

APPROACHING OF TECHNOLOGICAL SINGULARITY AND THE PERSPECTIVES OF THE CONSTRUCTED LANGUAGES

The article outlines the perspectives of the computers and artificial intelligence technologies, which aspire towards the level of a computing capacity of a human brain. The abovementioned state, so-called Technological singularity is going to create a breakthrough in the majority of the human activity spheres, including the linguistic studies. The process of creation and functioning of artificial languages is going to be shaped most significantly. The article outlines the classification of the constructed languages and the perspectives of their development in the epoch of technological singularity.

The artificial intelligence technologies aspire towards the level of a human brain. The state of their equilibrium will become the beginning of the phenomenon, called Technological Singularity, whereby a pace of the progress will be so fast and far reaching that a human existence will be irreversibly altered (Passig, 10). This irrevocable result of the humanity development will have positive consequences within all the spheres of life, constituting another step in the evolution of a humankind.

Albeit some researchers doubt on the question whether the Singularity is possible, it is approaching day by day. The prominent futurologist Ray Kurtzweil confirms this statement by a theory of exponential growth, according to which the evolutionary processes, especially within the sphere of technology, are described by exponential curves, not linear relations (“Technological Singularity”). As a computing capacity of a brain needs thousands of years of biological evolution to be enhanced, the productivity of computers grows nearly two times annually. Therefore, the differences in the level of development will be compensated by its speed, and the computing potential of artificial intelligence will eventually exceed the one of human brain.

We cannot in any way assess or predict how deep these changes will be. David Simpson explains this uncertainty using the example of Albert Einstein. The intelligence of a one person undid two hundred years of Newtonian physics, proved the existence of the Black Holes and time’s relativity, changing all the beliefs about the physics of the Universe (Simpson). The rhetorical question what impact a two times more powerful artificial intelligence could have, proves our incapability to make such predictions.

The confluence of human beings and machines will constitute the final step in the evolution. A possibility to “upgrade” own body using the methods of cybernetics will constitute a successful attempt of the natural selection law

adjustment. The nature will be removed from a prominent place in the formation of evolutionary changes. Consequently, we will be able to shape our future as a biological species by ourselves.

To conclude, the inevitable consequence of the computers and AI technology development is approaching of a moment of their preference over the human brain potential. According to the law of exponential growth, this moment will bring an outstanding technological breakthrough, so-called Singularity. It definitely will have a positive impact on the development of every single human being and the world community as a whole, constituting another step in the human evolution.

The inevitable technologic breakthrough is going to become a source for the substantial changes within the linguistic studies. Firstly, the boundaries between the natural languages dull due to the development of the computers' efficiency. The devices, aimed at the real-time translation of the voice and written texts, nowadays move from the pages of science fiction to the research departments of IT companies. These considerable changes will eventually influence the studies of the artificial and constructed languages.

The subject of study is very complex, therefore it is scarcely possible to outline a singular tendency of their development. To clarify the issue and further research it is necessary to classify the artificial languages. Artificial (also called constructed) language is a language whose phonology, grammar, and vocabulary have been consciously devised for human or human-like communication, instead of having developed naturally. The bases for the classification are a mechanism of their creation and a purpose of their existence.

An a posteriori language (from Latin *a posteriori* 'from the later'), according to Louis Couturat, is any constructed language whose elements are borrowed from or based on existing languages. The term can also be extended to controlled versions of existing languages, and is most commonly used to refer to vocabulary despite other features. In distinguishing whether the language is a priori or a posteriori, the prevalence and distribution of respectable traits is often the key.

An a priori language (from Latin *a priori*, 'from the former') is any constructed language of which all or a number of features are not based on existing languages, but rather invented or elaborated as to work in a different way or to allude different purposes. Some a priori languages are designed to be international auxiliary languages that remove what could be considered an unfair learning advantage for native speakers of a source language that would otherwise exist for a posteriori languages. Other, known as philosophical or taxonomic languages, try to categorize their vocabulary, either to express an underlying philosophy or to make it easier to recognize new vocabulary.

On the basis of purpose, the following groups could be outlined: engineered languages, further subdivided into logical languages, philosophical languages and experimental languages. These devised for the purpose of experimentation in logic, philosophy, or linguistics; Auxiliary languages (auxlangs) devised for international communication (also IALs, for International Auxiliary Language); Artistic languages (artlangs) devised to create aesthetic pleasure or deepen the

impression of a literature or cinema (like the language of Elves from the Lord of the Rings).

The diversity of constructed languages presupposes the differences in their development. The advancement of translational technologies will eventually nullify the necessity of creation of languages, aimed at simplification of the cross-cultural communication. Therefore, the languages like Esperanto or Interlingua will cease to exist or at least to be used.

The development of artistic languages lies outside the sphere of technological progress, so it will continue to exist on an independent basis. The artificial programming languages, which constitute a main source of interaction between human and machines, will further develop. However, alongside with the development of computers, the sphere of their users is going to narrow. These situation will occur when profound computers achieve a possibility to be programmed via the commands, pronounced in the natural human languages.

To conclude, alongside with the exponential growth of the computing capacity of artificial intelligence technologies, which eventually will lead to a point of technological singularity, the system of constructed languages will become subject to drastic changes.

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