



## **The physical world: quantum**

*The century of quantum technology*

### **Nicolas Gisin v/o:**

Bohr, one could say, was correct but he should read his answer to the EPR argument. His answer was not very helpful, so he was correct, but maybe not very productive. Einstein, on the other hand, was wrong in some sense, but was productive. And sometimes it's better to be wrong and productive.

### **V/O:**

But there's more to all of this than settling an argument between two dead physicists. The weirdness of entangled nature may yet prove strangely useful.

### **Paul Davies, visiting professor - Imperial College, London:**

I think the 21st century will be the century of quantum technology. We've seen the first of the quantum gadgets in our century but many of them are like toys, you know when the laser was invented in the 1960's it was often called an invention looking for an application and now, of course, we see lasers used all over the place, but it's still a novelty. I think in another hundred years we're going to find quantum devices in almost every aspect of technology, and the weirdness of quantum mechanics, which we find so hard to get to grips with, is going to become manifest in everyday life, and we're going to have to somehow come to terms with it.

### **V/O:**

Quantum weirdness may become commonplace, but that doesn't mean we'll be able to understand it.

### **David Papineau - King's College, London:**

What else are we supposed to think? Nobody has any good ideas. I mean that's the Holy Grail in this area. An interpretation of quantum mechanics will make sense of what's going on and not be inconsistent with Special Relativity. If the philosophers haven't come up with anything, nor have the physicists, we're all stuck. Only some of us worry.

### **Abraham Pais - Rockefeller University:**

Now I have lived long enough to know that in physics you never know what is the last word, but I do believe that today what Bohr said is still the best, you know, so that is how it stands today. And I also think it will stand like that tomorrow.