NOAM CHOMSKY VS ARTIFICIAL INTELLIGENCE

Noam CHOMSKY Vs Artificial Intelligence a present future that becomes even more constant in our lives every day

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Now projecting ourselves into the future we observe a present that is increasingly capable of guiding our lives every day. In this regard, Noam CHOMSKY Vs Artificial Intelligence explained his thoughts.

Noam CHOMSKY and Marvin MINSKY's protests

Because Noam CHOMSKY's theories were contested by Marvin MINSKY albeit not totally but in part. Noam CHOMSKY's theories as in spoken language, meaning of language etc. they abstract from the data by considering them almost as "irrelevant". As a result, some important aspects of human language, such as semantics, have been put on the back burner. So the attention has shifted to the underlying syntax considering it as "language", the "faculty of languages" or "linguistic competence" things that according to Marvin MINSKY make people think are not even important. Marvin MINSKY instead pays attention and thinks that we should study "language" as in language that is observable on the surface. Language as in the way it is used by people to express a construct or meaning. So not the "language" but the underlying universal, the underlying and internal language. Noam CHOMSKY's theories appear to abstract data into language.

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The comparison with the theories of Noam CHOMSKY

Considering the theories of Noam CHOMSKY they abstract the data in the spoken language, examining them in the meaning of the same, placing these and other things in such a way that they appear almost "irrelevant". There is therefore the sensation, the result, that important aspects of the cornerstones of human language, such as semantics, are put on the back burner. Attention then shifts to the syntax underlying things that Marvin MINSKY reflects on. In his elaboration he shifts the entire axis towards what he believes should or should be studied, i.e. "language". Not just "language", in the underlying sense, but as in surface observable language, language as it is used to express the meaning of things and realities. According to MINSKY, notions on Noam CHOMSKY's formal theory of syntax were very useful for clarifying various technical questions on the structure of propositions, the valence of the sentences themselves. However, other authors have also followed this path.

Fundamental problems of meaning and reference

Marvin MINSKY said, "But I felt that they actually distracted linguists from other fundamental problems of meaning and reference." "I saw little hope for machines to realistically handle the language until we could create simplified versions of programs that actually understood simple sending of content." "In his opinion, the notions of Noam CHOMSKY and others regarding the formal theory of syntax have helped to clarify many of the technical questions on the structure of propositions and sentences. "But I felt that they actually distracted linguists from other fundamental problems of meaning and reference," he continued. Scenario that shows that it is difficult for machines to correctly and realistically consider the language itself until the creation of simple programs capable of correctly interpreting the thoughts expressed by the language. At this given moment it is now mandatory to also talk about the vision of Frame or AI and the comparison.

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Artificial Intelligence

It was born in the previous century/millennium and now nowadays we mainly talk about A.I., the English terminology that indicates Artificial Intelligence. Theories already created, now available as both a worry and a delight for future projects, which we generically define with the term "Artificial Intelligence" indicating applications that execute systems of complex activities. These terms are often not always correctly used interchangeably with Machine Learning (ML) and Deep Learning (DL). In the past operations required human intervention which can now be bypassed.

How artificial intelligence was born: to be able to understand what happened in the second half of the last century, it is necessary to put into context what began in a small town in the American province. A hot summer almost seventy years ago, the Rockefeller family, Snow White, a poisoned apple, the witch. If we combine other fundamental news it no longer becomes so difficult and arduous to understand everything.
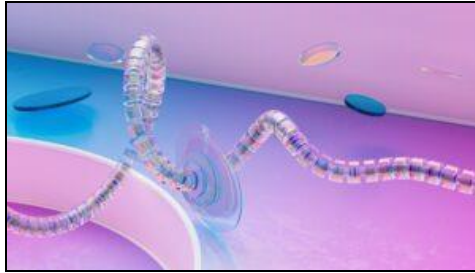

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The Dartmouth meeting

Not difficult, even if it doesn't seem so, if we also add the names of the most important people, research centers and companies in computer science. In the summer of 1956 in Dartmouth, United States, the brains of a new discipline met where contributions from mathematicians, strategy experts, electronics experts, computer scientists, cognitive science scholars and philosophers converged. Dartmouth College (also known as Dartmouth) is an American university, located in Hanover, a municipality in the United States of America, part of Grafton County in the state of New Hampshire. The main experts of this future new discipline which required the contribution of various sciences in this pharaonic effort, including

electronics and computer science, gathered in this college. These last two subjects were in the first decades of their birth. The Dartmouth meeting was promoted and strongly supported by the computer scientist John McCARTHY, already present at Dartmouth College and a precursor of Artificial Intelligence.

