



Next step: Space

Jeremy Paxman interviews British Esa astronaut Tim Peake to find out how his work in space will benefit people back in Britain.

TIM PEAKE:

Well the International Space Station is a fantastic research laboratory over and above everything else, and what we're doing is cutting edge scientific research on board.

JEREMY PAXMAN:

Yes, but what is it?

TIM PEAKE:

It is basically an environment where you can study microgravity. The point is here on Earth many parameters have changed during the four billion years of the Earth's history – temperature, pressure for example. Gravity has remained constant. So you change that parameter by going to space and strange things happen. We learn new things, we develop new things.

JEREMY PAXMAN:

What sort of new things?

TIM PEAKE:

Well funnily enough, things like the body's immune system becomes depleted, viruses become more virulent. It's a very good environment for studying vaccines. Already Salmonella has been taken on board the Station and a vaccine developed for Salmonella. MRSA, which now kills more people than HIV, that was taken up recently too.

JEREMY PAXMAN:

Yes but you're talking about things that have been done. What are they actually going to do with you? What are you going to do?

TIM PEAKE:

Well, personally, there are many human physiology experiments done and that's one area that the UK is particularly strong at... is space biomedicine. So we're learning much more about the human body. Now that benefits our ageing population, so it certainly has benefits back on Earth. And also it'll help us with our future space exploration operation for the longer duration missions coming up.

JEREMY PAXMAN:

So we send you up there so we can send somebody else up there?

TIM PEAKE:

We send astronauts up there so we can learn more about ourselves and our environment. And, for example, in order to progress in space flight we need to know how the body reacts in microgravity.

JEREMY PAXMAN:

But what are you actually going to do?

TIM PEAKE:

Science, predominantly.

JEREMY PAXMAN:

Yes, but what science?

TIM PEAKE:

Fluid physics, biological science, medical research as I've already pointed out... some of the impacts on the body, for example in the loss of bone density and osteoporosis. We have an ageing population that is becoming an increasing burden on the economy. Now the more that we can learn about that and the more we can find ways of dealing with that – those problems – then we can have real impacts back here on Earth.

JEREMY PAXMAN:

Do you think it might be a boring up there?

TIM PEAKE:

Not at all. I think if ever you get bored then you're probably in the wrong job.