

HOW WE BECAME
POSTHUMAN

*Virtual Bodies in
Cybernetics, Literature,
and Informatics*

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Prologue

You are alone in the room, except for two computer terminals flickering in the dim light. You use the terminals to communicate with two entities in another room, whom you cannot see. Relying solely on their responses to your questions, you must decide which is the man, which the woman. Or, in another version of the famous “imitation game” proposed by Alan Turing in his classic 1950 paper “Computer Machinery and Intelligence,” you use the responses to decide which is the human, which the machine.¹ One of the entities wants to help you guess correctly. His/her/its best strategy, Turing suggested, may be to answer your questions truthfully. The other entity wants to mislead you. He/she/it will try to reproduce through the words that appear on your terminal the characteristics of the other entity. Your job is to pose questions that can distinguish verbal performance from embodied reality. If you cannot tell the intelligent machine from the intelligent human, your failure proves, Turing argued, that machines can think.

Here, at the inaugural moment of the computer age, the erasure of embodiment is performed so that “intelligence” becomes a property of the formal manipulation of symbols rather than enaction in the human life-world. The Turing test was to set the agenda for artificial intelligence for the next three decades. In the push to achieve machines that can think, researchers performed again and again the erasure of embodiment at the heart of the Turing test. All that mattered was the formal generation and manipulation of informational patterns. Aiding this process was a definition of information, formalized by Claude Shannon and Norbert Wiener, that conceptualized information as an entity distinct from the substrates carrying it. From this formulation, it was a small step to think of information as a kind of bodiless fluid that could flow between different substrates without loss of meaning or form. Writing nearly four decades after Turing, Hans

Moravec proposed that human identity is essentially an informational pattern rather than an embodied enaction. The proposition can be demonstrated, he suggested, by downloading human consciousness into a computer, and he imagined a scenario designed to show that this was in principle possible. The Moravec test, if I may call it that, is the logical successor to the Turing test. Whereas the Turing test was designed to show that machines can perform the thinking previously considered to be an exclusive capacity of the human mind, the Moravec test was designed to show that machines can become the repository of human consciousness—that machines can, for all practical purposes, become human beings. You are the cyborg, and the cyborg is you.

In the progression from Turing to Moravec, the part of the Turing test that historically has been foregrounded is the distinction between thinking human and thinking machine. Often forgotten is the first example Turing offered of distinguishing between a man and a woman. If your failure to distinguish correctly between human and machine proves that machines can think, what does it prove if you fail to distinguish woman from man? Why does gender appear in this primal scene of humans meeting their evolutionary successors, intelligent machines? What do gendered bodies have to do with the erasure of embodiment and the subsequent merging of machine and human intelligence in the figure of the cyborg?

In his thoughtful and perceptive intellectual biography of Turing, Andrew Hodges suggests that Turing's predilection was always to deal with the world as if it were a formal puzzle.² To a remarkable extent, Hodges says, Turing was blind to the distinction between saying and doing. Turing fundamentally did not understand that "questions involving sex, society, politics or secrets would demonstrate how what it was possible for people to *say* might be limited not by puzzle-solving intelligence but by the restrictions on what might be *done*" (pp. 423–24). In a fine insight, Hodges suggests that "the discrete state machine, communicating by teleprinter alone, was like an ideal for [Turing's] own life, in which he would be left alone in a room of his own, to deal with the outside world solely by rational argument. It was the embodiment of a perfect J. S. Mill liberal, concentrating upon the free will and free speech of the individual" (p. 425). Turing's later embroilment with the police and court system over the question of his homosexuality played out, in a different key, the assumptions embodied in the Turing test. His conviction and the court-ordered hormone treatments for his homosexuality tragically demonstrated the importance of *doing* over *saying* in the coercive order of a homophobic society with the power to enforce its will upon the bodies of its citizens.

The perceptiveness of Hodges's biography notwithstanding, he gives a strange interpretation of Turing's inclusion of gender in the imitation game. Gender, according to Hodges, "was in fact a red herring, and one of the few passages of the paper that was not expressed with perfect lucidity. The whole point of this game was that a successful imitation of a woman's responses by a man would *not* prove anything. Gender depended on facts which were *not* reducible to sequences of symbols" (p. 415). In the paper itself, however, nowhere does Turing suggest that gender is meant as a counterexample; instead, he makes the two cases rhetorically parallel, indicating through symmetry, if nothing else, that the gender and the human/machine examples are meant to prove the same thing. Is this simply bad writing, as Hodges argues, an inability to express an intended opposition between the construction of gender and the construction of thought? Or, on the contrary, does the writing express a parallelism too explosive and subversive for Hodges to acknowledge?

If so, now we have two mysteries instead of one. Why does Turing include gender, and why does Hodges want to read this inclusion as indicating that, so far as gender is concerned, verbal performance cannot be equated with embodied reality? One way to frame these mysteries is to see them as attempts to transgress and reinforce the boundaries of the subject, respectively. By including gender, Turing implied that renegotiating the boundary between human and machine would involve more than transforming the question of "who can think" into "what can think." It would also necessarily bring into question other characteristics of the liberal subject, for it made the crucial move of distinguishing between the enacted body, present in the flesh on one side of the computer screen, and the represented body, produced through the verbal and semiotic markers constituting it in an electronic environment. This construction necessarily makes the subject into a cyborg, for the enacted and represented bodies are brought into conjunction through the technology that connects them. If you distinguish correctly which is the man and which the woman, you in effect reunite the enacted and the represented bodies into a single gender identity. The very existence of the test, however, implies that you may also make the wrong choice. Thus the test functions to create the possibility of a disjunction between the enacted and the represented bodies, regardless which choice you make. What the Turing test "proves" is that the overlay between the enacted and the represented bodies is no longer a natural inevitability but a contingent production, mediated by a technology that has become so entwined with the production of identity that it can no longer meaningfully be separated from the human subject. To pose the question

of “what can think” inevitably also changes, in a reverse feedback loop, the terms of “who can think.”

On this view, Hodges’s reading of the gender test as nonsignifying with respect to identity can be seen as an attempt to safeguard the boundaries of the subject from precisely this kind of transformation, to insist that the existence of thinking machines will not necessarily affect what being human means. That Hodges’s reading is a misreading indicates he is willing to practice violence upon the text to wrench meaning away from the direction toward which the Turing test points, back to safer ground where embodiment secures the univocality of gender. I think he is wrong about embodiment’s securing the univocality of gender and wrong about its securing human identity, but right about the importance of putting embodiment back into the picture. What embodiment secures is not the distinction between male and female or between humans who can think and machines which cannot. Rather, embodiment makes clear that thought is a much broader cognitive function depending for its specificities on the embodied form enacting it. This realization, with all its exfoliating implications, is so broad in its effects and so deep in its consequences that it is transforming the liberal subject, regarded as the model of the human since the Enlightenment, into the posthuman.

Think of the Turing test as a magic trick. Like all good magic tricks, the test relies on getting you to accept at an early stage assumptions that will determine how you interpret what you see later. The important intervention comes not when you try to determine which is the man, the woman, or the machine. Rather, the important intervention comes much earlier, when the test puts you into a cybernetic circuit that splices your will, desire, and perception into a distributed cognitive system in which represented bodies are joined with enacted bodies through mutating and flexible machine interfaces. As you gaze at the flickering signifiers scrolling down the computer screens, no matter what identifications you assign to the embodied entities that you cannot see, you have already become posthuman.