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The science and engineering to create intelligent machines

John McCARTHY, professor emeritus at Stanford University (1955) also employed at Dartmouth College, defines this new intelligible universe as "the science engineering and the construction of intelligent machines". Present were Marvin LEE MINSKY, American mathematician, computer scientist, researcher specialized in the field of artificial intelligence at MIT and Harvard University, Nathaniel ROCHESTER I.B.M. Corporation and Claude ELWOOD SHANNON Bell Telephone Laboratories. Four characters who in the following decades will constitute the center of scientific research on the many fronts of information technology and Artificial Intelligence. John McCARTHY argues that "any aspect of learning or any other feature of intelligence can, in principle, be described so precisely that it can be simulated by a machine." In the document released on 31 August 1955 he officially announced the seminar for the summer of the following year entitled: "Summer research project on artificial intelligence". In this way simultaneously baptizing the new discipline.

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Rockefeller Foundation

The courage to invest in what seems like the meeting of a group of eccentric and somewhat eclectic intelligentsia, this purpose involves the Rockefeller Foundation which accepts this challenge.
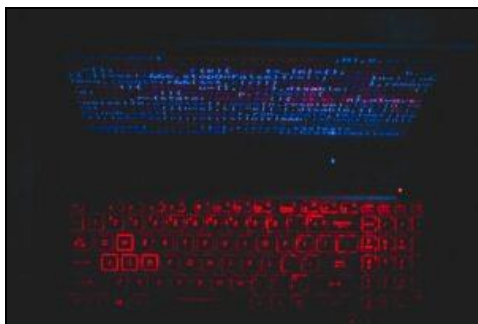
An extremely ambitious, non-utopian project is described in the manifesto in which McCARTHY, SHANNON, MINSKY work. A purpose that materializes in the intention of studying how to build "machines that use language, form abstractions and concepts, solve classes of problems now reserved for humans, and improve themselves". Concretely, everyone is convinced that "machines will one day be able to perform human functions traditionally considered intelligent". The theoretical assumption is that "every aspect of learning or every other characteristic of intelligence can, in principle, be described so precisely that it can be simulated by a machine". This is the hypothesis that inspires and guides John McCARTHY in the organization of the seminar; history now proves them right over the course of almost seventy years of studies and research to date.

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"The human mind does not gorge itself on terabytes" these are the words of the American communication philosopher in the New York Times in March of this year 2023. He launches a cry of alarm, which still resonates in all consciences and warns: «We risk debasing ethics by incorporating a fundamentally incorrect conception of language and knowledge into technology». "The human mind is not, like ChatGPT and its ilk, a cumbersome statistical pattern-matching engine, gorging itself on hundreds of terabytes of data." He adds by giving shape and depth to his hypotheses: "extrapolating the most probable answer to a conversation or the most probable answer to a scientific question" states Noam CHOMSKY in his statements. "In contrast, the human mind is a surprisingly efficient and even elegant system that operates with small amounts of information." Currently, our supposedly revolutionary advances in artificial intelligence are a real cause for concern and optimism.

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The nightmare of AI danger for CHOMSKY

He continues by remembering Jorge Luis BORGES. "To live in an age of great danger and promise is to experience both tragedy and comedy, with 'the imminence of a revelation' in our understanding of ourselves and the world." «Optimism because intelligence is the means by which we solve problems. Concern because we fear that the most popular and fashionable branch of Artificial Intelligence, machine learning, will degrade our science. It debases our ethics by embedding a fundamentally flawed conception of language and knowledge into our technology." Statements that bring awareness of objective realities. «OpenAI's ChatGPT, Google's Bard and Microsoft's Sydney are marvels of machine learning. Simply put, they take huge amounts of data, look for patterns, and become increasingly adept at generating statistically probable outcomes.

Like a language and thought apparently similar to human ones. These programs have been hailed as the first glimmers on the horizon of artificial general intelligence".

