

INTRODUCTION

A. The Acid that Eats Anything

Imagine an acid so corrosive that it could attack and destroy anything. Even containers could not keep it. The acid would destroy all of them. Nothing, if this substance is present, would be safe from it.

This is the central idea of Daniel C Dennett's book *Darwin's Dangerous Idea. Evolution and the Meanings of Life*. The dangerous idea is the concept of natural evolution. Once you see and start understanding its basic concepts, nothing is the same any more. From war, peace, the love of Romeo for Juliet, hamburgers and fries, random killers, antibiotics and all the other things and facts, minor or major ones, which are the million bits that make life, they are all seen in a different light. There is a different meaning for each. Everything goes according to evolutionary rules.

As Dennett writes:

"Bearing the unmistakable likeness to universal acid, Darwin's idea eats through just about every traditional concept and leaves in its wake a revolutionised world view, with most of the old landmarks still recognisable but transformed in fundamental ways".

Darwin's idea destroys completely the biblical story of creation and other biblical views, relegating to fascinating mythical stories the idea of a personal God, and attacks even the concept of human mind and consciousness.

*Was this the face that launched a thousand ships and burnt the
topless towers of Ilium?
Sweet Helen make me immortal with a kiss!*

Seen in the light of evolution it is not just the survival of the fittest or supremacy of the most beautiful, it is the attempt to transfer to the next generation genes producing beauty.

Sweet Helen make my genes less mortal with sex.

I do not think that Darwin had, at the time he wrote most of his books, the idea of creating a new philosophy. He stated some facts, elaborated from observations deduced from his contacts and experience with nature. These facts and observations had been there, available to other scientists before him. But he sees all of them in a different light. He manages to link all of them in a single common network and chain of events. The results of selection, the survival of only the most adaptable or the fittest constitute a deep and transversal concept which covers any field of human knowledge from philosophy to biology, from basic empirical science to the most abstract speculation. From age to age, deers run more swiftly, cats stalk their prey more silently and giraffes' necks become longer and longer to get the better leaves. Given enough time, this mechanism could account for the whole long development from protozoa to homo sapiens. However, in this framework, man is now the only being which has outrun evolution. This has happened only in recent times and, during the time of Darwin, the role of humans as a factor which modifies the environment was not yet perceivable.

When planes fly faster than sound, we do not hear the sound they make. As, at one stage, black holes, after increasing and increasing their gravity, produce so much gravity that not even light can go away from them. At one stage, humans became the protagonists of their evolution and started to modify the environment. The modifications are so many and so large that now the most important evolutionary force on the planet is homo. The modification of the environment has been so fast, large, massive and diffuse that humans, over a short period of time, having evolved for millions of years on a planet and under defined life conditions, find themselves in a different planet and in totally different life conditions.

B. De-Evolution

This evolutionary one-animal, selfish process, which may be defined as de-evolution, now affects our planet so much that many species, even those marginally competitive with humans, either adapt themselves to live in a homanised (I prefer this word to humanised) world or disappear and perish. They particularly suffer and disappear if they are specialised to live (after million of years of evolution) in an environment which is even marginally inconvenient to us or to our life conditions. So, foxes and wolves now survive not because they are aggressive but because they are adaptable and learn to eat rubbish. Other animals are killed and became extinct just because the environment has been modified forever by agriculture or by other activities of humans.

C. Baby, We Were Born to Run

After walking and running on a planet for millions of years, 12 hours a day all year round, just to get a little bit of food to survive, we now live in a sedentary environment with a lot of food around us. We were born and evolved in a world with very limited quantities of sugar, fats and proteins and salt. We acquired such a great desire for them because in those pristine conditions, the possibility of recognising and getting them could be the difference between life and death.

Seeing the world with medical glasses, after reading Dennett's book and an article about it in the Independent (*Ray Monk: Acid from the Tree of Life*), I become more and more interested in answering a few questions regarding some of the most common diseases in our post-industrial, de-evolutionised society. If cardiovascular disease is so widespread, is this because there is a discrepancy between our evolutionary design and present life conditions? Can we see diseases in a different light if we consider some of them in the light of evolution? My trips to Africa, some areas of which are possibly still very similar to the environment which was the stage of our pristine life and the evolutionary ground for 99% of all the evolutionary life of humans, had already produced a series of concepts and

ideas. We were designed and built to walk 12 hours a day, leading a nomadic life, gathering and hunting, running away from other predators, always on the edge of starvation. In these conditions, the capability of accumulating fats and proteins in a very effective way could have been an important advantage in situations of starvation.

The discrepancy between evolutionary design and present life conditions could be the basis for the most frequent disease of our age, atherosclerosis.

However, other diseases and conditions, such as cancers of the female reproductive system, manic depressive illness and unipolar depression, may have derived their increased frequency in our society as a consequence of the discrepancy between design and the present conditions.

In the post-industrial world, women experience earlier menarche, later first birth (the time between menarche and first pregnancy is increased 4–5 times), less nursing, lower parity and later menopause. The net effect is a more prolonged exposure to oestrogenic hormones which in turn increases cell reproduction. And cells that are dividing frequently are more likely to develop malignancy.

