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Note on the Relationship Between Artificial Intelligence and Human Intelligence

The concept of “intelligence” in AI has evolved over time, drawing on a range of ideas from various disciplines. While its origins extend back centuries, a significant milestone occurred in 1956 when the American computer scientist John McCarthy organized a summer workshop at Dartmouth University to explore the problem of “Artificial Intelligence,” which he defined as “that of making a machine behave in ways that would be called intelligent if a human were so behaving.” This workshop launched a research program focused on designing machines capable of performing tasks typically associated with the human intellect and intelligent behavior.

Since then, AI research has advanced rapidly, leading to the development of complex systems capable of performing highly sophisticated tasks. These so-called “narrow AI” systems are typically designed to handle specific and limited functions, such as translating languages, predicting the trajectory of a storm, classifying images, answering questions, or generating visual content at the user’s request. While the definition of “intelligence” in AI research varies, most contemporary AI systems—particularly those using machine learning—rely on statistical inference rather than logical deduction. By analyzing large datasets to identify patterns, AI can “predict” outcomes and propose new approaches, mimicking some cognitive processes typical of human problem-solving. Such achievements have been made possible through advances in computing technology (including neural networks, unsupervised machine learning, and evolutionary algorithms) as well as hardware innovations (such as specialized processors). Together, these technologies enable AI systems to respond to various forms of human input,

adapt to new situations, and even suggest novel solutions not anticipated by their original programmers.

Due to these rapid advancements, many tasks once managed exclusively by humans are now entrusted to AI. These systems can augment or even supersede what humans are able to do in many fields, particularly in specialized areas such as data analysis, image recognition, and medical diagnosis. While each “narrow AI” application is designed for a specific task, many researchers aspire to develop what is known as “Artificial General Intelligence” (AGI)—a single system capable of operating across all cognitive domains and performing any task within the scope of human intelligence. Some even argue that AGI could one day achieve the state of “superintelligence,” surpassing human intellectual capacities, or contribute to “super-longevity” through advances in biotechnology. Others, however, fear that these possibilities, even if hypothetical, could one day eclipse the human person, while still others welcome this potential transformation.

Underlying this and many other perspectives on the subject is the implicit assumption that the term “intelligence” can be used in the same way to refer to both human intelligence and AI. Yet, this does not capture the full scope of the concept. In the case of humans, intelligence is a faculty that pertains to the person in his or her entirety, whereas in the context of AI, “intelligence” is understood functionally, often with the presumption that the activities characteristic of the human mind can be broken down into digitized steps that machines can replicate.

This functional perspective is exemplified by the “Turing Test,” which considers a machine “intelligent” if a person cannot distinguish its behavior from that of a human. However, in this context, the term “behavior” refers only to the performance of specific intellectual tasks; it does not account for the full breadth of human experience, which includes abstraction, emotions, creativity, and the aesthetic, moral, and religious sensibilities.