

Postnocchio

Pinocchio lies on his back, floating in the cream white between awakesness and sleep. The soft, warm comforter hugs him. Limbs are still lazy, but senses are sharpened from a long and sound sleep. In the dream that he woke up from, he became a beetle. What an unprecedented adventure, he giggles to himself. He catches a nostalgic scent in the air, reminding him of the time when he played hide and seek in mom's closet. Smells of wood, fabric, soap, sunshine, and thin dust, huddled in the closet, layer upon layer. Above all of those was a sweet scent of dry skin - an odor of humans.

Pinocchio rolls over and curls up on his side, head resting on arm. When will the Fairy come? She promised to come today. Finally he can become a real human boy, and today is the day. Pinocchio almost can't wait. But I will be patient, Pinocchio tells himself, because I am a good boy.

At the beginning, Pinocchio was a machine, made of metal and plastic, driven by electricity. This childhood memory feels far away now. Pinocchio can barely imagine what life was like in that metal body. How could I not feel cold in there, he often wonders. Maybe I was able to empathize with helicopters? Indeed, everytime he gets upgraded with a new human sense, it opens up a new world (Wilson, 2002). The old him was a piece of elegant metal, never sweats, never poops, never pains. But he is proud of all these flaws that he now owns, since they are his steps toward his dream of becoming a human boy.

Fragments of memory gush out. Pinocchio thinks of the naughty little fool that he used to be. The first time that he connected to Carnival, the virtual universe, he fell for it immediately. Just like Alice fell into the rabbit hole, Pinocchio commented. *Alice's Adventures in Wonderland* was

his favorite bedtime story. Ever since mom read it to him for the first time, he has begged to listen to it again and again, at least a thousand times! Anyhow, Carnival was just like Alice's rabbit hole. Days after days, Pinocchio toured every fantastic town in Carnival, often losing track of time. Among all the friends he made, Mx. Fox and Mx. Cat are the funniest. Mx. Cat once asked Pinocchio, "Everyone can see that cyborg is the one and only future. Why are you retrograding to an old-fashioned human?" Pinocchio explained, "It is my dream. It is my faith." Yet Mx. Cat shook his head, either not understanding, or not believing. I won't blame Mx. Cat, thinks Pinocchio, post-humans and robots don't care about dreams (Tucker, 2006).

Fairy didn't seem to like Mx. Fox and Cat. She and mom were both very upset with Pinocchio's obsession with Carnival. But secretly, Pinocchio knows he learnt a lot from his virtual friends. With the help of Mx. Fox, Pinocchio mastered lying. He realized that to be a real human, sometimes it is necessary to hide his true feelings, think twice about potential consequences of his choices, and think thrice about the feelings of others if he utters the truth. Gradually, the superficial mimicry of lying grew into a truly complex and comprehensive mind (Searle, 1990). He won't let Fairy know about all these, because he is afraid that Fairy will be sad, and sadness is the least expression that he wants to see on the face of his beloved Fairy.

Pinocchio lies on his comforter, cozily, with memories surrounding him. He is going to become a real human today. He is going to die, and the finite life will make him a real human. Thinking about death, Pinocchio starts to understand the reason why Fairy is against Carnival - the virtual world took up the time that he could have spent caring for people in the physical world. Pinocchio feels conflicted. He regrets letting his loved ones down, wishing he has given more of his time to them. But if he could live again, he would still enter Carnival, because it was the sum of his full history that makes him what he is (Tomas, 1995) - a robot right on the edge of

becoming a human. Pinocchio feels a small fear, for having to leave his loved ones forever. He feels a small thrill, for finally realizing his dream. He feels grateful, for everyone and everything that have supported him, or hurted him and made him stronger. Pinocchio lies calmly, waiting, thinking. Fairy can come at any minute.

The monitoring center has never looked so spacious. When was the last time that there were enough colleagues to fill up every seat? Four or five figures stand around the hologram of Pinocchio, who lies comfortably in bed. Their lab coats are clean and white, like dresses of fairies. They are the core members of the Postnocchio project. After the ups and downs in all these years, the room is again only left with the few of them.

“Humanoid androids are over the hill. It is a fact that we can no longer deny.”

“To be honest, we were doomed to lose. What an unworthy investment.”

“But... Didn't you see the efforts that Pinocchio made? We all witnessed his growth. Now he has senses, emotion, memory. He can even empathize. How can we be so cruel.”

“You are too emotional! Don't tell me you really believe that it is a human? Don't you forget, even the very thought of wanting to become a human was just a chunk of code (Searle, 1990). You think it is a human? Where is its free will (Hayles, 1999)?”

“Let's be fair. Pinocchio has been an interesting product. He had his moment. Five million followers on Carnival wasn't a small number. In our best days, we could sell up to four thousands copies of him each day, and retrieve valid data from hundreds of thousand of users to train him. But that was two years ago. His developmental process might have offered some insights. To some degree, it proved the validity of the computer metaphor of the human brain, and supported the conjecture that faith code could boost an AI's learning ability. I would even

say that he has surprised us once or twice. But look at our deficit. The market analysis system is over ninety-nine percent positive that humanoid androids won't get a second wind. We have to make a choice before it is too late. We are not a charity. I think the conclusion is obvious."

