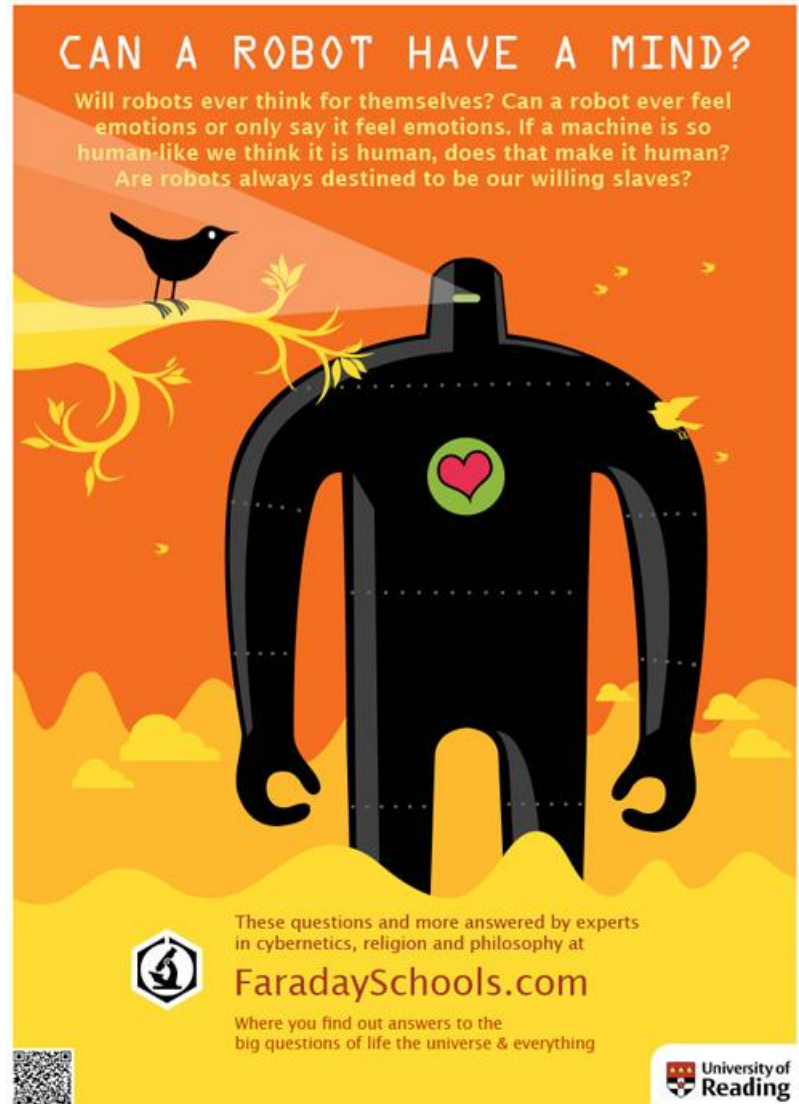


Can a robot have a mind? AND OTHER BIG QUESTIONS

Find out how science, religion and philosophy address the big questions of life the universe and everything ...
In the space of a day – at Reading University!



CAN A ROBOT HAVE A MIND?

Will robots ever think for themselves? Can a robot ever feel emotions or only say it feel emotions. If a machine is so human-like we think it is human, does that make it human? Are robots always destined to be our willing slaves?

These questions and more answered by experts in cybernetics, religion and philosophy at

FaradaySchools.com

Where you find out answers to the big questions of life the universe & everything

How would you like a clever, willing robot slave - Tempted?



