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**WATER - THE BASIC ELEMENT FOR LIFE**

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**ABSTRACT**

It is possible to live without water? Obviously not! However we do not know the benefits of water, since we focus only on the benefits that this liquid causes in our body. However, water is much more than just a liquid composed of molecules and which moisturizes your body, keeping us alive. This substance is responsible for the formation of all earthly life, primary cause of existence; it was the decisive factor for the formation of civilizations, on the other hand, was the cause of the annihilation of Nations.

For its search, people have become nomads, and other stray when they found it, they fixed their addresses.

All this because it is impossible to live without this precious liquid. However, we were stubborn in dealing so neglected this wealth that once it was abundant, but now it became scarce and threatens life on earth.

During the lines that follow, we will try to deal with this precious liquid, demonstrating its importance. All this in order to draw attention to the need to preserve water, since without it life will make it impossible.

Keywords: water, life, liquid, molecules, chemicals.

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## **1 - INTRODUCTION:**

Water is undoubtedly the basic element for life, and never, however the more advanced it is to science, we will be able to live without this substance, which at first seems so rudimentary and unimportant, but which is vital to all living beings who need it to survive and to ensure the permanence of their species.

We realize that life only became noticeable after the appearance of water, so we concluded that it would be impossible to live on the planet if it were not for this liquid, a fact that explains the absence of life on planets that are in the earth orbit, but there are no traces of water and, therefore, signs of life.

In the course of this dissertation, we will enter the universe of water, and try to explain about its importance, be it for our organism, for economy or for the planet. We will address the importance of water for the formation of civilizations, which in their early days preferred places near rivers or water sources, pointing to large civilizations that have been waterlogged and extinct when their water reservoir has dried or diminished.

All this in order to demonstrate not only the importance of water, but also to draw attention to the problems that will arise if a quick solution to preserve this precious liquid is not sought.

## **2 – THE RELEVANCES OF WATER FOR OUR LIFE:**

Who has not heard the expression "water is vital for life"?

Undoubtedly, several people must have already said or heard this expression, which is credited to philosophers, scientists and even saints.

However, this assertion, which seems exaggerated, reflects the truth, however, despite the veracity of this sentence, we attribute to it a dubious and incomplete sense, since we erroneously believe that water is vital only for our health and we do not know the other factors that give this liquid its essential characteristic.

And the references to this are so many that there are hundreds of scientists and other scholars who devote themselves to the erudition of water and the phenomena attached to it.

Not with standing this, and in order to exemplify the criteria that make water a basic element for life, we point out, as a reference, the theory that the first forms of life have appeared in water.

In this theory, scientists believe that millions of years ago, the first life forms arose in a water-rich environment in the primitive oceans of the earth, which is why bacteria, fungi, plants and animals of all sorts need water to survive.

This is the theory currently accepted by scholars, which was developed in the 1920s by two scientists, the Englishman John Sanderson Haldane and the Russian Alexander Ivanovich Oparin who, although they did not work together, came to the same conclusion.

According to them, the first living being to appear on Earth arose as a result of the reaction of several molecules of the gases existing in the primitive atmosphere.

Through the action of the ultraviolet rays of the sun and the frequent lightning strikes during the storms, these molecules became complex molecules that had been accumulating for thousands of years in the primitive seas, forming a kind of hot broth. Some molecules have combined to form other molecules, such as proteins, sugars, fats and other substances that make up living things.

These molecules clustered together and formed clusters called coacervates.

From agglomeration and organization, precursor molecules of life, coupled with many modifications, have acquired the capacity to grow and reproduce.

This way, the first units of living beings emerged: the cells.

Through changes and adaptations to the site, the cells have become unicellular beings, that is, formed by a single very simple cell.

Life on our planet has developed out of these primitive beings. They have differentiated more and more, depending on each other to survive. In this way, all living beings known today, including man, originated.

That is, in the face of the facts discovered by John Sanderson Haldane and Alexander Ivanovich Oparin, whose hypothesis is the most accepted today, life on earth arose from a liquid environment, that is to say, life emerged from water.

Nevertheless, water was not only the propitious medium for the birth of life, it was the responsible and main factor that allowed the formation and growth of civilizations, and, looking from this perspective, we perceive that the history of man is also the history of water and several examples of this historical union infest the textbooks, and in order to exemplify this fact, we will cite only fragments of the history of Egyptian and Sumerian civilization, which allowed for greater comfort, especially during the most difficult periods. This fact is credited to the waters of the Tigris and Euphrates rivers that minimized the work to be carried out.

The cultivation of the land in the region of the basin of these rivers is a fact credited to the human commitment and the waters, and gave excellent results, so much that the Sumerians managed to develop a way of life of their own, thanks to the abundance of the crops they obtained more food than necessary for the immediate survival and storage of this surplus gave the Sumerians some advantages at the time, such as the liberation of some individuals from farming to work with agriculture, writing, and others.

