

*Ein Forschungsprogramm für die Evolutionsphysik nach der Methode des Absteigens  
vom Konkreten zum Abstrakten,*

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is translated by Google and slightly corrected by Halil Güveniş:

**A Research Program for Evolutionary Physics  
According to the Method of Descending from the Concrete to the Abstract**

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**Abstract**

In the present paper the theoretical method of descending from the concrete to the abstract is applied to the evolution of physical structures in the universe, and a research program for evolutionary physics is given. We obtain through temporal vertical abstraction the following concrete evolutionary stages: 1. the formation process of elementary particles in the early universe, 2 a) the global, gravitational structure formation process from galaxy clusters to planets, 2 b) the local, electromagnetic structure formation process from atomic nuclei to molecules, 3. the planetary, geological-chemical structure formation process from hydrogen molecules to macromolecules.

## Introduction

In a previous work we applied the theoretical method of descending from the concrete to the abstract to biological evolution and indicated a research program for evolutionary biology.<sup>1</sup> In the present work we would like to apply the theoretical method of descending from the concrete to the abstract to the evolution of physical structures in the universe and to give a research program for evolutionary physics. The work is structured as follows: In the first section the temporal vertical abstraction of the evolutionary stages is dealt with. In the second section a research program for evolutionary physics is given.

### 1. The temporal vertical abstraction of the evolutionary stages

If we examine the historical development of the physical structures in the universe with the help of the theoretical method of descending from the concrete to the abstract, then we get through temporal vertical abstraction the following concrete evolutionary stages: 1. the formation process of elementary particles in the early universe, 2 a) the global, gravitational structure formation process from galaxy clusters to planets, 2 b) the local, electromagnetic structure formation process from atomic nuclei to molecules, 3. the planetary, geological-chemical structure formation process from hydrogen molecules to macromolecules.

Overall, these three evolutionary stages concern the formation of all physical structures in the universe and, depending on this, the formation of the associated physical theories (= fundamental equations of physics). *In the first stage of physical evolution*, the “quantum electrohydrodynamic gravity”, which does not yet exist as a finished theory, and its correspondence transitions “general relativistic, hydrodynamic gravity” and “relativistic quantum electrohydrodynamics” emerge. *In the second stage of physical evolu-*

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<sup>1</sup> Güveniş, Halil: *A Research Program for the Evolutionary Biology According to the Method of Descending from the Concrete to the Abstract*; The General Science Journal, 2020; <http://gsjournal.net/Science-Journals/Research-Papers/View/8482>

tion, the correspondence transitions a) “relativistic hydrodynamic gravity”, b) “quantum electrohydrodynamics” arise parallel to one another. *In the third stage of physical evolution* finally, the global and local structure formation process meet each other on planetary basis in order to create the correspondence transitions “theory of gravity”, “electrodynamics” and “hydrodynamics”.

## **2. The research program**

The temporal vertical abstraction therefore leads initially to a rough classification of the entire historical-empirical material of physical evolution and enables us to determine the laws and regularities of evolutionary physics through spatial horizontal abstraction in the evolutionary epoch in which these laws and regularities emerged for the first time in evolutionary history. *The research program of evolutionary physics* therefore consists first, of analyzing through spatially horizontal abstraction the above listed three development stages of physical evolution in the order in which they arised. Subsequently, the evolution phases within the three stages of physical evolution are to investigate by narrowing down the temporally vertical abstraction.