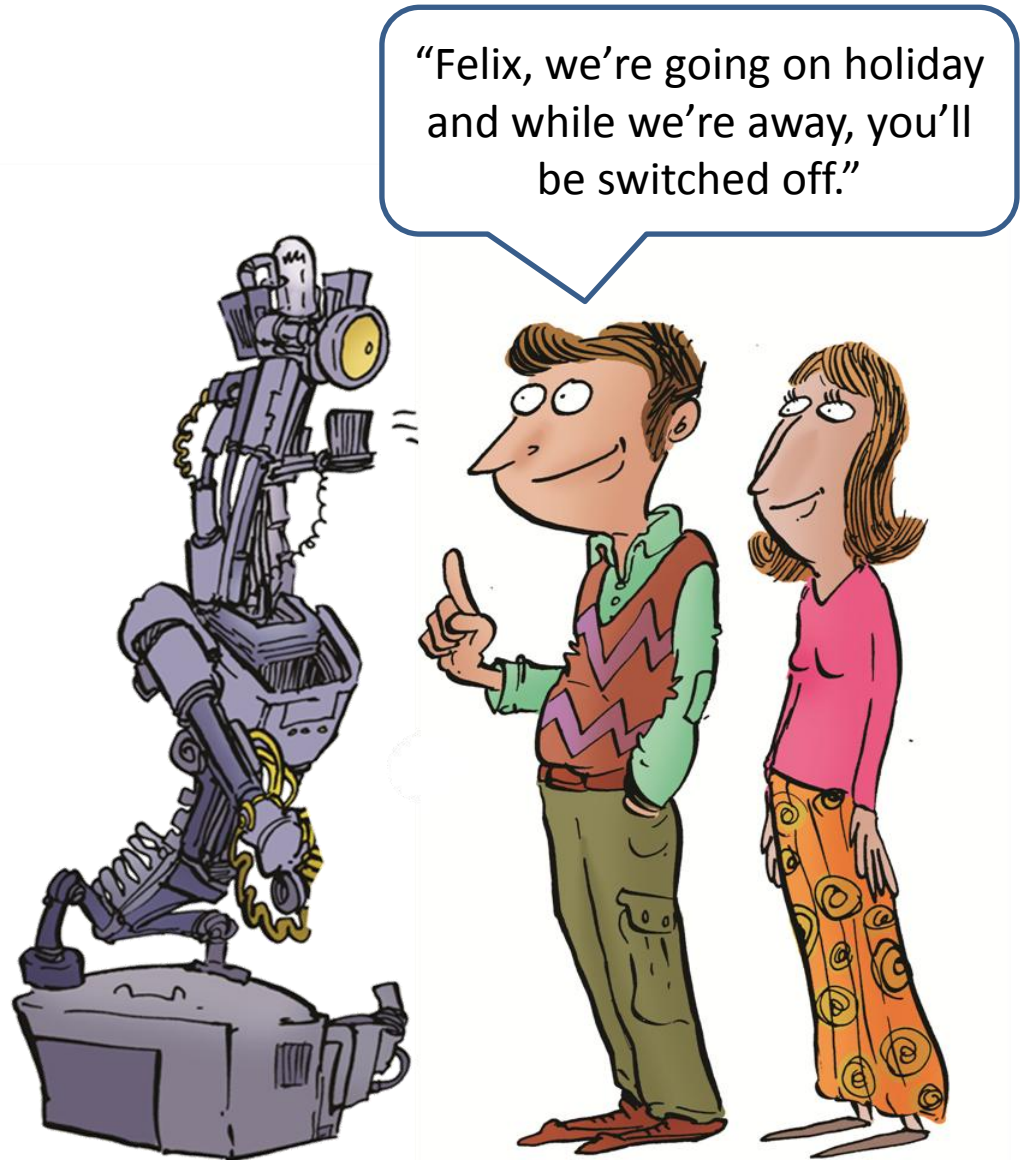
Imagine that it is so 'human' it
knows just how you think



But then again ...

QUESTION -
Would a robot with
a very advanced
brain be 'alive and
conscious'?

Would it be 'wrong'
to switch it off – is
that murder?



Just how human are these robots going to be?
Could a robot ever have a MIND or
even a 'soul'?