Another important example of the influence of water on the pursuit of great civilizations is the Egyptian civilization, which had its agricultural activities rationalized in the face of the distant past, so as to be better enjoyed by the Egyptian man, according to Giordani (1972, p. , p18)

At the rhythm of the floods of the Nile, social life progressed. The fertility of the Nile valley, which caused admiration for Greek travelers, was counterbalanced, however, by various factors such as the invasion of sand dunes, the devastation of abnormal floods, prolonged droughts, and so on. To avoid these harms and to take full advantage of the favorable factors, the

Egyptians soon developed an admirable technique of controlling Nile waters by building dams, dykes, channels and reservoirs.

In view of the above, we can verify that the availability of fresh water for human consumption and for use in agriculture, always occupied a privileged place among the priorities to be considered by the old societies for the fixation in certain places.

Today the story is not different, we realize that cities with large springs present a much larger socioeconomic development than those that are not geographically benefited by water sources, or the rivers that exist there are insufficient to meet the demand of the local population.

That said, it would not be an exaggeration if we admit that water is the basic element for life. However, believing that there is someone who can refute this statement, we will go to a second hypothesis and try to imagine what the situation would look like if the water left to exist.

Early on and without sophism it is interesting to mention that our fertilization and our embryonic development take place in the water. That is, without water there would be no favorable conditions for both fertilization and embryonic development to occur, that is, there would be no fertilization of the ovum by the spermatozoid.

But suppose for some reason the sperm can fertilize the egg, even in an environment without water. As such there would be no embryonic formation, which could result in the complete absence of the fetus, since as there was no embryonic formation; there is no fetus, or irregular and deformed formation. In short, there would no longer be reproductive processes, and with that, as Melo (2011) states, "[...] all living beings would cease to exist."

Another factor that deserves to be highlighted is that in all life forms water is present and corresponds to more than 50% of the weight of each living being.

In our body, it corresponds to more than 65%, for example, a man of 70 kg is composed of about 42 liters of total water, this because about 75% of the weight of a muscle

consists of water, blood by turn contains 95% water, 14% body fat and 22% bone tissue.

There are cases of some beings, as in the jellyfish, water reaches 95%.

Therefore, without water our survival would certainly be compromised, since this substance is fundamental in the numerous chemical reactions that are responsible for keeping us alive.

But it is not only men who would be harmed by the absence of water, its importance goes far beyond, as either as biochemical components of living beings; as a way of life of several species or as a representative element of social and cultural values, and of course the important factor of production in the development of various economic activities, water also nurtures forests, maintains agricultural production and maintains biodiversity in the terrestrial and aquatic systems.

Therefore, it is imaginable to live without this substance which is the essential element for all living beings, for according to J.W. Maurits la Rivière, PhD in Microbiology from Delft University of Technology, The Netherlands.

“Water is the most characteristic constituent of the earth. Essential ingredient of life, water is perhaps the most precious resource that earth provides to mankind. Although the neglect and lack of vision of this resource are observed by the countries abroad, it is to be expected that human beings will have great respect for water, that they will maintain their natural reservoirs and safeguard their purity. In fact, the future of the human species and other species may be compromised unless there is a significant improvement in the management of terrestrial water resources. ”

All this because water is an invaluable natural resource.

More than the indispensable input to production, it is a strategic resource for economic development. It is vital for maintaining the biological, geological and chemical cycles that keep ecosystems in balance.

It is also a cultural reference and a social good, indispensable to the adequate quality of life of the population..

Or as quoted in the Joint Declaration of Movements in Defense of Water, held in Mexico City on March 19, 2006: "[...] Water in all its forms is a common good and the access to it is fundamental and inalienable human right. Water is the greatest asset of communities, of people and humanity, the basic element of all life on our planet. "

### **3 - CONCLUSION:**

In view of the facts presented, we sought to determine the importance of water, however, we had as scope to expose its relevance not only to our body, but in all dimensions, since this liquid is responsible for all life, primary cause of existence of beings, especially that of human beings.

With this intention, we try to determine the factors that make water important, in order to try to make people aware, since although water sources are abundant, they are often poorly distributed in the supervision of the planet. In some areas, withdrawals are so high compared to supply, that surface water availability is being reduced and underground resources are rapidly depleted. This has caused serious constraints to the development of various regions, restricting human needs and degrading aquatic ecosystems.

That is, water is ending, and it is our responsibility, to take the necessary measures to avoid that liquid is completely extinguished, since as we comprehensively transcribe in that article, without water will be almost impossible to life on earth.

In view of the above, we assert a radical change of attitude in order to seek urgent solutions so that our reserve of drinking water returns to normality and we move once and for all the risk of the scarcity of this liquid, because according to the evaluation made by Prof. Wagner Ribeiro, in an interview for Eco-Debate:

"Water is seen as a source of wealth, because it is a fundamental input for agricultural and industrial production, but it is, above all, a vital substance for the reproduction of life on the planet, including the human species. Water is already seen as a commodity

in some countries of the world, including Brazil, because it charges for it, not only for the collection, treatment and distribution service, but also for water itself. "

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