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Robotic System Can Design, Make Other Robots-Study

LONDON (Reuters) - Cheaply-produced robots that can perform mundane chores may be a step closer thanks to American scientists who have made a robotic system that can for the first time design and construct other robots.

The system operates with almost no human intervention.

“The robotic system is creating little toy robots completely automatically. All the humans are doing is snapping in the motors,” explained Jordan Pollack, a computer science professor at Brandeis University in Massachusetts.

The tiny plastic prototype robots look like toys but they could represent the future of affordable robotics.

“This is, I think, a harbinger of a new industry where dumb robots for specific tasks like vacuuming or clean-up or assembly can be automatically designed and manufactured without human engineers and high-cost machining,” Pollack said in a telephone interview.

“So the robots are cheap enough to be useful and practical.

“The robotic system spits out 8X8X12 inch maximum pieces of plastic that look like toys but are fully functional robots that move around,” said Pollack.

The research, which is reported in the science journal Nature, works on both the body and the brain of the robot.

It takes computer software, the brains, and incorporates it into the hardware, or body, of the robot.

Hod Lipson, a mechanical engineer who worked with Pollack on the project, described it as “nearly a self-replicating artificial life system.”


It follows an earlier Brandeis project in which a computer used evolutionary steps to design a bridge made of children's LEGO blocks.

“The LEGO bricks didn't move and we had to assemble them by hand. In the current work the robots actually move and were assembled without any manual labor, except for the snapping in of the motors,” Pollack said.

However, automatically-produced robots would still be designed for specific tasks and would not be the all-purpose humanoids of science fiction.

In a separate report in Nature, Laurent Keller and his colleagues at the University of Lausanne in Switzerland described how they taught robots community spirit by programming them to behave like ants in foraging for food.

They found that “group dynamics of swarms of robots may follow similar rules to those governing social insects.”

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