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### 1970's Response to "Computing Machinery and Intelligence"

As Stephen J. Pride wrote about in his 2011 hit song "A Song for Alan Turing", "He turned the key that opened the door, to the world of computing that we still explore." Turing transformed abstract questions about logic, computing and numbers into ideas that would ultimately shape the digital age of today. His paper "*Computing Machinery and Intelligence*" in 1950, ignited one of the long-lasting debates of modern culture and philosophy, the question whether machines could think. For two decades, the Turing Test stood as the centerpiece of discussions about AI, critiqued as bold by some and dismissed by others for being too outlandish. With his concept of a universal machine, he laid the groundwork for modern day computers and conversation on artificial intelligence as we know it today.

Although Alan Turing's life was cut short in 1954, his ideas on computation, artificial intelligence, and "machine thinking" continued to resonate into the future through the 1970s, a decade marked by rapid technological advancement and heightened global tension. The Cold War (between the US and the Soviet Union) created an environment in which the development of machines was not only an academic goal, but was often closely linked to military and surveillance applications as well. Both the United States and the Soviet Union invested heavily in computing technologies, viewing them as strategic assets in intelligence, secrecy, and early surveillance systems. Turing's pioneering work in algorithms and computation directly laid the groundwork for the development and growth of these technologies.

In the 1970s, there was also a peaked interest in space exploration, marked by the space race and the numerous Apollo program missions which eventually lead to a moon landing. These efforts relied heavily on complex computing systems, systems that would not have existed if it was not for Turing's ideas surrounding computing that he conceptualized decades earlier. The 1970's technological innovations were not just seen in the government and military, but with personal use as well. Personal computing devices rapidly emerged and created a cultural transformation. The release of the Apple 1 (Apple's first personal computer) in 1976 showed this shift, allowing "everyday" people to use computing machines in their "everyday" lives.

These new technological advancements also began to creep there way into popular culture, mirroring and amplifying these scientific and technological discussions into a cultural setting. One example of this is the release of Star Wars: A New Hope in 1977, which introduced audiences to human-like robots and intelligent machines. Characters such as R2D2 and C3PO sparking curiosity and debate about the potential and limits of machine thinking and their similarities to human behavior. Turing's conceptual questions, highlighted in his 1950 paper "Computing Machinery and Intelligence", found a new life in both scientific discourse and the publics' fascination with robotics, AI, and the ethics of intelligent machines.

Richard Purtill was an American philosopher and writer whose academic work focused on logic, ethics, religion, and the philosophy of fantasy and science fiction. His 1971 paper "Beating the Imitation Game" is a direct philosophical critique of Alan Turing's 1950 article "Computing Machinery and Intelligence".

Purtill argues that Turing reduces intelligence to observable behavior, while genuine intelligence requires internal states, consciousness, understanding, and intentionality—features imitation alone cannot capture. For him, the Imitation Game shifts the real question "Can

machines think?” to the narrower “Can a digital machine play this game?” He also claims the test is fundamentally subjective, relying on judges whose evaluations may be biased, inexperienced, or inconsistent, making it unreliable as a scientific measure. Another major criticism is that the game reflects the programmer’s ingenuity rather than the machine’s own cognitive ability; a machine may “succeed” simply because its designer anticipated likely questions and crafted effective responses. On page 293, Purtill writes: “At any rate Turing’s prediction that a computer which could play the imitation game would be built within fifty years from the date of his paper was obviously a wild exaggeration.” He concludes that Turing’s vision of a machine convincingly passing the test belongs more to science fiction than to realistic expectations for artificial intelligence.

J. J. Clarke is a philosopher known for his work on the philosophy of mind, metaphysics, and theories of consciousness. His influence comes from his philosophical analysis of the human mind, mental states, and the relationship between mental processes and machine concepts. In his work, Clarke uses Turing machines as a conceptual tool to explore the mind–body problem, the nature of thought, and whether mechanical computation could ever model or explain human consciousness. His paper “Turing Machines and the Mind–Body Problem” (1972) applies the idea of a Turing machine to the classical question: Are the mind, consciousness, and thoughts nothing more than physical processes in the brain, or are mental experiences non-physical and separate from the body?

The core argument of the paper is that behavioral equivalence does not imply mental equivalence. Clarke argues that even if a computer’s outward behavior is indistinguishable from that of a human, this does not prove that the machine “thinks,” because the connection between a machine’s physical states and its logical program is not unique. A Turing machine is a powerful model of formal computation, but it lacks subjective features such as feeling, meaning,

understanding, and intentionality. Thus, equating a program with mind—an assumption underlying the Turing Test—is philosophically unjustified. A machine might perfectly imitate human conversation while possessing no mental processes, meaning that passing the Turing Test does not solve the mind–body problem nor demonstrate that mental states reduce to computation. Clarke ultimately pushes the debate beyond Turing’s focus on imitation and into deeper territory involving qualia, consciousness, and mental ontology, aspects of the mind that Turing’s model does not address, and that purely computational theories cannot fully explain.

