



***The upright thinkers* · Leonard Mlodinow**

This is a book of provocative title and compelling reading: it is hard to put down. It states that one of the great tools of the human being is the question, a tool available to all, but much less used than we would expect.

It is said that the world evolves because there is always someone willing to ask the most obvious questions. Well, in this book, the author documents and describes situations in which the human being has achieved great milestones in many aspects that affect wealth, health, well-being, among others, all based on obvious questions.

A provocative question, on the edge of ingenuity, and launched in an appropriate environment, can change many things and cause unexpected innovation in any of the fields of daily life, scientific or business. Therefore, the evolutionary geneticist Mark Thomas says that, when generating new ideas, "it is not about how smart you are, but how well connected you are". The interconnection, and the mutual questioning that it involves, is a key mechanism and one of the great gifts of the Neolithic revolution.

We must be aware, though, that innovative responses often arrive in several strides, we cannot despair because we do not have an immediate response. The path of human evolution is based on what others previously discovered and/or created. Isaac Newton said at the time: "If I have seen further it is only by standing on the shoulders of giants". For this reason, we must think about the development of any science as in a series of discoveries, of attempts at advances, where "each innovative pioneer ends up in more dead ends than in glorious boulevards". Hence, to advance and generate innovation, a good question is always better than a hundred affirmations.

Finally, he adds that the questions make us reassess beliefs and we must be prepared to unlearn what we know and incorporate new paradigms. As sure as we are that what we know today is true, everything indicates that at some point this paradigm will be replaced by another one. Take as an example the different beliefs that over time have had various civilizations about the creation of the Earth.

Can you imagine a Babylonian, who believed that the Earth had been created from the corpse of the sea goddess, listening to Stephen Hawking's version? What a conversation! How many questions would have to be answered!

This is how it begins...

My father once told me about an emaciated fellow inmate in the Buchenwald concentration camp who had been educated in mathematics. You can tell something about people from what comes to mind when they hear the term 'pi'. To the 'mathematician' it was the ratio of the circumference of a circle to its diameter. Had I asked my father, who had but a seventh-grade education, he would have said it was a circle of crust filled with apples. One day, despite that gulf between them, the mathematician inmate gave my father a math puzzle to solve. My father thought about it for a few days but could not master it. When he saw the inmate again, he asked him for the solution. The man wouldn't say, telling my father he must discover it by himself. Sometime later, my father again spoke to the man, but the man held on to his secret as if it were a hunk of gold.