And would a
scientist
know if the
robot had
one or not?

How can we decide?

How can you decide if a robot is self-aware and thinking for itself?

How can you decide if it deserves the right to choose its own seat?



To address these questions, we will find scholars who can walk the bridges between

SCIENCE

**SCIENTIFIC
SPECULATION**

RELIGION

ETHICS

PHILOSOPHY



Big questions

*Will robots ever
be autonomous
and able to
think for
themselves?*

*Will they be
conscious and
self-aware?*

“I don’t think we will ever have a robot that is in all ways the same as a human because God wouldn’t let us do that – because then we’d think we’re as good as God. We’d think we’d made something that’s as good as a human and then what makes God special?”

“A robot is a machine made by humans – robots can imitate humans but they’re just obeying their programming. If the owner wants to turn it off, that’s their choice.

“If I owned a robot that seemed human I wouldn’t be able to turn it off, whatever anyone says!”

What do you think?

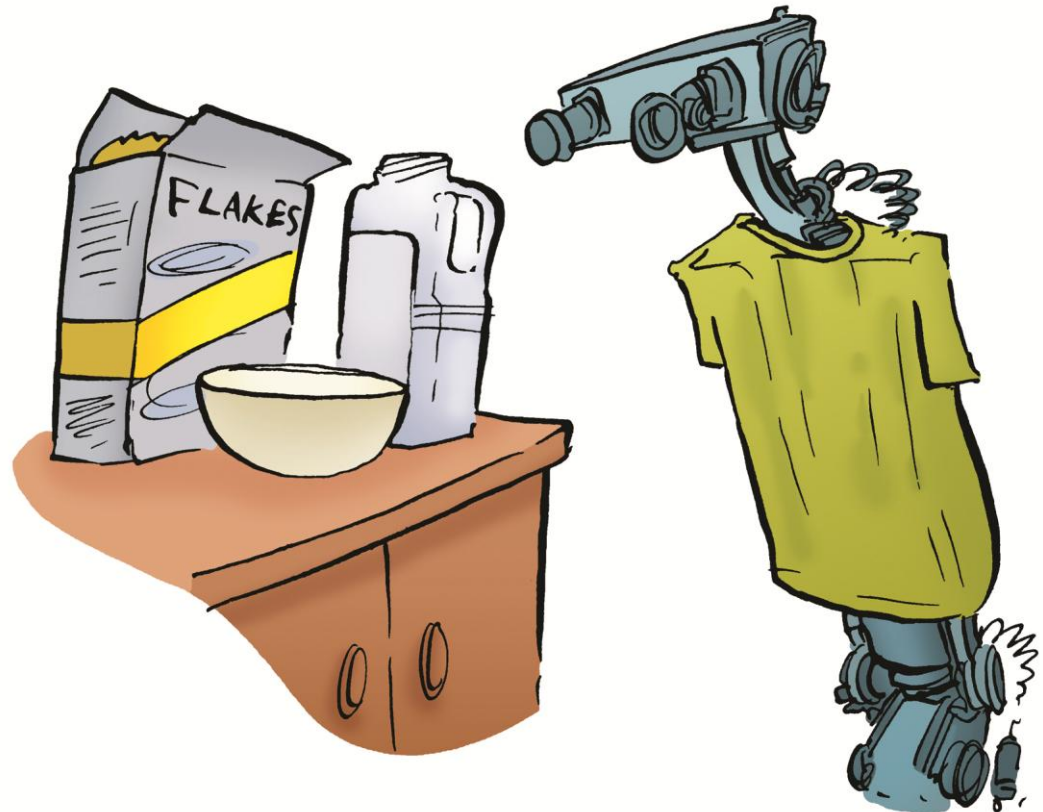
“I think you need to have stem cells and genes and cells to become really human – so that things can develop their own way.

