

# The biology of money

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# „elevator speech”

Darwinian evolution also works in economics, because a certain kind of money (that has been named **mone**) generates **economic living beings** on the same logical basis, as genes generate biological beings.

Money (gene) → Capital (mRNA) → Enterprizes (living beings)



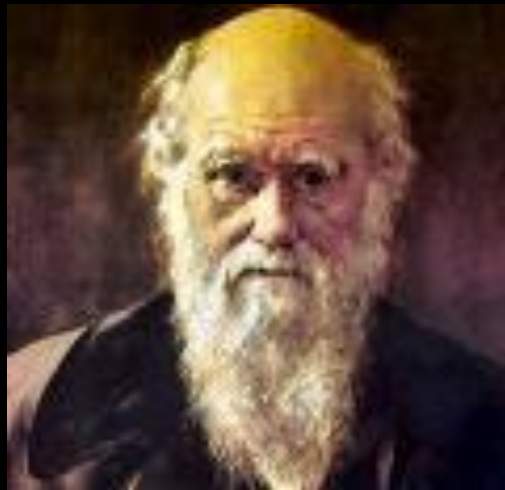
# Darwinian and Mendelian insight

**Mendel:** heredity is based on discrete entities  
**(genes)**

**Darwin:** species came into existence from  
each other **(evolution)**

**and its only reasons are:**

- the existence of beings that are able to reproduce
- hereditary variability
- natural selection



- Mendel didn't address Darwin's points
- Darwin had no idea on the mechanism of heredity

# The Mendelian insight: the replicators

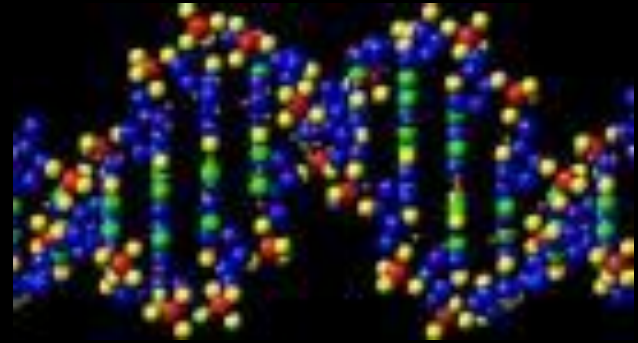
**The logic of biology:** Biological life is generated by things that do not live, but in appropriate groups they can generate living beings (*genes*)

If my dog's eye is brown like mine, it is caused by the same gene.

All that is possible, because genes are **replicators**.

**The concept of replicator:**

- long life
- fecundity
- exact copying (but not **too** exact)



Living beings have many things to do, but the replicators' only business is to get replicated

# Newer replicators

## Not the gene is the only replicator

- template molecules of chemotons
- prions (?)



...after the genes have generated beings with an enormous brain, that can afford millions of thoughts in their brains, newer replicators have also appeared:

- computer viruses (or their certain parts)
- memes (?) („genes” of the human thoughts)
- money (a certain form of it that will be named **mone**)

# The specific replicator in economics

the major problem with memes: if the meme corresponds to the gene, what corresponds to the living beings?

in the biology, it has always been clear what is a living being, but it was hard to discover the genes behind

in the economics, it is also clear, what are „economic living beings”, and it was also hard to find the replicators behind

**The mone is any feature of an enterprize that can attract capital on its own**

**The mone is not the capital itself: capital only becomes a mone when it has been decided, in which feature of an enterprize will it be invested**

# The structure of life

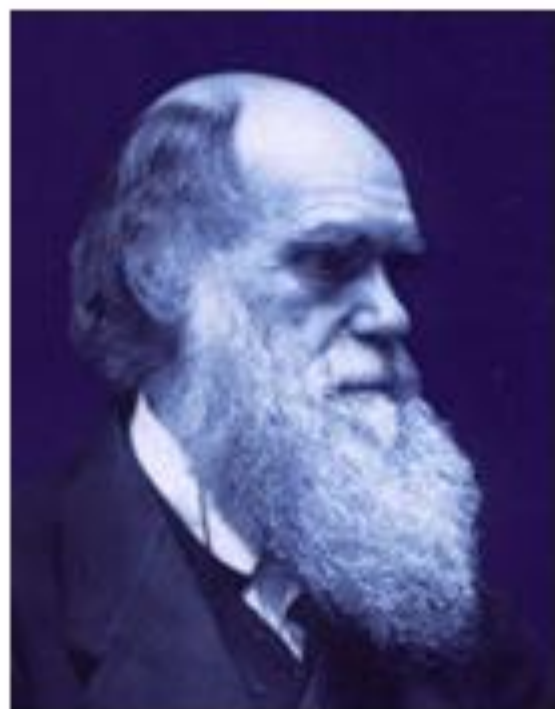
The **logical structure** discovered by Gödel (1931) is isomorphic with the structure of biological self-reproduction (Hofstadter, 1979) and also with that of economic enterprises

	<b>Biology</b>	<b>Logics</b>	<b>Economics</b>
<b>replicator</b>	gene	basic formulae	capital (money)
<b>coding</b>	genetic code	Gödel's code	„business code”
<b>bkg mech.</b>	biochem. mech.	mental activities	psych. mechs.
<b>living being</b>	biol. being	sci. thoughts	enterprise
<b>products</b>	life activities	knowledge	products

As the underlying logic is the same, knowledge learnt in one domain can be transferred to the other domains

e.g. the Darwinian insight

## Darwins Vorstellung von der universalen Evolution



„Das Prinzip des Lebens wird eines Tages als Teil oder Folge eines allgemeinen Gesetzes erkannt werden“

## What we know from biology:

### Darwinian insight

The three Darwinian conditions are **necessary** and **sufficient** for D'an evol.

### Mendelian insight

There exists a discreet entity that is responsible for the phenotypic traits of biol. beings (**genes**)

### Background logic

The functioning of genes exactly corresponds to the Gödelian structure

### The modern synthesis

„Darwinian insight” automatically works **because** a genes are replicators

## What is also valid for economics:

Darwin's three conditions are also valid for the „economic beings”

There exists a discreet entity that is responsible for the „phenotypic traits” of enterprizes (**mones**)

The functioning of mones also corresponds to the Gödelian structure

Mones are also proved to be replicators

**(therefore...)**

# Why may be useful to see all that in this way?

- understanding globalization
- telling Darwinian evolution from non-Darwinian evolution
- the possibility of emerging new investment analysis techniques



# Understanding globalization

in biology

in economics

the (almost) global

genetic code

„monetic” code

generates lots of (both local and global)

living beings

enterprizes

To revolt against globalization is just like revolting against the genetic code – because it resulted in an evolution that created ugly mosquitoes



# Non-Darwinian evolutions

In other words: is natural selection the **only mechanism** that may result in evolution?

(i.e. in coming new forms or species into existence)

- **in biology**, maybe yes (if Darwin was right)
- **in economics**, there may exist further important mechanisms, although pure Darwinian evolution could also answer a lot of questions  
(e.g. the development of globalization)
- **in the society**: the evolution of societies is definitely not a kind of Darwinian evolution  
(this is a purely logical consequence of our model!)

# New ways of investment analysis

The analogy with biology also suggests new techniques for investment analysis



- „monetic” analysis of business plans
- a taxonomy of enterprizes based on „biologic” principles
- synthesizing new enterprizes („monetic engineering”)

**The present economic crysis will enforce new investment analysis techniques anyway**

**Thank you for your attention**

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