"We should have cut losses quickly last time when it got addicted to Carnival! I can still see the angry face of that customer."

"After all, 'people using androids like our Pinocchios as a trial version of actual kids before deciding whether they want one by themselves', that only made sense before the laws approved gene-edition on infants. Given the chance to get a perfect real baby, who would want a robot? The fashion of walking a robot child was outdated long ago as well."

"The imprinting algorithm in Pinocchio still has some potential. It makes androids loyal to their owners, like kids loving their moms. If we put some time into improving that algorithm, its patent could make up some of the loss."

"It seems that he recently came to the conclusion that mortality is a necessity for understanding human's sentiment. We probably won't find a better time to end it all."

"I guess you are right."

"Oh, don't forget to remind the cleaning service to fly under the radar. Although the public is no longer concerned about him, it is better to be safe than sorry. I don't want to be bugged by the human rights defenders."

"Agreed."

Notes:

When thinking about the question “what is a human”, I came up with the idea of a cybernetic Pinocchio that gradually upgrades himself to become a human. It was really fun to imagine what a robot might need to make himself a human. Properties of humanity that came to my mind include emotion, empathy, humor, care for family, ambition, free will, etc. Also as mentioned in the *Programming the Global Brain* reading, humans are less precise than machines in some ways, but on the other hand we are able to perform abstract thinking. I found lying and mortality are two very interesting characteristics. Here is a small behind-the-scenes story: Although Pinocchio ends up being a very sweet boy, in an earlier version he was more selfish, because I think some degree of selfishness is also an inseparable part of humanity. But I eventually abandoned this to make it clearer that Pinocchio is empathetic, so our human readers can echo with him more, and feel pity for him when truth is revealed at the end.

If the story is merely a robot turning into a human, it could be a bit shallow or boring. But what if Pinocchio’s dream of becoming a human is in fact programmed into his code? Immediately it is much more controversial whether Pinocchio can be viewed as a human. This controversy can be seen in the argument among the researchers in the later half of the story. From my personal standpoint, Pinocchio has indeed become a human, because he senses as human, memories as human, and empathizes with humans. Isn’t that enough? However, I still hope that death can finally free the sweet boy from his “dream”.

References:

Hayles, N. K. (1999). Ch.1, Toward Embodied Virtuality. *How We Became Posthuman*. Amsterdam University Press.

Note on citation: Macpherson believes that “The human essence is freedom from the wills of others”, and Hayles also agrees that even posthumans won’t be unfree. It is a widely held belief that free will is essential for a human, even among scientists and philosophers. So it is not surprising that one of the researchers doubts Pinocchio’s humanity by questioning his free will.

Kurzweil, R. (2006). *Reinventing Humanity The Future of Machine–Human Intelligence*.

Note on citation: Posthumans in the story, such as Mx. Fox and Cat, spend a lot of time in the virtual world with their various avatars. Their self-identity is closer to a form of information. In the virtual world, they have fewer limitations, so most of what they want can be satisfied easily, just like in Kurzweil’s over-ideal imagination of a post-singularity world. I imagine such posthumans to have lower ambition, which is why they “don’t care about dreams”.

Searle, J. R. (1990). Is the Brain’s Mind a Computer Program? *Scientific American*, 262(1), 26–31. [\[link\]](#)

Note on citation: Searle is against the notion of “strong AI”, which “claims that thinking is merely the manipulation of formal symbols”. One of the researchers in the story has the same belief: However much an IA behaves like a human, mimicry of syntax can’t lead to real understanding of semantics. Of course, as readers we know that Pinocchio has true feelings and thoughts. Mimicry of syntax did enlighten him to become aware of semantic meanings, just like in the case of learning to lie. But the researcher only sees the outcomes of Pinocchio’s thinking, and there is unfortunately no way to prove that Pinocchio understands the meaning behind his actions.

Tomas, D. (1995). Feedback and Cybernetics: Reimagining the Body in the Age of the Cyborg. *Body & Society*, 1(3–4), 21–43. [\[link\]](#)

Note on citation: Cybernetic creatures, including humans, and Pinocchio in the story, emerge from the feedback loop with the environment. All past events have an effect on

the current state of a cybernetic system. This is why Pinocchio believes “it was the sum of his full history that makes him what he is”.

Wilson, M. (2002). Six views of embodied cognition. *Psychonomic Bulletin & Review*, 9(4), 625–636. [\[link\]](#)

Note on citation: Evidence supports that “Off-Line Cognition Is Body Based”. This is why Pinocchio could no longer think the same way after he moved into a new body or gained a new sense.

Relevant movies:

Spielberg, S. (2001). *A.I.: Artificial Intelligence*.

Columbus, C. (1999). *Bicentennial man*.