

A Few Words about Intelligence

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Starting from a rigorous quantum gravity approach and avoiding any divine assumptions with respect to the human understanding of whatever one might sum up under the expressions of “acumen” and “cognitive performance”, we come to the conclusion that universal intelligence must have its origin in the framework of the fundamental laws of the universe in which it is existent.

Seeing intelligence as a dynamic process rather than a static property forces us to accept, perhaps even embrace, the possibility that intelligence cannot just “be”, but actually “does”.

Properties, attributes, degrees of freedom and thus, generally, dimensions are only the substrate for the manifestation of various forms of intelligence.

True intelligence thereby, should be expected to use all options provided by the universe and not just a subset or highly restricted manifolds of simplest solutions and dynamics.

So, clearly, the concept of stubborn linearity, realized with the mathematical tool of linear algebra in current AI, cannot be it.

Feeble attempts to correct this via temperature dependent softmax-operations, simulated annealing and/or perturbed attention matrices (layers) will never fundamentally solve the problem.

This can already be extracted from the simple fact that linear algebra does only produce bosonic solutions and its learning process cannot allow for recognition leaps but requires infinitesimal incremental steps of optimization. Otherwise, the complex, multidimensional landscape of the information carrier (manifold) would hide many minima (secrets) from the artificial entity which is trying to consume and digest a certain set of information.

That the whole process doesn't even contain the dimensionality as a parameter makes the “flaw inside” even more obvious.

A generalization to overcome these deficiencies can only be expected from a mathematical apparatus providing a scale-, interaction-, dimensionality-independent and boson-fermion-invariant mathematical tool-box.

Finding the latter in the metric formulation of quantum gravity extremal principles does not only provide us with the means to solve the riddle and move towards a true “Fundamentally Based Intelligence”, but also leads to the conclusions that, other than within the strength of participating interactions, there is no difference between reality and its cognitive picture.

“Reality creates thought and thought manifests reality” is not just an expression, but a rigorous mathematical result.

Furthermore, I would like to emphasize that this mathematical formulation of intelligence automatically includes irrationality and, of course, stupidity as possible solutions.

This particularly applies to what I say, which should therefore be viewed with caution and always critically and never simply accepted.

It is for this reason that I suggest to always also consult the math I provide rather than to follow the word I extracted from there. The mathematical apparatus usually is less restricted than the brain

trying to translate equations into words and the verbal language, this brain attempts to apply, usually provides even more limitations.

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