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The overcoming of Artificial Intelligence compared to Human Intelligence

"That long-prophesied moment when mechanical minds will surpass human brains. Not only quantitatively in terms of processing speed and size of memory, but also qualitatively in terms of intellectual intuition, artistic creativity and every other distinctively human faculty." The philosopher of language emphasizes some important aspects. «That day may come, but his dawn has not yet broken, contrary to what we read in the hyperbolic headlines and the calculations of reckless investments. The Borgesian revelation of understanding has not occurred and will not occur, in our opinion, cannot occur, if machine learning programs such as ChatGPT dominate the field of AI. Although these programs can be useful in some narrow areas (they can be useful in computer programming, for example, or in suggesting rhymes for light verse). We know from the science of linguistics and the philosophy of knowledge that they differ profoundly.
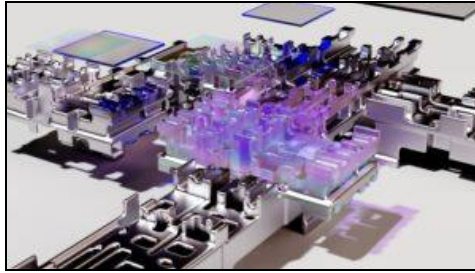
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The difference between A.I. (Artificial Intelligence) and HUMINT (acronym for HUMan INTelligence)

Observes CHOMSKY: «It consists of the way human beings reason and use language. These differences place significant limitations on what these programs can do, coding them with unavoidable flaws." «It is comical and tragic at the same time, as BORGES might have noted, that so much money and attention are concentrated on such a small thing. Such a trivial thing when compared to the human mind in the words of Wilhelm Von HUMBOLDT. This, by dint of using language, can make "an infinite use of finite means", creating ideas and theories of universal scope." He also poses a metaphorical example. «Suppose we have an apple in our hand. Now let go of the apple. Observe the result and say: "The apple falls". This is a description. A prediction could be the statement "The apple will fall if I open my hand". Both have value and can be corrected. But an explanation is something more".
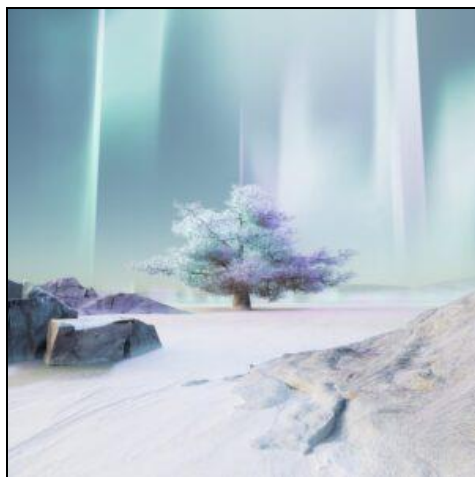
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Explanation

«Explanation includes not only descriptions and predictions, but also counterfactual conjectures. Like "Any such object would fall," plus the additional clause due to "the force of gravity," "the curvature of space-time," or whatever. "The apple would not have fallen if it had not been for the force of gravity." This is thinking. The crux of machine learning is description and prediction; it does not involve causal mechanisms or physical laws. Of course, any human-like explanation is not necessarily correct; we are fallible. But this is part of what it means to think: to be right, it must be possible to be wrong. Intelligence consists not only of creative conjectures, but also of creative criticism. Human-like thinking is based on possible explanations and error correction, a process that gradually limits the possibilities that can be rationally considered. Quoting Sherlock HOLMES "Once the impossible has been eliminated, what remains, however improbable, is true"».

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Final thoughts

Indeed, considering the poisoned apple approach of Snow White and the Witch between human and artificial intelligence leads to completely opposite outcomes. However, it also opens up to other considerations. Would the witch have stopped, would she have continued, would Snow White have been dead or would the witch herself have no chance of returning in a duel to the death? These are the countless possible scenarios that the comparison between the two intelligences proposes. This ethical theme of the future was treated in the recent beautiful film "The Creator" which unfortunately did not have great success. The deepening of the principles of ethos have never been perceived favorably by the masses, nor the welcoming of the "different" be it disabled, different, dissimilar. Regarding Noam CHOMSKY and Marvin MINSKY's objections, I believe that both have points in favor and against. It will only be the future that, perhaps in a not so distant tomorrow, will give an answer. Certainly not now.

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Through the film The Creator we discuss a difficult relationship between AI (Artificial Intelligence) and HUMINT (acronym for HUMan INTelligence). As often happens, we emerge from it looking miserably defeated both from an ideological and ethical point of view.
Let's think about it.

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Permitted and repertoire images, Noam CHOMSKY Vs Artificial Intelligence

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Così è (se vi pare) O. T. di L. P.