# How To Lose Philip K. Dick's Head

*By Torie Bosch | Posted Friday, June 1, 2012, at 11:46 PM ET*
*| Posted Friday, June 1, 2012, at 11:46 PM ET*

Slate.com

The Android Head of Philip K. Dick

The unlikely story of the sci-fi author's "robotic resurrection."



*Philip K. Dick's head, packed for transport. Photograph by Eric Mathews.*

In 2005, David Hanson left Philip K. Dick's head on a plane. Hanson, a roboticist, was en route to Google to present his team's project— a painstakingly crafted android replication of the author, who died in 1982—when he changed planes and left behind a duffel bag. The robot's head surfaced at a couple of airports around the American West before disappearing in Washington state, never to be found again.

Dick, the author of Do Androids Dream of Electric Sheep?—the source material for Blade Runner—was both deeply engaged with issues of artificial intelligence, and deeply paranoid. That is to say, he was the science fiction writer for whom being transformed into an android, and then having your head lost to the labyrinthine bureaucracy of an airline, might be considered most fitting. In How To Build an Android, David F. Dufty explains how Dick was made into a machine by an endearingly nerdy group of roboticists. Dufty, who observed the development of the robot while a postdoc, uses the unlikely story to meditate on the state of robotics and artificial intelligence. In particular, he describes the peculiar way humans interact with machines—and what it takes to make us feel as though a robot is alive.

The Philip K. Dick project began in 2004. Hanson, then a graduate student at the University of Dallas, brought an artistic background to robotics, with his invention of a (relatively) true-to-life synthetic skin he named "Frubber." One of his early robot heads was modeled on himself, a couple of others on then-girlfriends. K-Bot, based on a now-ex named Kristen, displayed then-remarkable ability to express emotion. (Making a robot head out of your beloved is the futuristic equivalent of a sonnet, it seems.)

At a conference, he got to know roboticists from the University of Memphis who were working on an educational program called AutoTutor. If they combined Hanson's well-crafted heads and AutoTutor's basic conversational abilities, the roboticists decided, they could create an android—and why not craft it in the form of a science fiction writer preoccupied with the line between man and machine? (In the book, a graduate student who jokes about calling it "the Dick head" is gently corrected.)

Hanson is a bit of a robo-rebel: He argues that the widely accepted principal of the Uncanny Valley—that as machines look more realistic, they become more unsettling—has no basis in reality. This unorthodox position buoys his position that developing humanlike robots is vital, as it will allow for better interaction with people. But not everyone in robotics agrees that humanoid forms are a worthwhile pursuit, given the significant obstacles: Locomotion on two legs is incredibly challenging to replicate, as is the human face. There are further divides over how a robot should be able to think or act.



One of the most famous questions in robotics is the Turing test, which asks whether computers will ever be able to think. Since Alan Turing first posed the notion in 1950, it has spawned a body of philosophical and technical discussion, plus a yearly competition, called the Loebner Prize, seeking the first artificial intelligence indistinguishable from a human in a text-based conversation.

"For Dick, the biggest problem with the Turing test was that it placed too much emphasis on intelligence," Dufty writes. "Dick believed that empathy was more central to being human than intelligence, and the Turing Test did not measure empathy." Instead, Dick imagined in Electric Sheep the "Voigt-Kampff test," which attempts to separate machines from men by provoking emotional responses.

The Philip K. Dick android would have failed both exams. But for many people who encountered the robot, that didn't matter.

The bot looked remarkably like Dick and even wore some of his clothes, donated by his children. More importantly, it spoke not just like Dick, but as Dick, or at least it was meant to: The android's creators loaded his prodigious body of work in the software, plus reams of interviews with the real writer. If a person posed the robot a question that the real Dick had been asked—and if it had been recorded—the machine would respond just as the writer did, in Dick's own voice. Only if Dick had never answered a particular question would the software attempt to construct a response using a system called latent semantic analysis. The robot also had some preprogrammed responses to frequently asked questions.



Disappointingly, it turns out Dick was never recorded explaining whether androids do, in fact, dream of electric sheep—a question that the robot was asked repeatedly during its brief, intense period of display, often in Club VALIS, a soundproof room fitted out to look like Dick's living room. The book recounts a number of conversations that seem outstandingly Dickian, including this one between the robot head and a blogger named Paul Jones:

JONES: What do you think about the president?

PHIL: Which president do you have in mind?

*Author David Dufty.*       JONES: Where are we now?

PHIL (looking around the room): We appear to be in my living room. (Pause.) It could be a simulacrum, though (pause), but why would the authorities bother?

Sometimes, the bot's responses were almost too realistic. "It looked very much like my dad," his daughter Isa told the Los Angeles Times a few years after first meeting the bot. "When my name was mentioned it launched into a long rant about my mother. ... It was not pleasant." In other cases, Dick's words were confusing at best: Once, when its conversation partner said that she was the president of the University of Memphis, the robot replied, "I knew he was president, but I never knew of the University of Memphis."

Intriguingly, though, some observers recall the exchange not as a hiccup, but as a triumph, with the Dick head cracking a joke: "I've heard of the president, but I've never heard of the University of Memphis." "Instead of nonsense," Dufty writers, "they remember a witty rebuff. They found an intelligent message where there was none. They saw a face in the clouds." In many ways, this reaction harkens back to the early "chatbot" program Eliza, a "Rogerian therapist" developed in the 1960s by MIT's Joseph Weizenbaum. Eliza's responses are "computational sleight of hand," Dufty says: It has simply been taught some tricks to make it appear as though it is holding a conversation. Eliza has no intelligence, no matter how much time you and your middle-school friends spent in the computer lab trying to trick Eliza into saying dirty things.

Yet Weizenbaum was alarmed that many people seemed to believe, or want to believe, that Eliza possessed some real intelligence. They were open, confessional, with the program. Weizenbaum's secretary once asked him to leave the room so she could be alone with Eliza. "The idea that people entrust the computer, or are even motivated to discuss intimate thoughts with a computer ... just sort of shocked me," he said in 1973. Sherry Turkle, author of Alone Together, has written about the "Eliza effect," or the tendency to project humanity on a machine. In some ways, the overly charitable ways that people reacted to the PKD bot demonstrates this idea: They were eager to see real intelligence, or at least wit, in the machine.

"If people attributed human qualities to the android even when humanness was lacking, that is a testament to the power of the art," Dufty writes. But if you know how the robot stuffing is made, some of the magic evaporates. The question, then, is how long robots will seem magical and powerful to the laity. Much of our science fiction—quite a bit of it derivative of Dick's ahead-of-its-time writing—explores the overlap between man and machine. But if the work of Hanson and others leads to humanoid robots becoming commonplace, and if most people come to have a working understanding of the machines, will that projection of humanity continue? You may joke that Siri is the only person who truly understands you, but you don't actually believe it.

But if humans are comfortable with their understanding of robots, what about the robots' understanding of themselves? Dick wrote in Electric Sheep and elsewhere about machines that believe they are human. His android was programmed to call itself a "robotic portrait," and any AI that could mimic human consciousness is far in the future. If and when that time comes, it would be nice to have Philip K. Dick

around for guidance. Luckily, Hanson Robotics rebuilt the PDK bot head in 2011, and it's ready to field our questions once again.

---

How to Build an Android: The True Story of Philip K. Dick's Robotic Resurrection by David F. Dufty. Henry Holt.

See all the pieces in this month's Slate Book Review.
Sign up for the Slate Book Review monthly newsletter.

X

MySlate is a new tool that you track your favorite parts Slate. You can follow authors and sections, track comment threads you're interested in, and more.