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We offer here a vision over evolution as it is seen today from the stand point of a social scientist. The vision of evolution as reported for the lay public such as it is seen by official Authorities can be found at (Ayala et al, [1] 2008). Strikingly enough, those Authorities present as a virtue of evolution its witnessed possibility of strengthening the faith in God. In this second version hyper-links have been added and some minor changes have been made to augment readability.

The Evolutionary theory has the support of common sense:

It is enough to look at the entrails of a hen, a fish and a sheep to get convinced that all these species are variations on the same theme. Can we provide a natural mechanism to explain those variations beginning from just some few origins or maybe from one or maybe from no origin at all? The election of modern science is to provide a full fledged mechanism to explain variations among living beings beginning from inanimate matter which in its turn is explained by the Big Bang or some modern variations.

Let us call the proposed natural mechanism **evolution** and let us work it out as a null hypotheses of science.

As a first constitutive ingredient of our project, we have mutation or change in the genome from parents to offspring. In particular, we enjoy a direct estimation of the per nucleotide mutation rate in the fly, *Drosophila melanogaster*. The corresponding estimated mean value is 8.4×10^{-9} per generation (Haag-Liautard et al., [14] 2007).

Let us highlight the fact that actual life is a sophisticated compromise between evolution and anti-evolution, say, we cannot stop mutation (it hangs ultimately from quantum mechanics) and there are genes that warm/cold the mutation rate (Radman, [20] 2000) but nevertheless the genetic code of alive beings appears to be finely tunned to minimize the effects of mistranslation and point mutation (Freeland et al, [12] 1998). And all this does not happen by randomness alone, instead evolution is promoted by a special purpose machinery that is so amazing that it can execute even topological operations and in consequence it is very complex; actually, it is composed of various tens of enzymes that work in ensemble (Darnell et al, [3] 1986). In general, one cannot avoid to get invaded by perplexity because of the very high level of the complexity of life.

Once mutation is recognized, the next natural proposal is that mutations along lineages add together to give rise to the origin of races, new species and phyla. We cannot deny that this could happen spontaneously, but random changes probably will tend to

annihilate one another. So, we need a mechanism to generate a directional tendency. The glory for imaging and documenting from nature such a mechanism belongs to Darwin ([4], 1859), even though he knew nothing about genes: if a change in the genetic information produces a variation that fits better a challenge of the environment, that genetic change will propagate even more than the other variants. A trend toward complexity is automatically produced because any environment is a very hard challenge for any species. By the same reason, diverse environments would produce over time genetic diversity. The connection of the changes of the environment with those in the genome or in the frequencies of their representatives is called **selection**.

Spontaneous changes plus selected traits would eventually cause a reproductive separation and/or morphological and ethological divergence. But from the fact that the domestic fly is the same all over the planet, one deduces that our proposals are not to be believed at once and that they need to be experimentally documented. Reality has shown that this problem is not that easy: after 160 years of hard work we must get content with incipient proofs of the belief that selection correlates with speciation (Dettman et al, [8], 2007). The problem is that an incipient proof is no proof at all but due to the difficulty of the task, incipient proofs are considered as hits of science. Nevertheless, once and for ever, let us make it clear that science does not rely on proofs. Science is a project that relies on conviction + hard and wise work.

So, what does fuel the conviction of a modern scientist in that the microscopic mutation + selection + time are enough to explain the origin of species, phyla and life in general?

The first and fundamental reason is that a human heart is a fabric of convictions. The second is that there are various kinds of incipient proofs of speciation and Darwin himself provided some of them. Just think of the finches of the Galapagos Islands, whose variability of beaks reveal an abundant adaptive radiation, now studied at the gene level (Patel, [19], 2006).

A most loved evidence in favor of evolution relies on the **genome project**, which is the systematic study of all forms of genomes. According to results that enjoy a certain tradition and are so well established, the evolutionary trees of **systematics** correlates with evolutionary trees of molecular biology and many genes, such as cytochrome, can be traced very clearly from mammals down to the bacterium. Additionally, related genomes differ more by the form of genetic regulation than by genes themselves, say, the 94% of the human genes already appear in the genome of the chimpanzee (The Chimpanzee Sequencing and Analysis Consortium, [23], 2005). Furthermore we know for certain that microbes absorb and discard genes according to their needs in response to a change in the environment (Goldenfeld and Woeso, [13] 2007). This implies that mutation does not only means changes from parents to offspring but additionally includes the live changes in the genome due to insertions of new genes taking from other organisms.

We have now a combinatorial theory of evolution: the genes are permanently flushed as cards and a handful corresponds to the genome of a species.

Evolution also has the support of computer simulations that show that speciation might be an unavoidable event along the normal reproductive dynamics of a population that live in a competitive complex environment. A celebrated example is given by *terra* (Ray, [21] 1990).

In general, science has been continually offering advances in regard with the justification of evolution. Thus, science is dominated by **evolutionism**, which is the philosophical certainty in the power of evolution (plus its natural extensions that cover all materialism) to explain everything in spite of the fact that at present there are vacuums and paradoxes. In evolutionism, evolution does not belong in the realm of science because it cannot be the object of doubt or rejection.

Now, is there a reason to question the power of evolution to explain our very existence?

Yes, there are many. Let us consider for instance the next point: the human genome contains more than 100 microbial genes, whose expression is made in the brain, and that do not appear in the genome of the chimp (Whitfield, [24] 2007). It is straightforward to propose that these genes were transposed directly from bacteria as well as it is also straightforward to ask: who apart from God could have done the very improbable right selection for the appropriate functional combination? It is here that we recognize the power of evolutionism as a philosophical regulative principle: facts with very low probability are declared to have occurred by mere chance and no god must be annoyed.