Manic depressive illness (MDI) affects some 1% of all adults substantially lowering fitness (suicide rates are high, some 20%) and causing premature deaths. This frequency suggests that there must be some evolutionary advantage in preserving such a high percentage of individuals with MDI to counterbalance the powerful disadvantages. It is possible that people with high creativity have a high frequency of MDI.

Unipolar depression (UP) has a lifetime rate greater than 10% in post-industrial societies. It is difficult to see which favourable character may be associated with UP. To oversimplify, chronic sadness associated with UP may be seen as a stimulus leading to long-term changes in behaviour as much as pain is associated with short-term changes. It is possible that the adaptive response in a changed environment can overshoot, resulting in a non-adaptive behaviour.

Atherosclerosis is an *accumulation disorder* consisting of a complex set of metabolic alterations often associated with similar accumulation disorders (diabetes, hypertension, obesity). The body, built in and for a situation of *low-calorie-low-sugar-low-salt-low-fat/protein intake* and *not-too-many-contacts*

is now in a world of plenty. The positive, adaptive mechanism of accumulating *as-much-as-you-can* is clearly a disadvantage leading to arterial changes. Also, too many contacts will add too much negative stress which may constitute by itself an important factor in promoting cardiovascular disease.

Atherosclerosis is also possibly associated to events in foetal life. The foetus makes responses to poor nutrition which, although adaptive in preserving brain growth, can lead to coronary disease in adult life.

D. Once We Were Hunters

So, here we are. No sophisticated experimental design, just speculations. The evidence is not what you would consider and accept in scientific circles as documented evidence.

Still, it may save your life to consider some points. We were born to run, once we were hunters, we still are and to be healthy, to feel *in the right place*, we should think in a different way.

We have to stop changing our environment, our planet, so quickly, so dramatically and in such a meaningless way. Without our evolutionary playground, we would be lost either physically or mentally.

Our evolutionary mates need to have their place around us and we need to understand that we are the combined results of the millions of years of interaction with them; sometimes eating some of them, and sometimes being eaten by some of them.

If you spend some of your time with a mountain gorilla, that is, if you can find one, you may look at him with human superiority for a while before understanding, maybe from his eyes, that he has the same right to have a chance to survive in his place. We need so many things to live and they need so little. We spoil so much of the environment around us in order to have so many useless things. Are they on the top of the evolutionary ladder, so perfect, so good and powerful, so experienced to live with almost nothing?

We need so much to survive and we suppose that we are at the top!

E. Save Your Life

Understanding the meaning of our deep hunting nature may give us a different view of our most common disease, atherosclerosis, and its dis-evolutionary meaning. It could be a great help to fight a clinical problem which affects so many at such a large cost.

The immensity of the problem of preventing and treating an advanced disease could be counterbalanced by the understanding of our deep, real nature and may indicate to us a way of life more compatible with our evolutionary needs and meanings.

Hermia: Be it so, Lysander: find you out a bed: for I upon this bank will rest my head.



Fig. 1 The Lwanga river in Zambia. This place still retains the original characters of our evolutionary playground.

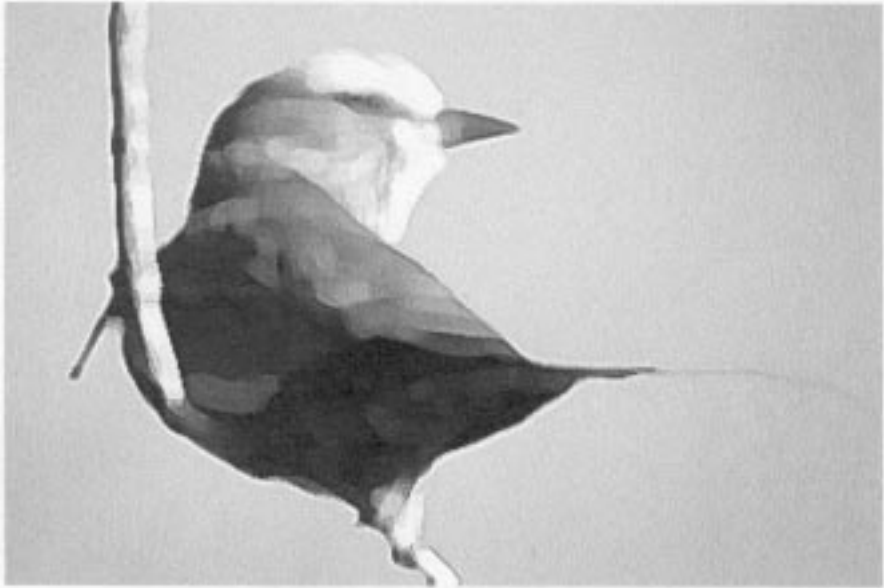


Fig. 2 The lilac breasted roller, one of the most typical birds found in Africa in the remaining edens which were once our evolutionary grounds.