

# A Neuroscientific Barrier to Situated and Embodied Artificial Intelligence

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## **Abstract**

While classic AI systems still struggle to properly incorporate common-sense knowledge, Situated and Embodied Artificial Intelligence (SEAI) aims to build agents that acquire a common-sense understanding of the world via interactions between simulated brains, bodies and environments. Neuroscientists believe that much of this common sense involves predictive models for physical activities, but the transfer of sensorimotor skill knowledge to cognition is non-trivial, indicating that SEAI may meet a daunting challenge of its own. This paper considers the neurological basis for procedural common sense and the possibilities for its transfer to conscious reasoning. This helps assess the prospects for SEAI to eventually surpass GOFAI in the quest for generally intelligence systems.