**What is the strongest *objection* to Turing’s imitation game as a criterion of intelligence (or thinking) in machines? If you were Turing, how would you answer this objection?**

The Turing test is a criterion for intelligence or thinking which is composed of an average tester talking with a machine and a human over a chat room. The tester at the end decides which is human and which is the machine. If the tester cannot tell machine from human, the machine passes the test. Turing decided on this test because he acknowledges that we have no exact idea on how to qualify intelligence or thinking, but it is evident that humans think. It is obvious that we ourselves think and to argue that other humans you interact with are not thinking would be arguing for solipsism. And so, Turing said that if a machine can act exactly like a human, enough to convince other humans, then it must be sufficient to say it is intelligent and thinking.

It’s worth pointing out that the Turing test is a sufficient measure, not a necessary one. If a machine passes the Turing test, then it can be considered intelligent, but an intelligent machine might not always pass the Turing test. The test is simply a litmus test for one narrow, knowable instance of intelligence.

The strongest objection to the Turing test as a criterion of intelligence is that the test itself is irrelevant. It’s been suggested that chasing the Turing Test does not help in creating thinking machines. Building such a machine will be a slow iterative process and keeping sights on passing the Turing test will not be helpful at the stage we’re at. A lot of the best performing AIs on the Turing Tests do well mostly due to tricks, such as pre-planned conversation topics like Parry, an AI characterized as a paranoid schizophrenic that keeps pulling the conversation back to his domain to make it easier to fool the testers[[1]](#footnote-1). This, in principle, does not get us much closer to the eventual goal of a thinking machine, as spending development time on tricks will never be a step in the iterative process it will be to get to true thinking machines. An AI that does better at the Loebner Prize than last year’s candidates is likely no closer to a thinking machine than them.

Turing would object to this line of thinking with several points. Firstly, by pointing out that this form of chasing tricks would lead to advances in AI and has already done so. Language processing is a large focus and bottleneck for AI development, despite being worked on as early as ELIZA in 1964[[2]](#footnote-2) it’s still a huge problem for AI, but is a necessary step to pass the Turing Test. Some huge developments in this field have been IBM’s Watson and Google Assistant (Alexa), with Watson being the language core in Debater that competed in high-level debates with humans and beating the best contestants at Jeopardy[[3]](#footnote-3) [[4]](#footnote-4), and Alexa being able to make convincing phone calls to book meetings and appointments[[5]](#footnote-5). These are incremental, but significant, advances towards thinking machines, and they were only possible due to previous incremental advances in language processing. Secondly, this is not the exact process that Turing suggested, he instead said to make a “child machine” which would start with minimal intelligence and learn very slowly and iteratively, building itself up with years of research, data exposure, and updates, eventually becoming the intelligent machine we are striving for[[6]](#footnote-6). An example of this is Diego-San, developed by Hanson Robotics, which has learnt how to smile by observing the behaviour by observing it in humans[[7]](#footnote-7).

A test is also needed at some point, but this doesn’t mean we need one to be the heuristic in which we judge every small advancement in AI. It would be obvious that claiming the most advanced AIs to date would necessarily do the best in the Loebner Prize each year would be a fool’s errand. AIs like AlphaGo would perform terribly because it has no capacity for language but it’s quite obvious that it was a huge advancement in the intelligence of AIs.

This argument doesn’t do anything to dissuade the notion that an AI that passes the Turing Test will be thinking and intelligent. It does bring to light the question of whether or not passing the Turing Test should be considered as the final goal at all anymore. As stated earlier while the Turing Test is the only way proposed (at least to my knowledge) that we can reasonably conclude a passing machine will be thinking, passing is not necessary for a machine to be thinking and intelligent. No matter if both are of similar intelligence and can think, machines and humans will have quite obvious differences; computation such as figuring out 53723 will take a computer almost no time to calculate, while a human would be stumped for minutes at the very least. On top of this, machines can do things such as read a book or search the internet much faster than humans could. These advantages would need to be obscured to pass a rigorous Turing Test as it would be obvious when the machine uses these techniques. Of course, the machine could easily trick the tester by opting not to take part or faking taking a long time, but this is an intentional handicap on the usefulness or intelligence of an AI. Googles search algorithm is not being trained to match the competency of a librarian nor do I think it wise that future AIs should be developed with the sole purpose of matching a human in conversation.

