



## Humanity and Biological Market – An Unconditional Altruism

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Date of Submission: 15-12-2023

Date of Acceptance: 30-12-2023

## ABSTRACT

Biological market is the interaction between organisms in which one can recognise different classes of traders that exchange commodities, such as goods or services. In the context of biological market behavioural biologists proposed theories for cooperation such as “Reciprocal altruism” which is the main evolutionary theory for cooperation. In reciprocal altruism biologists argued that natural selection could favour cooperation between two organisms that interact repeatedly over their lifetimes. The crux of reciprocal altruism was the idea of partner control with respect to trust without involving third party. The concept of Biological market in ancient times before the origin of money in the form of community exchange system and global complementary trading network followed by biological market in plants, animals and search for biological market in extra-terrestrial life is explored in this review.

### Key words

Biological market, community exchange system, global complementary trading network, reciprocal altruism

## I. INTRODUCTION

Biological market is the interaction between organisms in which one can recognise different classes of traders that exchange commodities, such as goods or services. The concept of the biological market was proposed by a Dutch biologist by name Ronald Noë in 1994. In the context of biological market behavioural biologists proposed two theories for cooperation. The first theory of cooperation is called “kin selection theory states that an organism could sometimes better propagate its genetic material by helping a close relative reproduce rather than trying to reproduce itself. The second theory of cooperation is called “Reciprocal altruism” which is the main evolutionary theory for cooperation.

## RECIPROCAL ALTRUISM AND BIOLOGICAL MARKET

In the context of humanity, Altruism is the fact of caring about the needs and happiness of other people more than their own. According to reciprocal altruism biologists argued that natural selection could favour cooperation between two organisms

that interact repeatedly over their lifetimes. One individual conferred some benefit on the other, knowing that the benefit would be repaid down the line. The crux of reciprocal altruism was the idea of partner control with respect to trust without involving third party

## THE NONEY SYSTEM AND BIOLOGICAL MARKET

The Noney system in Biological market is connoted by “I help you, and you help another—and someone else helps me. The recipients of help become, in turn, the providers of help.” The Noney system is a part of other species which in science is denoted by biological market. Noney can be considered as no money. Noney system can be denoted by various systems. There are systems in which money is only an adjunct or completely replaced. Few such systems in use are local exchange trading system, gift economy, community exchange systems, time based currency or time trade. Overall Noney is denoted by No Money.

## HISTORY OF MONEY

It all started with the barter system about 100,000 years ago<sup>[1]</sup>, which was followed by the gift economy and debt. Around 3000BC came the usage of the term commodity economy<sup>[2]</sup>. There was also a period of brief usage of representative money followed by stamped coins which came into use by 650 BC followed by paper money in 13<sup>th</sup> century. The present Fiat currencies have been in use since the early 1970s. Currently we are progressing into the use of digital money and the emergence of crypto currency.

## THE COMMUNITY EXCHANGE SYSTEM AND BIOLOGICAL MARKET

The Community Exchange System (CES) is a community-based exchange system that provides the means for communities to trade and exchange their goods and services, both locally and remotely. It could also be described as a global complementary trading network that operates without money - ‘Noney’ (no physical currency).

## BIOLOGICAL MARKET IN PLANTS

The concept of biological marketing among plants is conceptually understood by the following fact pertaining to underground fungi, which



exchange phosphorous for carbon with the roots of plants and are able to adjust the amount of phosphorous they provide to the amount of carbon they receive. "Whatever we eat depends on these exchanges,"

### **BIOLOGICAL MARKET IN ANIMALS**

The concept of biological marketing among animals is conceptually understood as "exchange rate" which is not fixed but rather contingent on the supply of available partners. "It is essentially a supply-demand theory," says Frans de Waal, the eminent primatologist from Emory University and a former mentor of Noë.

### **TERRESTRIAL BIOLOGICAL MARKET**

Money is silently emerging as a violent exploitation of human existing on planet earth. Earth formed around 4.54 billion years ago,<sup>[3]</sup> approximately one-third the age of the universe, by accretion from the solar nebula. If the violent exploitation continues, there can be a possible chance of desperate need to begin life fresh with a genuine and balanced Money predominant concept.

### **EXTRA TERRESTRIAL EXPLORATION OF BIOLOGICAL MARKET**

Analogous to origin of planet earth and life in planet earth where biological marketing was followed by current economic situation, a scientific prediction of possibility of life in other planets might again be a fresh beginning of the old beginning to make money obsolete.

Jupiter's moon Europa has been subject to speculation about the existence of life due to the strong possibility of a liquid water ocean beneath its ice surface. The case for life on Jupiter's moon Europa was greatly enhanced in 2011 when it was discovered that vast lakes exist within Europa's thick, icy shell. Scientists found that ice shelves surrounding the lakes appear to be collapsing into them, thereby providing a mechanism through which life-forming chemicals created in sunlit areas on Europa's surface could be transferred to its interior.<sup>[4]</sup>

On 11 December 2013, NASA reported the detection of "clay-like minerals" (specifically, phyllosilicates), often associated with organic materials, on the icy crust of Europa. Europa's subsurface ocean is considered the best target for the discovery of life.<sup>[5]</sup>

Possible trace amounts of methane in the atmosphere of Mars were first discovered in 2003 with Earth-based telescopes and fully verified in 2004 by the ESA Mars Express spacecraft in orbit

around Mars. As methane is an unstable gas, its presence indicates that there must be an active source on the planet in order to keep such levels in the atmosphere. The ExoMars Trace Gas Orbiter (TGO), launched in March 2016, began on 21 April 2018 to map the concentration and sources of methane in the atmosphere, as well as its decomposition products such as formaldehyde and methanol. As of January 2019, the TGO has not detected methane.

Life on Mars has been long speculated.<sup>[9]</sup> Liquid water is widely thought to have existed on Mars in the past, and now can occasionally be found as low-volume liquid brines in shallow Martian soil. There is evidence that Mars had a warmer and wetter past: dried-up river beds, polar ice caps, volcanoes, and minerals that form in the presence of water have all been found. Nevertheless, present conditions on Mars' subsurface may support life there is evidence that, present conditions on Mars' subsurface may support life. Current studies on Mars by the Curiosity and Opportunity rovers are searching for evidence of ancient life, including a biosphere based on autotrophic, chemotrophic and/or chemolithoautotrophic microorganisms, as well as ancient water, including fluvio-lacustrine environments (plains related to ancient rivers or lakes) that may have been habitable. The search for evidence of habitability, taphonomy (related to fossils), and organic carbon on Mars is now a primary NASA objective.

Ceres, the only dwarf planet in the asteroid belt, has a thin water-vapour atmosphere.<sup>[7]</sup> Frost on the surface may also have been detected in the form of bright spots. The presence of water on Ceres has led to speculation that life may be possible there.<sup>[6]</sup> Enceladus, a moon of Saturn, has some of the conditions for life, including geothermal activity and water vapour, as well as possible under-ice oceans heated by tidal effects. The Cassini-Huygens probe detected carbon, hydrogen, nitrogen and oxygen—all key elements for supporting life.<sup>[7]</sup>

## **II. CONCLUSION**

Money isn't a new concept or something that was brought in use overnight. However the money being the master ruler, taking an important aspect in our lives which have evolved sky high very recently in the past few decades. The concept of Biological market is the need of the hour reflecting the blessed face of humanity.

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