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# Life's Really Big Questions



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*segment 3* synopsis of broadcast

## ■ Robot Independence

Darwinian Natural selection is the process by which populations change over time, becoming more suited to a specific task with each generation. It's how all living creatures on our planet evolved, and it's also how machines may one day learn to replicate themselves.



This may not look like a robot, but it is. What's more, a robot designed it.

In "Robot Independence," Karl Sims, a pioneer in artificial life, simulates natural selection in the virtual world of his computer. Meanwhile, researchers at Brandeis University are taking robot evolution from the desktop to the sidewalk.

[Jordan Pollack](#) tells his computer everything it needs to know about Lego bricks. Then he asks it to "evolve" the best design for a Lego structure meant for a specified task. Humans are still needed to build and test the design, using the computer's blueprint. But Pollack thinks machines designed and manufactured by computers are the wave of the future.



Alan chats with Hod Lipson (left) and Jordan Pollack

Pollack's student Hod Lipson has already written a program telling his computer how to create a real-world robot. Again, humans must put the final pieces in place, but these cyber creations can inch down the sidewalk with remarkable ease. How long will it be before robots learn to live without us?

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