

# Darwin and the return of the alchemists

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## What is the natural course of events?

The aim of science is to reveal truth. Thereto science puts questions like: Is the earth flat or round? Does the sun spin around the earth or does the earth spin around the sun? What are random processes capable of? What is the natural course of events? Not all questions, however, can be answered since a scientific answer or theory must be falsifiable and therefore has to be testable somehow. The theory “A god, or an intelligent designer, or a pink elephant, has created the living nature” is untestable, because where is that god, intelligent designer, or pink elephant to be measured and tested. Consequently, this theory is unscientific. It is a belief. The theory “Random processes have created the living nature” is scientific indeed, because random processes can be measured and tested. Science understands random processes completely. We know they have no aim, but they do have a direction: sooner or later they will equalize any difference, for instance of temperature, energy, density, elasticity, complexity or information. Not any serious scholar will deny this basic property (‘arrow of time’) of our reality. Everyday, we experience this basic property in our houses, offices, laboratories, and factories: cups of tea cool off, batteries get empty, chemical reactions die down, and machinery and production systems wear out and fall apart. Any complex structure with a high energy level will ultimately fall apart by random processes back to the lowest possible energy level, as confirmed by physical science. The theory of macro-evolution however states exactly the opposite, and claims that random processes can make simple molecules to clot into ever more complex substances, organic soup, RNA, DNA, a basic gene, a basic cell, and ever more complex organisms. While the natural course of events is that ‘apples fall down’ and random processes extinguish complexity, the theory of macro-evolution states that ‘apples fall upward’ and random processes make complexity grow ever further. The theory of macro-evolution thus is in flat contradiction with the fundamentals of our reality and with physical science that formalizes these fundamentals, and is therefore not valid. An important rule of science, which is applied frequently by reviewers, is that an invalid theory is put into the garbage can, even if an alternative scientific theory is absent. A gap in our scientific knowledge is the result, but gaps are the business of science. In any branch of science “We don’t know (yet)” is a completely normal and legitimate scientific position, and that should hold too when a scientist is asked how the complexity in living nature has originated.

## The return of the alchemists

Evolution is as everywhere and normal as gravity, thanks to the mechanism of recombination of gene-variants from the gene pool of a population and selection of advantageous combinations. By that mechanism, the living nature can adapt continuously to changing circumstances and new species can originate. In this micro-evolution, however, the DNA of an organism does not grow. Besides, expansion of the DNA is antagonized, for instance when producing sex cells. When mixing the genes that come from the father of the organism with the genes that come from the mother, the nucleotide strings that are exchanged between homologous chromosomes must have exactly the same length, or the process stops<sup>1</sup>. A long sequence of micro-evolution, where the DNA does not grow, thus cannot produce macro-evolution, where the DNA grows and becomes more complex. The numerous accounts of micro-evolution from living nature and from the fossil record are therefore unjustly adduced as evidence for macro-evolution. Also the results of Miller’s experiment in 1953 with a primitive building blocks-for-life-factory are unjustly adduced to underpin that random processes can make simple molecules clot into billions of tons of building blocks for life. If random processes would really do such a thing, complex high energetic substances could be produced without effort for free, making the chemical industry superfluous. Moreover, many right-thinking people suppose unjustly that (organic) molecules possess a hidden self-organizing property that allows them to increase complexity, provided time is no limitation. Centuries ago, the alchemists believed something like that. They thought that aside of the elements earth, water, fire and air, a mysterious fifth element was hidden in matter: the ‘*quinta essentia*’. After the Enlightenment, physical scientists have put an end to

this misconception, it seemed. In this darwin year, the alchemists appear to be back, as well as the ways that were typical for the dark ages. Many educated people are willing to ignore everyday experience, the laws of physical science, and the rules of science, to keep their belief that only what you can measure can exist (*naturalism*). They obstruct open scientific discussion of the theory of macro-evolution by saying that criticism can only come from creationists, followers of intelligent design, or laymen, and is pointless.<sup>2</sup> They fence off the scientific fora and journals for sceptics of macro-evolution, as giving entrance would give them credibility and would help them to slide down society into fundamentalism<sup>3</sup>. Also the hundreds of scientists with a PhD that ask for room to be sceptical of the claim that mutation and selection can increase complexity by signing the ‘Scientific dissent from Darwinism’ on the internet, carry no weight at all. They are all creationists, ID-followers, or stupid fundamentalists, which must be ignored.

