

... talking paradigms

Karl, what's a paradigm when it's at home?

Not right now, mate ... I'm trying to work out how my mobile phone works ... it's supposed to speak in fifteen languages or something.

No, no ... tell me - it'll pay back this round I've just got in there you go: one packet of cheese 'n' onion and a pint of the black stuff.

You're joking ... I'll never drink a whole pint of Bovril! Oh, okay ... 'paradigm' is one of those words everyone uses but few understand. Its current importance begins with a massively influential book from 1962 by Thomas Kuhn titled *The Structure of Scientific Revolutions*.

Sounds vaguely familiar never read it though.

Well, before Kuhn a lot of people thought science was about building theories based on induction from experience and experiments. Kuhn reversed this, saying that the theory came first and problems, data and experiences were based on that, rather than the other way round.

Okay, so a 'paradigm' is a theory?

Ah, well there's the rub: Kuhn was pretty vague. Sometimes he seems to mean a theoretical framework, other times a whole science or even a worldview. Basically he said that any community of scientists has an unquestioned theory or set of beliefs they share as a group – their 'paradigm'. Most of the time they're working on filling this out, constructing experiments to extend it into new areas or solve contradictions and gaps. After a long while, though, this 'normal science' builds up so many contradictions and problems that the paradigm gets thrown into crisis. Then we're into a period of 'revolutionary science', a crisis where a new paradigm gets chosen, which is then slowly filled out, and so on.

So he said science is all about choosing and improving paradigms?

That's the gist of it, my friend. It threw the understanding of science on its head. Instead of the world shaping knowledge and that knowledge defining a scientific community, here we have a community choosing a way of thinking and that 'paradigm' shaping the world they experience. So, a new paradigm means a whole new world for those who share it! What's more, Kuhn argued that there's no place outside a paradigm from which to choose between competing paradigms – they're 'incommensurable', so the choice of a new one isn't so much logical or rational as like a religious conversion or leap of faith. Luckily these revolutions aren't very frequent, so scientists don't just collapse into confusion.

But my lecturer listed a number of paradigm shifts we're having right now.

But she also thought Postman Pat was a fundamental break with modernist Man Pat. The problem is that Kuhn's ideas were only half-digested. Instead of seeing normal science as valuable, many think progress means being in crisis and declaring total breaks with the past. So they're busy making up new paradigms which nobody else uses as they're too busy dreaming up their own! And where physics has undergone one or two revolutions in a century, we've lost count of ours. Worse than that ... though Kuhn didn't say this himself, many take 'incommensurable' to mean communication is impossible between competing paradigms. So, we end up with a whole host of competing approaches, each claiming a whole new world of its own has emerged, and no rational way of choosing between them – a right relativist mess.

Okay, Karl, so what's relativism mean then?