Session 1

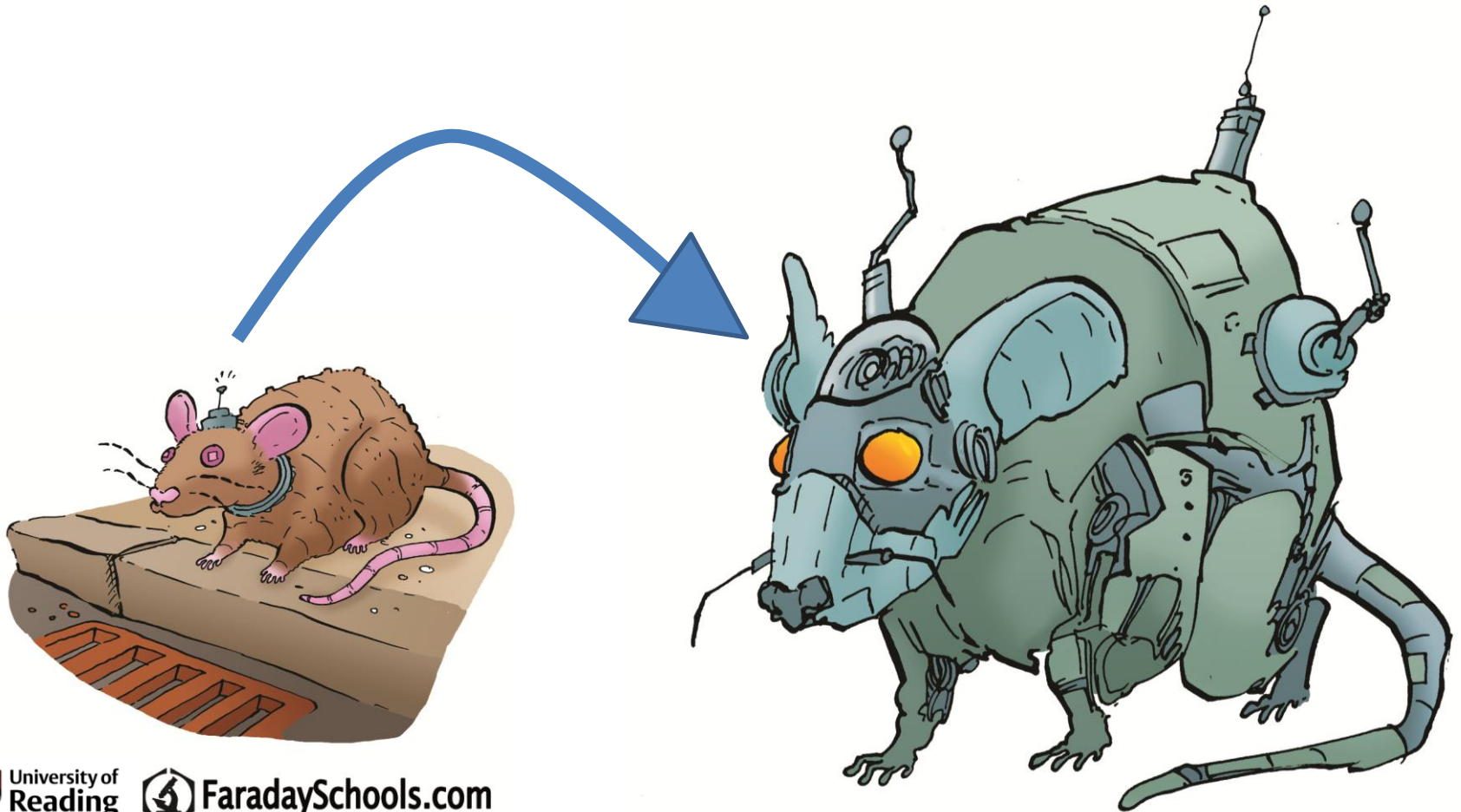
- *Scientists try to predict what robots might be like in the future ...
Based on what they know now ...*