Anyway, evolutionism must battle for a honorable place in the mark of ideologies, where we also find the religious traditions that indwelt all cultures of the world: according to some of these traditions, a human being is much more than organized matter because his or her body is a recipient of a spirit, whose reality overcomes physical death. Or more explicitly, one can find people all over the world, very especially children under five, claiming that there are ghosts at their houses.

On the other hand, we have the tremendous impact of the enormous volume of information that any genome consists in. We join these two items, spirits + complexity, and we have God the Creator. We just have reinvented **creationism**, which claims that life was designed and synthesized by a spiritual entity.

Among creationists, Christian fundamentalists are especial because they have done their best to get hatred by scientists. On one hand, they have shot their mortal guns: they have tried to manipulate the legal power at courts to achieve that the book of Genesis could be taught as a scientific alternative to evolution. They try to do so in spite of the fact that they know that their academic works (Dembski, [7] 1998) have awaken fear but no applause (Melott, [17] 2002). On the other hand, they have administrated no wine or oil to bandage the wounded bodies of their enemies, who indeed have made a very instructive defense (Padian, [18] 2005).

Some scientists have paid special attention to the creationist movement and continuously deliver literature about the position of science. One of them is Richard Dawkins, whose work has world-wide impact. Why? It is because he is a master in dealing with those questions that worry every human mind: where are we from and where do we go? The answer given to these questions by modern science in the light of evolution are very simple: we appeared as a byproduct of evolution and we cannot go further than natural law allows us to go.

It happens that a clear explanation of the ideas of evolution has not been enough to illuminate the hearts of people, and some scientists have opted for a direct attack against religion. As a part of this reaction, Dawkins publishes *The God delusion* ([6] 2006), in which he claims that traditional forms or religion are irrational and harm prone while a completely atheist science is the true religion full in epics and splendor. Now, if we

look around, we must recognize that we live in the most glorious moment that science has ever seen. Just think of the possibility to predict the function of an enzyme from the corresponding DNA code (Hermann et al., [15] 2007). This is definitively a significant lap in the direction of ab initio synthetic dragonfly (Ball, [2] 1995) - a dream that is proper of the science of our time. But troubles begin when we notice that amidst so many splendors, we find that cancer and aging seem to play with us much as a cat plays with the little mouse it just killed. The tremendous advances of science to combat these killers (Finkel et al, [11] 2007) are very far from being satisfactory, a fact that one is not aware of until one sees the own father or daughter dying in the middle of the most severe tortures because of them.

But Dawkins has prepared since long ago an answer to the suffering of mankind: we are nothing apart from transient instruments of the egoism of genes that prompt them to survive at whatever cost. The election of very complex organisms, such as we are, is just one of their strategies to achieve their goal. So, our death has no meaning apart from allowing the existence of other forms of gene combinations with slightly mutated genomes. Henceforth, it is not dead that must be feared; instead it is life that must be appreciated and enjoyed.

This form of thought was popularized by Dawkins in his book *The selfish gene* ([5] 1976), an introduction to sociobiology, whose purpose is to trace down to genes the biological causes of our conduct even of those acts that seem to be the most altruistic.

To summarize, we find in evolution the dominant model of modern science: `nothing in modern science makes sense if not in the light of evolution`, mutatis mutandis, the slogan of Dobzhansky ([9] 1973). But more to the point, evolution together with its extensions to cover the origin of life and of the universe, defines a world view with answers for all questions, including those that concern the nature and fate of man. For this reason, evolution certainly has the power to compete with any religion. And, as it happens with all religions, not all things are clear: a rich ensemble of events of low probability, which are abundant in molecular biology, must be the subject of intense scientific study and original theories (Kauffman, [16] 1995) but not of fear driving into religion. So, evolutionists are encouraged to defend this vision with active propaganda (Editor of Nature, [10] 2008). By contrast, electromagnetism (Rodriguez, [22] 2008) needs neither propaganda whatsoever nor lawsuits at the court. This contrast shows that an all encompassing theory of evolution is still in the making but we must recognize that as a project it is sustained by the confidence, tenacity and endurance of very brilliant minds.

We have formulated the main traits of the evolutionary theory that the EvolJava Community receives.

What is now the expected role of the EvolJava Community?
It is very important to clearly understand that:

1. Our fundamental aim is to enjoy the study of evolution using Java as the dominant tool. So, we have an existentialist objective in which there is place for

teaching and learning, for research, for exposition of results, for applications of results, for propaganda, for criticisms, for a very rich life.

2. We consider that convictions are fundamental to human identity and more dominant than logic. This means that everyone is allowed to succinctly express his or her convictions. But our distinctive characteristic is that we cultivate training in canalizing personal convictions through Java or mathematical models that could be logically judged by everyone either in or out of our community, in our time or far in the future. The force to resist failures with honor and dignity is the force of your conviction. The conviction of the Author is that the Evolutionary Theory is obviously false, that we have been created and that we will be judged.

3. *To program evolution correctly and to grasp the important points to be discussed* are two items that together are more valuable than Java itself, because one can program evolution as bad as desired and one can read facts in many irrelevant or false ways. So, Java is no more than a tool. And tools are nothing without skilled and wise artisans and architects. So, everyone get prepared for a very long and hard run, where courage could be as important as wisdom and skills.

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