

**Bionic actor Angel Giuffria**  
**Callum and Jamie Miller**  
**Musician Jason Barnes**

<https://www.youtube.com/watch?v=GgTwa3CPrIE>

We are probably becoming the first species that is capable \_\_\_\_\_.

Where once there was stigma, amputees are now \_\_\_\_\_.

From low-cost printed designs to hi-tech innovations, I wanted to see how \_\_\_\_\_ to these technologies has changed.

Angel Giuffria is a congenital amputee. What does that mean?

She is the youngest baby in the world to receive a \_\_\_\_\_ arm.

Doctors were telling her mum that her little girl had to put a \_\_\_\_\_ around her neck that was controlled by a \_\_\_\_\_ that opened a hook.

What happened when Angel went to school? What did she do? What did she think and how did her classmates react?

Stigma implies that it's something you should be \_\_\_\_\_.

A cutting-edge bionic arm like Angel's can cost upwards of \_\_\_\_\_ pounds.

Are people without access to such funds left out?

3D-printed prostheses are mainly in plastic.

Creating your own prosthetic arms at home means an inevitable fusion of the \_\_\_\_\_ with the \_\_\_\_\_.

Jason is an \_\_\_\_\_ amputee as opposed to Angel. What does that mean?

He has lost his hand in an accident at work, in a \_\_\_\_\_ scenario. A transformer overloaded and arced a \_\_\_\_\_ into his back.

He was \_\_\_\_\_ and his eyebrows and eyelashes were singed off.

Why was Jason totally devastated?

What did he do? What was the turning point?

Now Jason can create all kinds of \_\_\_\_\_ because one of the sticks can play 19-hits-per-second the other can play 20-hits-per-second and create all kinds of \_\_\_\_\_ rhythms that no other humans can do.

Ultrasound allows for \_\_\_\_\_ finger control and \_\_\_\_\_ control on top of it.

All the hardware built into the arm is being improved; it's becoming smaller and you don't have \_\_\_\_\_.

Here robotics, \_\_\_\_\_ and \_\_\_\_\_ meet.

Scientists at \_\_\_\_\_ in North Carolina are working on such research with profound implications for the future of our species.

Miguel Nicolelis is a Brazilian neuroscientist who rose to prominence in 2014 when his

\_\_\_\_\_ helped a paralysed man deliver the first kick of the World Cup – a \_\_\_\_\_ act.

A wheelchair is driven by the brain of the monkey that is trying to reach the location in the room where he can \_\_\_\_\_.

That monkey is imagining the kind of \_\_\_\_\_ that he has to produce to get there.

How necessary is it that we do this research with animals? Why is the justification obvious to Prof. Miguel Nicolelis?

The modern configuration of brain-machine interfaces can be very useful for a new generation of \_\_\_\_\_.

He is concerned about we \_\_\_\_\_ our digital machines.

We are probably becoming the first species that is capable to influence its own \_\_\_\_\_ by what it produces: our technology. Because we are creating complete new constraints on how humans

\_\_\_\_\_ ...

So we are actually creating a new \_\_\_\_\_, without even knowing.

What is humanity? – An increasingly complex evolutionary process \_\_\_\_\_ by science and technology.

When we invented the wheel and \_\_\_\_\_ spacecraft, we \_\_\_\_\_ our limitations.

In the 21<sup>st</sup> century, we are now fast-approaching the age of the cybernetic being and genetically modified.

– This is \_\_\_\_\_.