Right now, it's hard to make a robot that can even spy out a box of cornflakes

Dr Nick Hawes,
computer
scientist explains
how his team
programmes
Dora to tackle
this problem



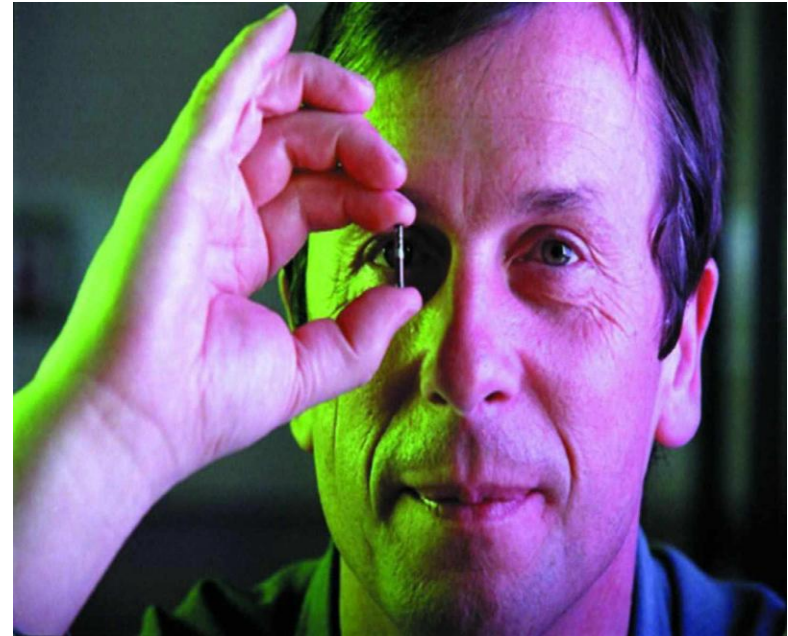
Professor Kevin Warwick is using a different method to make brains for robots – he uses rat brain cells



His work blurs the distinction between human and machine

Professor Warwick's work raises ethical questions but those questions are not easy to answer. Should this kind of research go ahead?

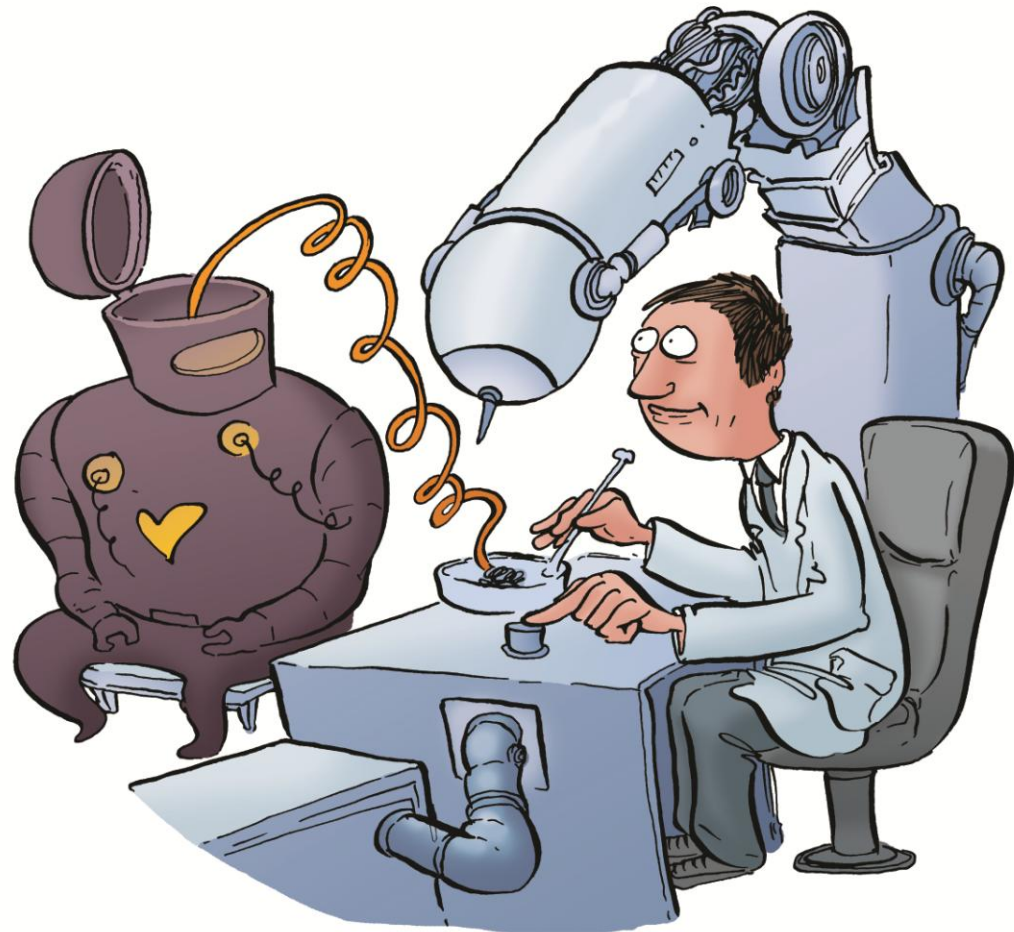
The applications of the research include a device that can help some people with Parkinson's Disease



