4/15/5

Umberto Maggiora Phi 246 Unit 3

Throughout unit 3 we talked about A.I particularly during the first session we went through an introduction to the topic. We have to start with the definition of A.I. In its purely informatic sense, Artificial Intelligence could be classified as the discipline that encompasses the theories and techniques for the development of algorithms that allow machines (in particular 'computers') to show intelligent activity, at least in specific domains and application areas.

Already from this first attempt at definition it is evident that it would be necessary to draw on a formal classification of the functions of human reasoning, meta-reasoning and learning, in order to be able to build on them computational models capable of concretizing these forms of reasoning and learning (a difficult task since the real functioning of the human brain is still not fully known). Already from this very quick extract it is clear that giving an exact definition of Artificial Intelligence is a difficult task but, by analyzing its evolution, we are able to trace its boundaries and make some important classifications.

Taking as a starting point the functioning of the human brain (even knowing that the exact mechanism is still not fully understood today), an Artificial Intelligence should be able to perform some typical human actions / functions:

- act like a human (indistinctly with respect to a human being);

- think like a human (solving a problem with cognitive functions);

- think rationally (that is, using logic as a human being would do);

- act rationally (starting a process to obtain the best expected result based on the information available, which is what a human being, often unconsciously, does).

These considerations are of absolute importance in order to categorize and divide into processes what an A.I does when responding to external stimuli. All of this could be divided int four steps: comprehension, reason, learning and interaction.

Understanding: through the simulation of cognitive skills of correlating data and events, AI is able to recognize texts, images, tables, videos, voice and extract information from them. - reasoning: by means of logic, the systems are able to connect the multiple information collected (through precise mathematical algorithms and in an automated way);

- learning: in this case we are talking about systems with specific functions for the analysis of data inputs and for their "correct" output return.

- interaction (Human Machine Interaction): in this case we refer to the AI operating modes in relation to its interaction with humans. This is where Mp - Natural Language Processing systems are strongly advancing; these are technologies that allow humans to interact with machines (and vice versa) by using natural language.

In conclusion, we look at the study and the continuous evolution of AI, for a definition of intelligence and as the latter differences a human being from a computer capable of carrying out certain reasonings and performing actions that derive from these reasonings. This is very important in the search for a definition of consciousness and what differentiates the way of thinking of a human brain from that of a computer.