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LANGUAGE, TRANSLATION AND NEURAL NETWORKS: OBSTACLES AND LIMITATIONS

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ABSTRACT

The neurons are regarded as the simple units of processing in the brain which help it order information in an spontaneous manner. In the late 1940s Donald Hebb made one of the first hypotheses of learning with a mechanism of cortical remapping also known as neural plasticity, according to which brain is regarded as a structure with the ability to change when affected by experience (Begley, 2007). Since then many interdisciplinary attempts have been made to develop more capable units of artificial language processing. In this article attempts has been made to provide the readers with a summary of the application areas of artificial neural networks as well as the problems researchers face in dealing with designing artificial neural networks for language processing. First a short introduction to the artificial intelligence and neural networks and differences among them is presented, then attention has been paid to the limitations related to simulation of levels of processing in natural language focusing on listening and reading (the linearity issue, the non-invariance issue, the normalization issue, the accommodation issue, etc (Field, 2003). A number of the related theories and their loopholes will also be discussed and elaborated.

Key words: Neural network, Translation, Language, Obstacles, Limitations