

The First Life that is organized from Organic Materials by Deoxygenation of Carbon Dioxide in Sea Water caused by Oxidation of Iron

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Outline: Experiments and study on origin of life

Putting in a cotton form of iron into the carbonated water (dry ice of CO_2 is melted plentifully in 3%-salt-water), iron oxide deposits and membrane appears on the surface of water. Origin of life is explained by the organic materials produced by oxidation of iron in the carbonated water.

The mechanism that produces organic materials from carbonated water: [Characteristics of carbonated water with resonance among chemical bonds]

The 3-dimensional structure in water of CO_2 is affected by the resonance effect between a polar-linkage and a shared-electron-pair-bond. Elements of the chemical bond (H_2O molecule, distorted $\text{O}-(\text{H}_4)$ tetrahedron, CO_2 molecule, and distorted $\text{C}-(\text{O}_4)$ tetrahedron) are resonating [1]. The resonating atoms change the most-nearest-atom by thermal vibrations.

After **Fe** is solved into water, the chemical bond of an **O** atom is changed from **H** atom to **Fe** atom by the ionization tendency. **Fe** atom makes Fe_2O_3 slowly by using a **3d** electron together with two pieces of **4s** electrons. The Fe_2O_3 is deposited in bottom of the water. On the other side, the products by the deoxygenation of carbonated water such as hydrocarbon ($\text{C}_n\text{H}_{2n+2}$) and carbohydrate $\text{C}_x(\text{H}_2\text{O})_y$ gather on the surface of water.

The processes for emergence of first life from organic materials:

[A life has emerged by breeding. It is an organization of the chain reaction that circulates.]

An amino acid is made from an alkyl group ($\text{C}_n\text{H}_{2n+1}$) by attaching a **C** and the **C** that attaches a **H** atom, NH_2 and COOH . If deoxidized carbonated-water gets NH_3 from atmosphere, amino acid can be made. A protein is produced by connecting COOH of an amino acid to NH_2 of the nearest-neighbor amino acid. A thread of protein becomes 3-d structure in the water owing to a hydrophobic interaction among alkyl groups.

At steps of the production of protein, a corresponding polymer of the protein such as **RNA** can be formed on the organic membrane. If those chains of reaction come to circulate, the system continues the production. The repeated production makes possible to exist biopolymers.

A life organizes plural biopolymers so that the life changes the chain of activities in order to adapt it to situation. It interacts with surroundings and it forms an ecosystem. Generation shift in an ecosystem has been repeated. So, each life was evolved individually, and creatures were diversified.

Conclusions

The important reason that creature has been able to exist is as follows. Many biochemical reactions were organized in order to continue activity of a life.

[1] 3-d structure of water (H_2O) is similar to α -quartz (SiO_2). Tetrahedrons are arranged as a spiral. The α -quartz that has piezoelectricity is made by a water heat synthesis. So, the 3-d structure of hydrated CO_2 was considered.