Professor Kevin Warwick once had a chip implanted under his skin so that he could communicate with the gadgets around him. Sounds freaky ... But this same technology can help people with diabetes by providing other people with information about their condition in an emergency.

Right now, his robots are not that smart – but they're getting smarter!

Professor
Warwick thinks
he could in the
future grow
brains with
billions of
neurons – so
brains as big as
human brains



Prof Warwick predicts that the day is coming when we will start to wonder whether robots ARE 'alive'

Are you sure you're just a machine?



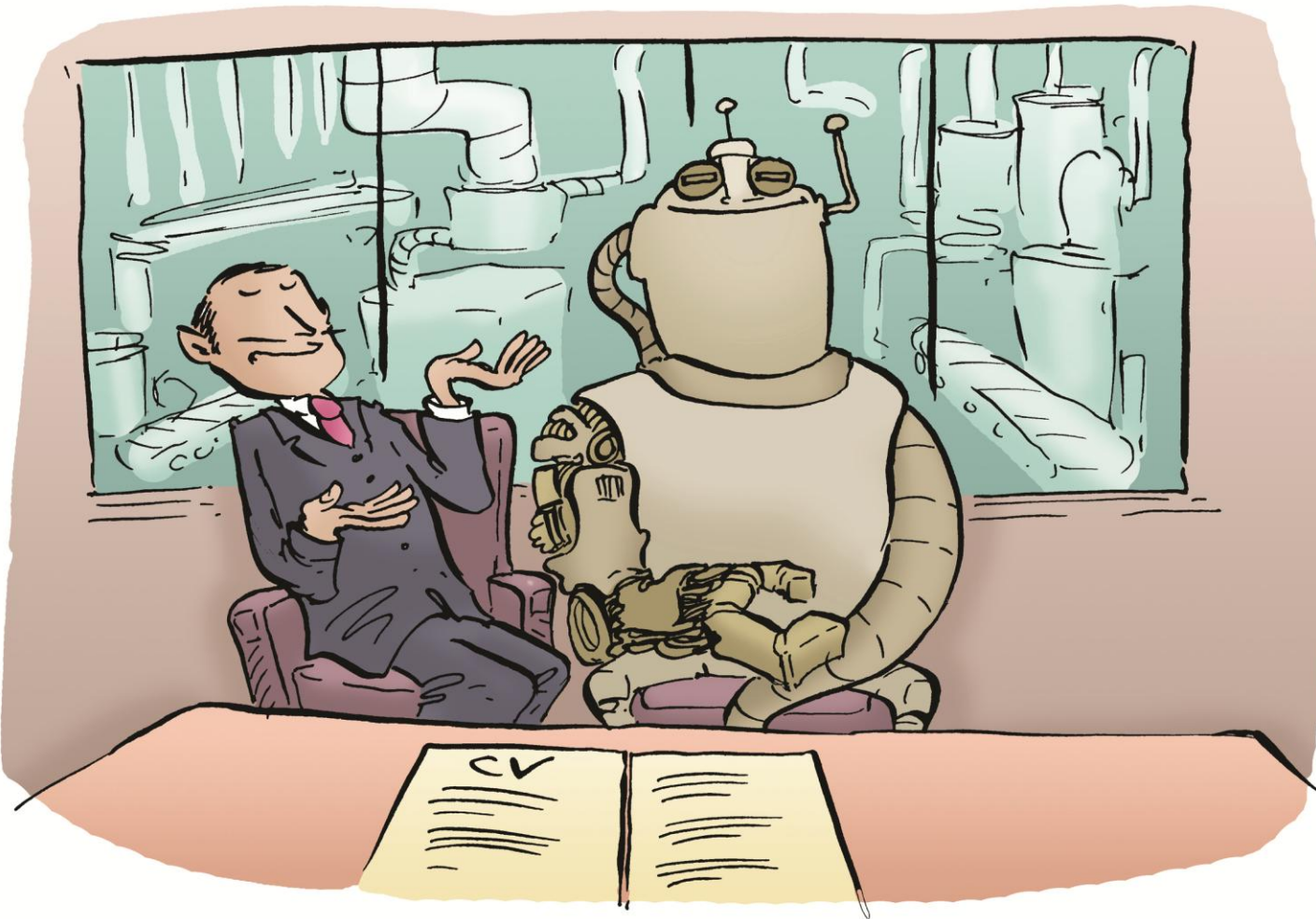
That depends on what you mean by 'just'!