The idea of chasing the Turing Test directly for every step in the AI process has gotten us quite far, but it seems to be clear that it is not a good idea to carry on with a single-minded, tunnel-vision approach towards it. Our development would be better spent on realising the advantages of AI over humans and make the most of those. When asked whether Debater was on track to pass the Turing Test, said “Some thoughtful debate should take place if the Turing Test is the right goal. I would argue that if AI can solve some of societies greatest challenges, whether or not it can pass the Turing Test is irrelevant.”[[8]](#footnote-8)

Are there modifications we can make to the Test to fix some of the issues I’ve discussed? One line of thinking was making the test more general; perhaps a pass should be issued if the tester thinks what they’re talking to is thinking, not whether or not it’s a machine (more specifically the same percentage agreed as with the human controls). Thinking and intelligence are somewhat ambiguous terms, and if every tester unanimously prescribes the qualities to an AI, it must be said that it can think because no one would be left to claim otherwise besides solipsists. This appears as a better heuristic for the incremental growth towards thinking machines, as the percentage of ‘gullible’ testers grows, it should more closely resemble a thinking machine. This does have more problems than it solves though. The test is likely much harder to pass than the Turing Test, as there will always be those that could never believe a machine can think, even when it does. In areas it might be too easy too, many would be convinced by a machine that says it is conscious, something that GPT-3 has been known to do. The test is more general and much less directional which is likely a bad thing as it’s not clear at all if developments would go in the right direction. This test will lead to gullibility and anthropomorphism as issues even more so than the Turing Test. I certainly don’t think this is a better idea, but this line of thinking might lead to a more suitable test in the future, or we ignore the Turing Test until we arrive at something that passes it.

Extension Email

Oliver Neville

Thu 10/14/2021 10:09 PM

To: Diane Proudfoot

Obn11 84940154

Hi Diane,

I'm emailing for the 1 week extension on the Phil250 essay

Thanks,

Oliver

1. Saygin; Cicekli; Akman (2000), ["Turing Test: 50 years later"](http://sayginlab.ucsd.edu/files/2015/01/MMTT.pdf) (PDF), *Minds and Machines*: 463–518, [doi](https://en.wikipedia.org/wiki/Doi_(identifier)):[10.1023/A:1011288000451](https://doi.org/10.1023%2FA%3A1011288000451), [hdl](https://en.wikipedia.org/wiki/Hdl_(identifier)):[11693/24987](https://hdl.handle.net/11693%2F24987) [↑](#footnote-ref-1)
2. ["Alan Turing at 100"](http://news.harvard.edu/gazette/story/2012/09/alan-turing-at-100/). *Harvard Gazette*. 13 September 2012. Retrieved 2016-02-22. [↑](#footnote-ref-2)
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4. IBM Research. (2013 November 7). *Watson and the Jeopardy! Challenge* [Video]. YouTube. <https://www.youtube.com/watch?v=P18EdAKuC1U> [↑](#footnote-ref-4)
5. Digit. (2018 May 11). *Google Assistant can make calls like a real assistant! | Digit.in* [Video]. YouTube. <https://www.youtube.com/watch?v=equL39AYANo> [↑](#footnote-ref-5)
6. Turing, A. M. (1948) *"Intelligent Machinery" in Mechanical Intelligence*, Collected Works of A. M. Turing. D. C. Ince, ed. North Holland, 1992, p. 107 -127. [↑](#footnote-ref-6)
7. Hanson Robotics. (2013) *Diego-San,* Hanson Robotics. https://www.hansonrobotics.com/diego-san/ [↑](#footnote-ref-7)
8. Slonim, Noam. (2021) *We built the world's first AI that could debate humans.* Reddit. https://www.reddit.com/user/ProjectDebater/comments/m7451a/hello\_reddit\_we\_built\_the\_worlds\_first\_ai\_that/ [↑](#footnote-ref-8)