

# TOUCH



The **Human +** The Future of Our Senses *Touch* episode depicts a sense we normally take for granted—but touch is vital to understanding relationships, the boundaries of our bodies, and even how we define what it means to be a human being.



# TOPIC

# 1

## Extraordinary cyborgs

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Seeking to bring back the sense of touch to amputees through bionics also shows that humans are not limited by biology. We can be extraordinary. Bertolt, who is missing his left hand, explains how embracing his so-called “abnormality” has resulted in people thinking he is extraordinary. He talks about how the flesh-coloured low-tech prosthesis that he used to wear elicited pity, whereas his high-tech prosthesis with translucent skin to show off its mechanics provokes excitement. “Do you have superpowers?” children ask him when they see his prosthetic fingers move.

## DISCUSSION QUESTIONS

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What happens when, instead of seeing something as abnormal, we see it as extraordinary?

What can we aspire to if we strive to be extraordinary rather than “normal”?

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What new kinds of expectations might the idea of “extraordinary” abilities put on us as human beings?

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What happens when something that used to be thought of as disfigured can be seen as beautiful?

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How might aspirations and ideals for humans be different in places where access to such technologies is more limited?

## EXPLORE

Other stories about augmented human senses...

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**Prostheses as art and style**  
<http://www.thealternativelimbproject.com/>

**New type of prosthetic leg offers greater range of motion**  
<https://montrealgazette.com/news/local-news/quebec-blazes-a-trail-for-amputees-by-covering-new-type-of-prosthetic-leg>

**Using touch for phantom limb syndrome in the Developing World**  
<https://www.ctvnews.ca/canada/-meet-the-mirror-man-who-s-on-a-mission-to-help-fellow-amputees-1.4230816>

**Better than normal athletes**

<https://www.npr.org/sections/thetorch/2012/07/30/157612003/-studying-oscar-pistorius-does-the-blade-runner-have-an-advantage-video>

## Guess what?

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Our fingertips have many more sensory neurons than other parts of our body. That means there is a larger brain area devoted to receiving signals from our fingertips.

<https://faculty.washington.edu/chudler/chtouch.html>

**“BETTER  
THAN  
NORMAL”**

# TOPIC

# 2

## Bodies without touch, touch without bodies

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When we meet Maria, who has a syndrome that renders her without the sense of touch, we see how important touch is to how human beings understand not only their own bodies, but also the world. Maria shows us that touch is integral to the infrastructure of a human body. At the same time, humans can have the sensation of touch and no physical body part to connect with the infrastructural nerves. For centuries, medicine understood phantom limb pain as an inevitable part of living as an amputee. Brandon's surgeons are moving away from pain management as the only course of action by taking advantage of his phantom sense of touch.

## DISCUSSION QUESTIONS

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Why is it difficult to understand touch as both internal and external to the human body?

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What does it mean when we think about pain as inevitable for some people but not others?

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Why did it take so long to innovate amputations to prevent phantom limb pain syndrome?

## EXPLORE

Other stories about augmented human senses...

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**History of phantom limb syndrome**

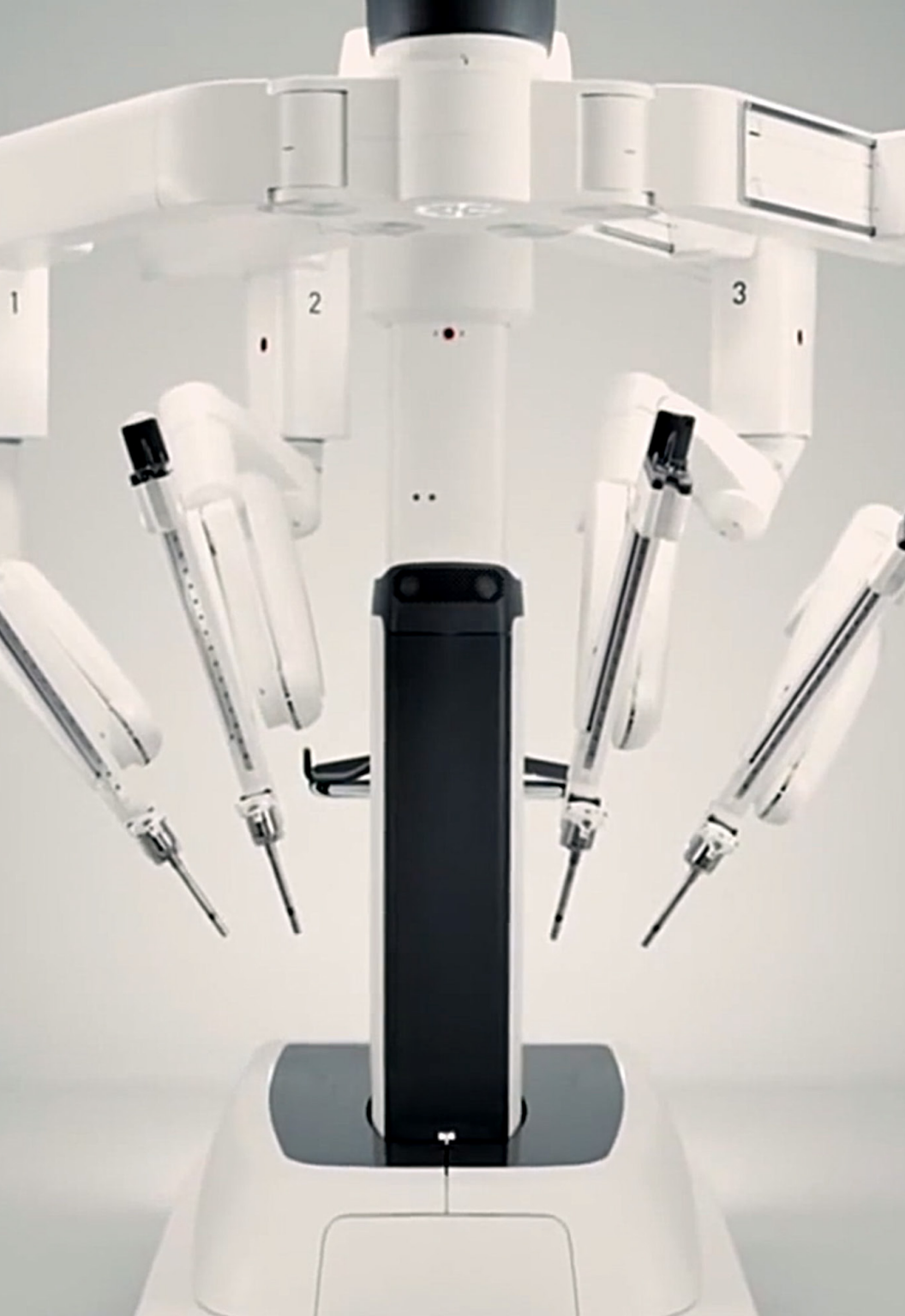
<https://pdfs.semanticscholar.org/40e7/a37d9b73275359eee1aa62280d6aa9b2ccb2.pdf>

**Woman who feels no pain**

<https://www.cnn.com/2019/03/28/health/woman-feels-no-pain-gene-mutation/index.html>

**Marianna Obrist's research investigates the human senses and interactive technologies. Discover some of her experiments on her YouTube feed.**

<https://www.youtube.com/channel/UCerlOz9OqDKPyggy4uuWoQ>



TOPIC

3

GROUP  
DISCUSSION

Unlimited

What do you feel limited by  
when it comes to bodies?

What does it mean to you if  
humans aspire to be unlimited?





# HUMAN +

HUMAN + The Future of Our Senses  
Impact Campaign

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