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Expertise Without Experience: Can Computers Be Artists?
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As advances are made in artificial intelligence technology, the definition of 'artist' demands reevaluation. At first glance, artistic creativity would seem to be impossible to endow in a computer, given artistry's apparent reliance on the use of metaphor, analogy, and composition—abilities that today's computers do not have. While computers have previously been used as tools for creative artists, what sort of capability would a machine have to demonstrate to be considered an artist in its own right? To address this question, I consider the Ability Hypothesis from Lewis and Nemirow, which postulates a difference between knowledge that is propositional (knowledge-that) and experiential (knowledge-how). I show that the distinction between propositional and experiential types of knowledge finds a physical foothold in the evolved architecture of the human nervous system, but is not similarly enforced in the designed architecture of today's computers. Human art-makers must hone their artistic knowledge through experience to become expert artists, because the nervous system cannot be directly programmed. Computers, on the other hand, may exhibit instant expertise and ability through access to new propositional knowledge alone. Therefore, the requirement of vast experiential knowledge that we hold for human artists should not apply to computers. I apply this analysis to the key case study of Harold Cohen's AARON painting machine, arguing that AARON counts as an expert, artistic system. I conclude with a comparison to machine learning algorithms that emulate neural architecture. This research broaches new ground in the philosophies of artificial intelligence and neuroscience by synthesizing a new framework of learned vs. downloaded expert ability through which developments in AI may be critically examined.