P. H. Miller is a philosopher whose work focuses on the philosophy of mind, language, and computing, particularly on how concepts such as intelligence, communication, and meaning apply to artificial systems. His contribution lies in offering philosophical interpretations of Turing’s ideas. In his article “On the Point of the Imitation Game(1973)” Miller responds to widespread confusion surrounding the Turing Test, arguing that many critics fundamentally misread Turing’s purpose. His paper seeks to clarify what Turing was actually trying to accomplish by proposing the Imitation Game and to situate Turing’s work within a broader philosophical context.

Miller argues that the Imitation Game was never meant to define “thinking,” but to give a practical way to discuss intelligent behavior. In his reading, Turing shifts the question from a vague metaphysical issue to an operational one, focusing on what machines can do, not what they “are.” As Miller notes, “The Turing test is designed to test, not whether machines can have intelligence, but whether machines can imitate human intelligence” (p. 597). Critics who claim the test fails to measure “real thought,” he says, misunderstand Turing’s goal: Turing wanted to replace the unanswerable question “Can machines think?” with a clearer behavioral question. While Miller accepts the test as a useful benchmark, he also points out its limits—its binary structure oversimplifies intelligence, and it risks unfairly treating human traits as the only standard for evaluating machines. Overall, Miller interprets Turing as a pragmatic thinker

offering a workable method for talking about machine intelligence, rather than making claims about consciousness or the inner life of machines.

James H. Moor is an American ethicist and moral philosopher, and is especially known for his pioneering work in computer ethics. He spent most of his academic career at Dartmouth College, where he was the Daniel P. Stone Professor of Intellectual and Moral Philosophy. His work helped shape the intellectual conversation of AI ethics long before it became a common topic. Among his early contributions are two papers, "An Analysis of the Turing Test" (1976) and "Three Myths of Computer Science" (1978). In these Moor takes a critical look at Alan Turing's 1950 paper "Computing Machinery and Intelligence" and gives us an insight into how the 1970's culture shaped discussion around the advancement of technologies.

In his 1976 paper, Moor argues that the Turing Test, while is an insightful look into the capability of machines, it does not define any criteria for intelligence - claiming that the Turing test should not be used to define machine thinking, but it should be used to gather inductive evidence about it. Specifically, Moor breaks his argument down into two critiques: the behaviorist interpretation and mechanical assumption. He first claims that the Turing test is too reliable on the behavioral aspect of intelligence, highlighting the difference between true behavior and duplication (copying). Stating that a machine may simulate intelligence without having the proper mental process and cognition that a human (its comparable counterpart) has. Additionally, he claims that the idea that human intelligence can be reproduced by a machine following mechanical rules, essentially stating that a computing machine is no more intelligent than the code that the architect designed for it. For example, a machine could pass the test through information-based methods (data tables, and charts), which might be qualified as some as intelligent, without having that critical thinking and deductive reasoning that humans possess.

In his paper, Moor concludes that Turing's arguments from his 1950 paper are correct, but they are often misinterpreted as correlating to direct machine intelligence.

In response to Moor, Douglas F. Stalker wrote in his 1978 paper a contrasting opinion to Moor's interpretations of the Turing Test. Rather than accepting that a computer's success in the imitation game implies thinking, Stalker argued for a purely mechanistic explanation. He claimed that one can explain a machine's behavior strictly in terms of its physical structure, program, and environment, without reasoning behavior with mental concepts such as "thought" or "intentionality." For Stalker, he notes that machines are fundamentally different from humans and that while behavioristic theories might make sense when explaining human behavior, they are not the best way to explain how computers operate.

This critique pushed the philosophical debate away from assuming that passing the Turing Test is a sign of consciousness or true intelligence. Instead, Stalker cast the Test as an action explained at a more basic level, of computing processes, laying groundwork for later views that emphasize more nuanced, multi-layered explanations rather than just equating behavior to thinking.

Moor's 1978 paper, *Three Myths of Computer Science*, he continues his thoughts by stating that one of the "Myths" is that passing the Turing Test would directly answer the question of machine intelligence. In this, Moor reemphasizes his claim that simulations, no matter how accurate, should not be correlated to true human mental processes. This claim reinforces his broader, previous position that the Turing Test can reveal how well machines imitate certain aspects of human behavior, but not what intelligence fundamentally is.

In conclusion, during the 1970s, philosophers moved beyond simply asking whether the Turing Test “works” and toward examining what it really reveals about intelligence. Early critics such as Purtil and Clarke argued that the test measures imitation rather than genuine thought, highlighting that machines might reproduce human behavior without understanding, consciousness, or subjective experience. Miller, meanwhile, reframed Turing’s intention, claiming that the Imitation Game was never meant to prove machine thinking, but to offer a practical way to talk about intelligence through observable behavior rather than metaphysical speculation. In contrast, Moor maintained that the test still has value—not as a definition of intelligence, but as a source of inductive evidence about what machines can do, even if it cannot capture deeper mental processes.

By and large, these perspectives show that by the 1970s the Turing Test had become less a tool for deciding whether machines think and more a philosophical lens through which to explore what *thinking* itself means. The debate shifted from Turing’s original question—“Can machines think?”—to broader questions about how we define thinking, understanding, consciousness, and intelligence in both humans and machines. In this sense, the Turing Test became not the end of the discussion, but the beginning of a richer inquiry into the nature of mind in an increasingly technological world.

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