# Definition of life by Paul Nurse

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# Definition of life.

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The origins of life on earth are widely breached and highly complex network of system. Even though innumerous numbers of theories have evolved to closely define the existence of life but still the origin of life is explicit. According to the biologist Sir. Paul Nurse, life on earth determine under five core principles such as the cell, The gene, Chemistry, Information and Evolution – Natural selection.

The Cell is the basic structural and functional unit of all forms of life on earth. It is the building block of life. In 1662, Robert Hooke was the first to name this cubical structure as 'the cell' which is derived from the Latin word 'Celle' meaning small component. He compiled about cell in his work - micrographia. A single cell is first structure for the origin of any life which is eventually forms the complex composition called organism by undergoing multiple divisions. Cell is an isolated system which allows balanced order inside it while having contact with the environment through its semi permeable membrane. It is widely acceptable words which Paul Nurse mentioned "if we can understand a cell, we understand life".

The gene also called as Mendelian gene is the basic unit responsible for heredity. The molecular sequence of nucleotide present on the stands of DNA is known as genes. An Austrian Biologist Gregor Mendel was the first to evoke the idea of gene – Mendelian inheritance through his simple pea plant experiment. However, even Mendel's work is not completely accurate, his experiment acted as initiator for the study of inheritance and that's the

key fact to remember. In Mendel experiment, he denoted gene as factor and thus this term ‘gene’ is coined by a Danish Botanist, Wilhelm Johannes.

When chemistry of life is described, the first thing that comes to our mind is the complex metabolic activity of cell. The function of Life depends upon fundamental principle of physics and chemistry. The most vital element which plays a crucial role in the formation of life is carbon. The chemical function of a cell performs highly complex, interlinked and properly organised.

Genetic Information passing from the one generation to other is so much more important for the continuation of life. This information is stored as DNA inside the cell that controls the entire activity of a cell and plays a key role in evolution. It is stored as a linear script polymer. This information is read by cell through the process of central dogma.

Evolution – Natural Selection: The characteristic change in the inheritable feature of an organism over successive generation is known as evolution. The concept of evolution by natural selection was first introduced by the English Biologist Sir. Charles Darwin in his book called “Origin of Species”. The excellent examples for evolution are Viruses like as Bacteriophages and in particular Rhinovirus which undergoes rapid mutation thus it makes the process of evolution easy to understand.

The most brilliant and beautiful quote of Paul Nurse; “As the only organism, which is curious about life, it’s our responsibility to care for it and in order to do that we first need to understand it”.

However, even though the origin and function of life is explained through various theories, it is still not certain how life has evolved and how accurately it works. Thus, our world is full of amusing curious facts to unlock; even as we don’t have enough time to understanding everything, but we can enjoy the process of learning this beautiful works of nature.