

Mechanical Third Thumb Mechanical Third Thumb

When's the last time you memorized a phone number? For many of us, we're already outsourcing parts of our brains to our devices. But imagine if the next gadget you bought wasn't a smartphone, but something to actually augment your body.

That's the premise of the Third Thumb, a new controllable prosthetic created by British product design student Dani Clode. The thumb is a controllable extra digit, complete with two motors and flexible hinges, giving the 3D-printed device the dynamic motion and range of a real thumb.

The best part is, no surgery is needed; the thumb comes as part of a rig that looks something like a fingerless glove made out of sleek plastic – albeit, with the extra thumb sticking out from the side.

The concept of extending the breadth of our grasp through the addition of an extra, controllable finger or thumb is certainly novel. But what's truly notable about this new device is who it is for. While prosthetics are often thought of only as devices for people with disabilities, the intent with this design is to extend its wearer's natural abilities – and that could be anyone.

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As Clode explains, she was inspired by the origin of the word prosthesis, which means to add or put onto, as opposed to the way we've come to think of prosthetic devices, which is often to fix or replace.

"The Third Thumb is inspired by this word origin, exploring human augmentation and aiming to reframe prosthetics as extensions of the body," she says.

"When we start to extend our abilities, and when we reframe prosthetics as extensions, then we start to shift the focus from 'fixing' disability to extending ability."

With that comes the potential for a whole new field of elective prosthetics, technology-driven devices designed for the human body that enhance our abilities.

And while the ability to upgrade our bodies sounds like something out of science fiction, in many ways, the precedent has already been set. Rob Spence is a documentary filmmaker who goes by the moniker Eyeborg. After losing his eye in an accident, he enlisted the help of engineers to help him create an embeddable a glass eye with a camera in it, giving him the ability to record interactions and conversations throughout his day.

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According to Spence, the idea of augmenting our bodies isn't an entirely new one. "The best example is breast augmentation. Here you have elective surgery that your great grandmother would think was unfathomable, but then it became a reproducible, affordable, safe, elective surgery that millions of people have decided to go under the knife for." And, he adds, "that's just to look good."

So, if you could have an extra opposable thumb, or better vision, or a neural lace (brain-computer interface), then sure, he says, "the writing is on the wall. It's already been done, and it's happening now."

Already, we take for granted things like hearing implants and pacemakers, technologies that we wear or implant to enhance our natural abilities. Even contact lenses and eyeglasses are technologies designed to restore us to optimal conditions.

Focus on optimal human functioning

What's unique about something like the Third Thumb is that it pushes us to consider what "optimal" human functioning really is,

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and with that, how we
might become even more powerful through
augmentation.

Of course, this brave new world doesn't come without
concerns.

"I think the biggest concern is when the technology
becomes stronger,
faster, or more interesting than our biological
bodies, and people start
looking to actually replace parts of their bodies
for better alternatives,
"cautions Clode. "There are a lot of ethical issues
surrounding this, but
it is their body and their choice."

Technology has always been aspirational. Even now,
we use devices like
smartphones to become better versions of ourselves,
extending our mental
capabilities by storing memories and finding
information with greater
efficiency than previously possible.

But with all new technologies, come new challenges,
namely around access.
Gadgets can be expensive, and cost can be
prohibitive to fairly distributed
access.

"As a starting point, I'd look at what has happened
with computers and
smartphones," says Spence, "I'd look at the lag that
has happened with
people who haven't had as much access."

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Affordability and equality of access

with elective prosthetics, the digital divide that has traditionally separated those who can afford new technologies and those who can't, extends to how people are able to augment their brains or bodies. For instance, imagine what happens when wealthier kids can get legs that make them faster on the schoolyard, or a brain chip that helps them memorize algebra equations.

The ethical concerns around the potential growth of elective prosthetics are not so much the fear of the new abilities they promise; after all, our abilities have always evolved through time, to match our new technologies. Rather, they have to do with the equality of access and the speed by which change happens.

As Silicon Valley superpowers like Facebook and Elon Musk's Neuralink race to develop technologies to enhance and augment our brains, those concerns become more pressing than ever, even if those offerings are still in research and development stages.

"The ethical concern comes about because of the speed of change," says

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Spence.

Clode concurs, adding, "this reality is not far away and it's an important conversation we need to have."

The Third Thumb website calls the project a "starting base for a lot of future adaption of aesthetic," but mentions no plans to market the device.

