senses act in response to stimuli, i.e. providing sexual needs, security, and energy, and react so that organisms can provide them.

In plants, there is a response to the stimulus, for example, the stem of some plants bends towards the light. Because the plant needs light to provide energy. Is it testable?

Compromise in all organisms is for energy, security and reproduction.

For example, species of different plants have adapted to provide their energy both in water and in dry or rainy, humid, hot and cold environments, and in fresh and salty water. Test: Is this not the adaptation of plants in different environments, to provide energy and security and reproduction and to adapt to environmental conditions in different ways.

Please wait for scientific evidence and documentation based on scientific and experimental research that will strengthen the validity of this theory before making any prejudgments about rejecting this theory. Read the scientific research in the next articles. Avoid inappropriate and unscientific judgment until this theory is tested experimentally and mathematically.

*I am very grateful to Mr. Abraham Maslow, Mr. Darwin, Mr. Richard Dawkins for their ideas which helped to create the new hypothesis.*

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