Views

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Two legs bad?

A lot of technological effort is being poured into developing humanoid robots, but it is missing the point, says **Leah Crane**

SCIENCE fiction, from *The Jetsons* to the Marvel Cinematic Universe, is replete with humanoid robots. But for a long time in the real world, such robots have been a novelty at best and a punchline at worst. Somehow, though, in the last few years, things have shifted. More than a handful of companies are developing humanoid robots, and these technological simulacra have begun popping up in automobile factories and shipping outfits. Some firms are even promising household robots. Still, the most important question has yet to be satisfyingly answered: what is the point? Why make a robot shaped like a human, when it could be any shape at all?

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The go-to response has always been that humanoid robots can, in theory, perform any physical task that a human can perform. But "in theory" is carrying an awful lot of weight there. If you have seen any video of a humanoid robot, you will know what I mean: as a whole, they are bumbling, stumbling machines. The tech required to allow them to stand and walk has vastly improved over the years, but they are still nowhere near as agile as most people.

Single-purpose robots, on the other hand, have become almost pedestrian. That's because, designed with one task in mind, they tend to do that task very well; think of a robot arm that moves a product from one conveyor belt to another. These robots have a clear scope of purpose, and they are fine-tuned to perform it, something impossible for a robot intended to be all-purpose, as most humanoid robots purportedly are.

The other reasoning often given to make a robot look like a person is that this makes it easier for humans to operate or interact with them. That explanation seems more plausible, especially given how many of these robots currently require highly trained human operators. The companies that make them tend to be cagey about this, claiming that it is temporary, but the idea that humanoid robots will be artificially intelligent – and, crucially, that the AI will allow them to operate as a human worker would, or better – is far from a foregone conclusion.

For now, what we have are human-shaped robots operated from behind the scenes by actual humans. When Elon Musk announced a new version of Tesla's Optimus robot in 2021, he said onstage: "It can be a teacher or babysit your kids. It can walk your dog, mow your lawn, get the groceries... serve drinks, whatever you can think of." But the robots at that event weren't powered by AI, as Musk and many others claim future ones will be. Each one was controlled by a person behind the scenes. You may notice that the jobs mentioned have something in common: they tend to be low-paid, and most are in customer service. If each robot requires its own human operator, which seems to be the case for now, this simply hides human labour behind a mechanical face.

There are situations where remote operation is helpful or necessary – bomb disposal or deep-sea exploration, for example – but those same situations seem to be ones where a human shape is manifestly not the optimal one. The limited-purpose robots built for those tasks are shaped like capsules with retractable arms, or little boxes trundling along on wheels, and humans manage to operate them just fine. The idea that a human shape is the best shape is a failure of imagination.

Yes, humanoid robots are flashy. They evoke our sci-fi dreams of a future of leisure, with all of life's tedious and dangerous tasks automated and all human needs met. But that is far from the world we are in. In this reality, they are little more than promotional tools, hiding all-too-human labour behind a veil of machinery. And a robot that doesn't improve the human condition is a robot that is missing the point. ▮

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