Where will it end up?

He has recently written a paper (an article) for a Scientific journal, called "*Implications and consequences of robots with biological brains*"



And he wonders if the day will come when robots decide they don't want to work for us for free!



Questions, questions, questions

Will a robot ever be conscious?

Will it deserve the same rights as a human?

In his paper, Professor Warwick leads up to and asks the questions ... But he doesn't answer them!



*Why can't
scientists tell us
- Can a robot
ever be
conscious, have
a soul – and
deserve the
rights we do?*

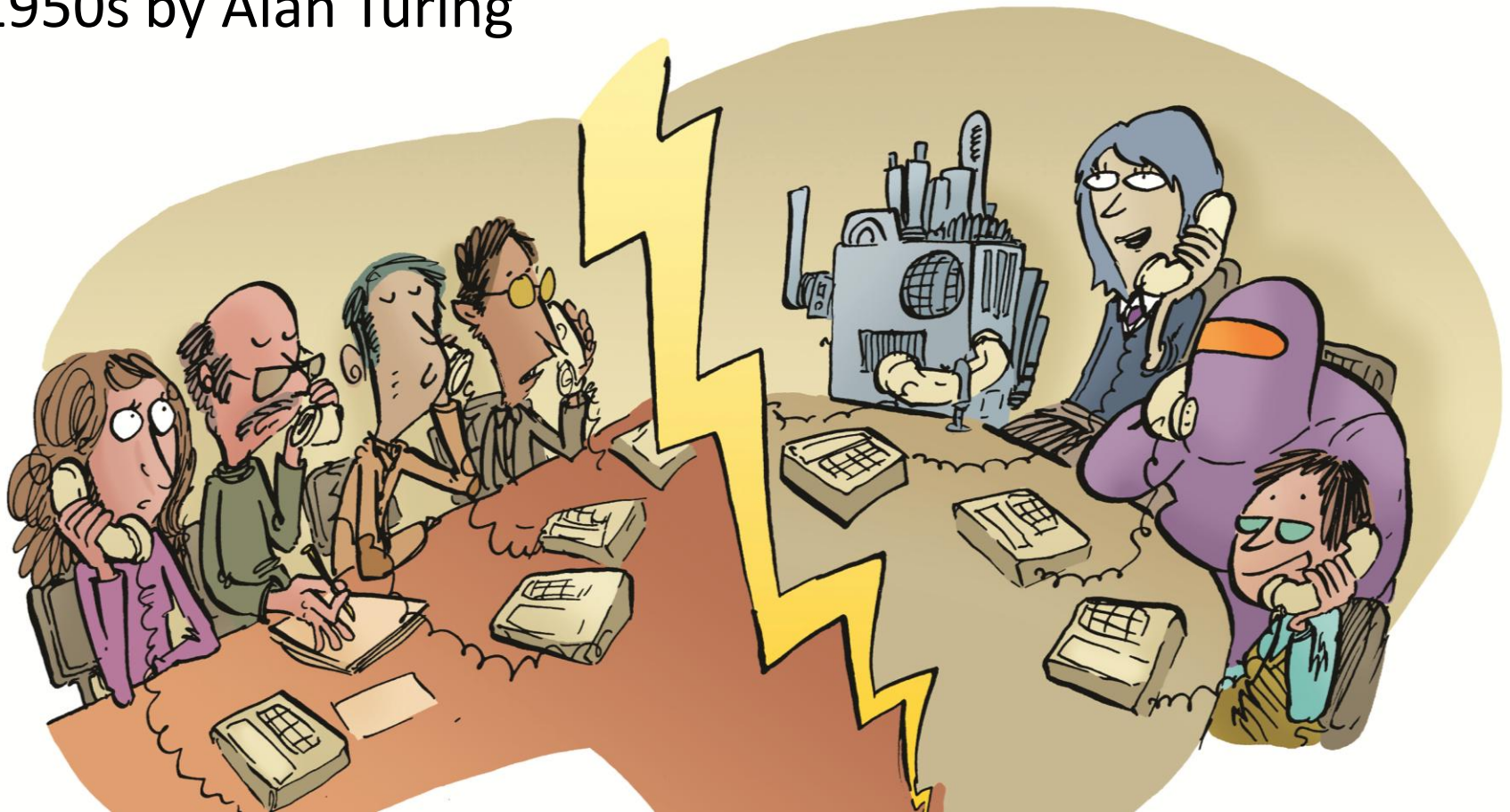
Consciousness: A slippery thing indeed

- Consciousness – in humans is very hard to pin down. We know we have it – we think it is due to how the brain works but it doesn't seem to be just one thing or in just one place.
- So until we can pin down what this means in humans, it will be impossible to come up with a way to know if robots have it!



The Turing Test

Scientists say it is too hard to know whether something is conscious – so instead they look at whether a robot can fool a human into thinking that he or she is talking to a human – it's called the Turing Test and was devised in the 1950s by Alan Turing



How scientists think

This is typical of how scientists think. If they meet a question that is too hard to answer, they ask a different question instead!

No, I don't know whether you're conscious – but does that matter?



Conclusions

*There are many questions
that science cannot answer*

Scientists can
speculate about some
of these questions –
such as whether we
will ever be able to
make robots that can
think for themselves:



Conclusions

There are also questions that stretch beyond science to ever address – such as -



*Will robots
ever be
conscious and
self-aware?*

These questions are identified by scientists and presented for discussion by scholars and the public.

TO SUM UP: What we found out

- Progress in science – in this case robotics – raises many types of questions:
 - Some are questions that scientists can answer now;
 - Some are questions where scientists can speculate about what they will discover next
 - Some are questions that science cannot address – such as “Can a robot ever be considered equivalent to a human?”
 - In those situations ... Scientists often ask a different question!



What now?

It's time to call in a wider group of scholars!

