



Prof. Russell Stannard: The questions on everyone's minds

Free Will and Determinism

Russell: All day long we have to make choices. OK I happened to choose this one. I could just as easily have chosen a brown one or a red one. Or could I? Was I really free to choose? We do all our thinking with our brain. But the brain is a physical object. The behaviour of physical objects is governed by the laws of nature. Even with apparatus this complex, we can still predict how it's going to behave... Well, not me personally, I don't understand these things but computer experts understand what's going on there. For them it's all predictable. In which case, what if someone were to examine the workings of my brain in the same way as a computer engineer can examine the workings of the computer? He examines my brain just before I make my decision over which sweet to take, he applies the laws of nature, and predicts with certainty what the state of my brain will be after making this decision – this so-called 'decision'. Surely, that way he will know what my choice is going to be, that I'm about to pick up the blue one, even before I know that that's what I'm going to do. It's all pre-determined. I have no choice - no real choice. I am just going through the motions. This is the so-called free will/determinism problem. How to reconcile the grinding predictability of the physical brain and the rest of the physical world, with the mental sense that the future is open - the sense that it's up to us to decide what it will be. We have freedom to make genuine choices. It's a problem that scientists and philosophers have wrestled with for... well for centuries. Recently some have sought to solve the problem by calling upon quantum theory. Quantum theory is necessary for the description of the behaviour of very small objects – atoms and sub-atomic particles. What it shows is that on the very small scale, the future is not predictable, not with absolute certainty. The electrons that make up an atom - we never know where we're going to find them when we next look. And no, it's not a case of: 'Look more carefully' or 'Invest in more expensive measuring equipment'. No this is a built-in uncertainty - an uncertainty that's absolutely fundamental to nature itself. At the subatomic level, all we can ever hope to do is predict the odds of various possible outcomes. Which of course doesn't seem to square with normal everyday life - where things are predictable - up to a point. There! I knew that was going to happen. It was fixed that way, predicatable. But here we're not looking at individual atoms. This array is made up of a vast, vast number of atoms. So what we are looking at here is the average behaviour of many, many atoms - and that average behaviour is predictable. But not the behaviour of the individual atom or subatomic particle. That is governed by chance - pure random chance. So this raises an intriguing possibility: If the action of the brain corresponding to the making of a choice, if that action is something happening on the very small scale up here - perhaps involving the movement of an individual atom, then the behaviour is not predetermined. It's subject to chance, random chance. And some have latched onto this to claim that that is how we come to make a free will decision.

But is this the answer? Suppose I can't make up my mind which one to choose, the blue or the red. What could I do? Okay, blue tails, red heads. But is that me making a decision - a conscious decision? No. That's me leaving it to chance, opting out of making a conscious decision. No. Quantum uncertainty, with its dependence on chance, seems to go the way of all previous attempts to solve the free will/determinism problem. It's a problem like that of consciousness itself, a problem we seem to be stuck with. I can't see how it will ever be solved. Not to everyone's satisfaction.

After piece

Tony: Russell, with that coin business, you said it was pure chance. But it was your choice to leave it to chance. So you were exercising genuine free will then.

Russell: No... No If what's going on up here is just chance, then my 'decision' to leave it to chance as you put it was itself just chance. Right?

Tony: Yeah. Okay. Time to move on everybody.