### **What would Darwin have thought of all this?**

Hundred and fifty years ago, Darwin believed that cells were no more than small lumps of slime, instead of fully automated nano-factories controlled by a DNA-program that has a size of 3 billion characters in humans. Darwin knew nothing of the mechanism of micro-evolution that changed the beaks of his finches but that cannot make the DNA-code grow, and he knew nothing of the mutation repair systems that antagonize an expansion of the DNA-code. As a consequence, the idea could arise in his mind that many small changes might ultimately add up to big changes. Despite his ignorance, Darwin was a true scholar, and aware that a scientific theory should be falsifiable. In ‘*The origin of species*’ (6e ed., New York University Press, p. 154) he wrote: "*If anyone would prove the existence of a complex organ that could absolutely not be the result of a large number of sequential changes, my theory would collapse completely*". To his own surprise, his theory conquered the world within twenty years. Strangely, photo's of him made after that victory do not show a self-assured scholar confident of the truth of his theory, but a sad, disillusioned man. The cause of this might be that Darwin made a frightful discovery in his back-garden after the publication of his book. He might have seen the one step transformation of a pupated caterpillar into a butterfly and he might have observed how two flabby gutter-like extensions on the front of the butterfly were inflated and zipped together in one smooth movement starting at the head of the butterfly, producing a tubular flexible tongue with which the butterfly took a sip of nectar before flying away. His ever-lasting fear, which his faithful friends had kept talking out of his head, appeared inescapable: according to his own criterion he had to reject his theory. From that crushing insight he would never recover... And what else? What would Darwin have thought of the neo-alchemists who regard the belief that a creative force or field outside our reality may have existed, or may exist, to be an insult for their intellect, but who believe themselves that a mysterious creative power is hidden in matter, and who are prepared to sacrifice empirical science, empirical evidence, and the integrity of science to hold on that belief. When we look at the photo's of the old Darwin, one answer presses forward: He couldn't care less!

### **A new enlightenment necessary**

On 25 October 1996, our present-day secretary of Education and Science, micro-biologist Ronald Plasterk, wrote in his column in the journal *Intermediair*: "*Hordes of biologists believe that evolution happens by the occurrence of a mutation somewhere in a species providing selective advantage. Since half a century yet, it is known that evolution does not happen that way, and cannot happen that way. ... The origin of species proceeds by selection of combinations, not by mutations*". Today in the darwin year, the ignorance Plasterk calls attention for is still as big, and still results in adducing the numerous accounts of micro-evolution as a proof for macro-evolution. Therefore it is necessary we start teaching our pupils and students more accurately the mechanism of animal and plant breeding, and how living nature continuously adapts to changing circumstance by micro-evolution without changing the size of the DNA. We have to teach them that DNA mutation produces hereditary diseases and cancer in stead of improvement and growth of the DNA, and that sexual reproduction prevents the passing of code-expanding mutations to posterity. Moreover we must teach them that a process of structural growth of the DNA-code requires dysfunctioning mutation repair systems, which provides a severe selective disadvantage, and that according to Darwin's principle of 'survival of the fittest' a population with dysfunctioning mutation repair will disappear. Together with our pupils and students we must repeat Miller's experiment, both without and with the transportation system Miller applied, we must discuss

the differences. We must teach them that naturalism is a belief that is not better or more plausible than the belief that outside our reality forces or fields might exist, or have existed, that cannot be captured by our laws of physics. We must show them how naturalists misuse science to make themselves credible, and how they gag the normal free scientific debate. In fact, a new enlightenment is necessary, for which this darwin year should be the starting-point.

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<sup>1</sup> <http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/C/CrossingOver.html>

<sup>2</sup> See for example Ad Valvas (journal of the Vrije Universiteit, Amsterdam, The Netherlands) nr. 15, 16, 17, and 18: <http://www.advalvas.vu.nl/images/AdValvasPDF/PDF/5616.pdf>

<sup>3</sup> <http://assembly.coe.int/Main.asp?link=/Documents/WorkingDocs/Doc07/EDOC11297.html>