

Review of: "Semblions of Words — The Language of Natural and Artificial Neural Networks"

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Potential competing interests: No potential competing interests to declare.

Galus 2023, Semblions of Words — The Language of Natural and Artificial Neural Networks

Summary of the paper

The goal of the paper is to describe the scope and relevance of a general model of cognitive brain functioning that was not available to large parts of the scientific community because of the language and the journal in which it was first published by the author.

In the current paper, he discusses how the model relates to many fundamental issues in present-day cognitive neuroscience:

- Metaphors as the basis of the embodiment of higher cognitive processes,
- Consciousness and symbol grounding,
- The origins of mathematical thought,
- The synergy of ontogeny and phylogeny in cultural and individual development,
- How learning is shaped by imitation and by emotion, motivation, and reward, extending to eudaimonia.

In addition, the model is shown to be of essential relevance to recent work by Lamme and Galus & Starzyk and can be used to build, or rather, create the conditions for the autonomous development of an intelligent system of artificial neurons.

Suggestions for improvement

The paper would become more readable if it would start to explain the current version of the model and its relationship with other recent work like the mentioned studies by Lamme. In the current version, this is at the end of the paper.

In the explanation, visualisation of the models and studies by means of diagrams and/or tables is useful to highlight their commonalities and differences.

On the basis of this explanation, the fundamental issues and system development mentioned above can then be

discussed, and it can be shown how the model provides answers for them. Accordingly, the paper can become much more straightforward, shorter, and more consistent. It then has more impact. The abstract would have to be adapted accordingly.