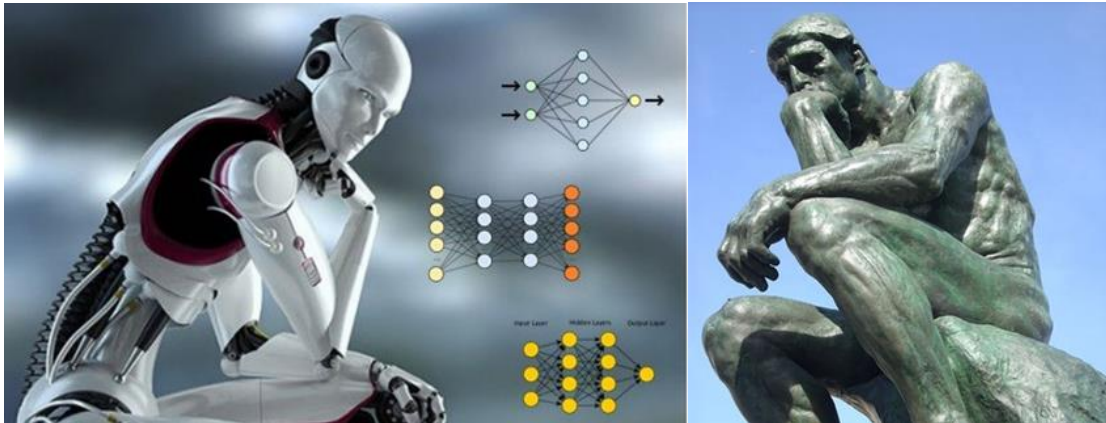


HUMAN VERSUS ARTIFICIAL INTELLIGENCE

John B. Kioustelidis



What distinguishes the human mind from artificial systems of information processing? It is not logic, because it exists already in all electronic computers. What distinguishes us is rather our ability to improvise, to reinterpret things in order to achieve some goal. Indeed, it is what already very young children often do; they interpret things in unusual and unexpected ways. A stick can become eventually a provisional horse, sword, or rifle. But where does this ability come from?

The main factor which gives rise to this ability seems to be merely growth; the gradual formation of the body and the mind.

When we are born, we do not only continue to learn gradually how to use our body, but at the same time we learn also gradually how to use the things around us as we each time can and as it suits us, regardless of their established use. So, we learn countless imperceptible, implicit uses of things without being told about them and no matter what the grownups show us to do with them. Later, we learn together with the language also the official, established, uses and names of things. However, what we learned pre-lingually is not erased from the mind but remains anonymous and usually unconscious until we find ourselves in need of its use. The same is true for the skills we acquire later non-verbally.

These constitute the unconscious knowledge which is commonly called "intuition" or "intuitive knowledge". E.g., if necessary, we use without much thought any heavy compact object instead of a hammer or we use a newspaper as a sweeper for crumbs. Daily, we make countless such uses automatically, without thinking about it or realizing it and that's what makes our thinking creative.

On the other hand, the artificial intelligence initially attempted to find rules that mimic intelligent behavior. In recent decades, however, it has limited the reduction to rules and started building neural networks mimicking the animal visual system. It has built so "taught" devices that learn to recognize objects within images. Yet, those things they can "see" are limited to a selected and prepared by US repertoire.

However, while the artificial intelligence is finding ever new applications of somehow imitating human beings, it will need huge efforts until it learns to incorporate the intangible properties of the objects into its perception, because it lacks the direct experience gained with the continuous multifaceted use of our body. The future "intelligent systems" will be rather robotic, with artificial limbs and will learn the possibilities of things gradually, playing, like a small child. Only in this way will they think, somewhat, like us, and partially "see" the world like us.