

# Scams, squirrels and drug money

Stephen Lea talks to Lance Workman about his work with humans and other animals

**You have two areas of academic interest – animal behaviour and economic psychology. On the surface they sound quite different. Do you see parallels?**

There are parallels, although probably more important is the fact that for me they had a common root. When I did my PhD in Cambridge with Alan Watson I was working on models derived from the literature on decision theory, but actually applying them to try and measure various motivational things in rats. I suddenly found that this work was going off in three rather different directions. The first direction was applying decision theory to animal behaviour, in what has since become known as behavioural ecology. The second was what happens when you try to apply ideas that have been developed in human cognitive psychology to the behaviour of animals – that's particularly where my interest in animal cognition comes from. And the third direction was my attempts to measure incentive in my rats.

In doing this I stumbled on the fact that there was another group of people out there who were really interested in measuring incentive. They were called economists, and I realised it might actually be quite useful to understand what they were doing. As soon as I started reading some economics I realised that they were much more sophisticated than we were at the business of trying to measure incentive. But I also realised that their ideas of psychology were completely nonsensical and that it might be quite rewarding to try and bring these two disciplines together a bit.

**You have looked at animal cognition for many years. The term wasn't even around when you started. How has it changed broadly since you began?**

Well, when I first started out the dominant intellectual movement around animal behaviour within psychology was Skinner's radical behaviourism. Back then you really had to struggle to establish the

validity of using any form of cognitive language to describe what animals were doing. Then in the early 80s a lot of people simultaneously got much the same idea, which was that it's not helpful to try and prove that animals have memories, say. What might be much more helpful would be to take questions that have proved to be fruitful in the analysis of human memory and see whether they make any sense when we apply them to what animals are doing. That approach gave rise to a whole new way of doing research, and also to the new title of 'animal cognition'.

**This is a contentious area for a lot of people... it tends to polarise them into advocates and sceptics when it comes to animal cognition. Do you personally think there's a general continuity between ourselves and other species?**

Yes, at one level that is the key question. Prior to Darwin everything in Western thought pointed to a massive discontinuity between humans and other animals – driven initially by theology and later by philosophers like Descartes. Humans were thought to have souls or minds or consciousness, depending on the language, and animals were thought not to have them – and that made all the difference. So it's not surprising that many people were against the ideas about biological continuity that Darwin introduced, and indeed that he explicitly said must apply at the psychological as well as the morphological level.

The idea of radical discontinuity between us and other species is by no means dead though. There are many people today who would say that human possession of language is what makes human cognition possible, so it is pointless to look for anything like it in non-linguistic animals. But it seems to be beyond debate that animals are able to do a large number of psychologically interesting things within the general area that in humans we call cognition – in learning, memory, perception and

attention – and I'm interested in studying those. Of course, I'm also very interested in how, if at all, the way those processes work in animals differs from the way the same processes work in humans, because it always seems to me that we don't really know what it is to be human unless we also know what it is to be non-human.

**One of the things you're interested in is how animals form categories. How can you test for this sort of thing with something like a squirrel?**

There is a classic test of whether an animal is responding at a categorical level – that is to train it to discriminate between a series of instances of, say, two different categories. We might use a whole series of pictures of cars to be responded to in one way and a whole series of pictures of houses to be responded to in another way. Then we want to see if they can transfer to new instances – new cars and new houses. If a squirrel successfully responds to those instances in the same way as to the previous ones then it suggests learning is happening at the level of the category.

We have to bear in mind that there might be cognitively simpler explanations concerned with perceptual similarity. That's when all the fun starts of trying to say what it really means to be discriminating at a categorical level.

**Let's turn to your interest in economic psychology. I get the impression this goes beyond academic interest. Is that a fair assumption?**

Oh absolutely! I sometimes say I do animal behaviour in order to keep myself honest as a scientist, and I do economic psychology in order to keep myself honest as a person. Most of my research in the area of economic psychology has been on things that are of practical and social importance. I've worked on areas like debt, particularly the sorts of psychological processes that go on when people are in severe and chronic debt. I've worked quite a lot on the psychology of poverty. I'm just winding up a research project that we have been doing with the Office of Fair Trading on the psychology of scams, which is also very interesting as to how people come to fall for some of these frauds.

**Are we talking about things like where people send you an e-mail saying, 'I've got 30 million dollars and you can have 10 million if you give me your bank details'? Do people really fall for that?**

I'm afraid they do. The numbers of people who fall for that particular kind of fraud are quite low, of course, but they are quite

high-value frauds when they do work. We have to bear in mind that, with such messages, it costs the fraudster very little to send out very large numbers. The ones that actually more people fall for are those where you are asked to send off £20 in order to realise these 200 million euros you've won on say the Spanish lottery. Obviously the cost of the person responding to that is much lower but more people are likely to do it and the fraudster cleans up by getting a lot of small bites rather than one very large one.

**You've got some interesting ideas about money. One of the things you and your colleagues have talked about with money is that it is both a tool and a drug. What do you mean by that?**

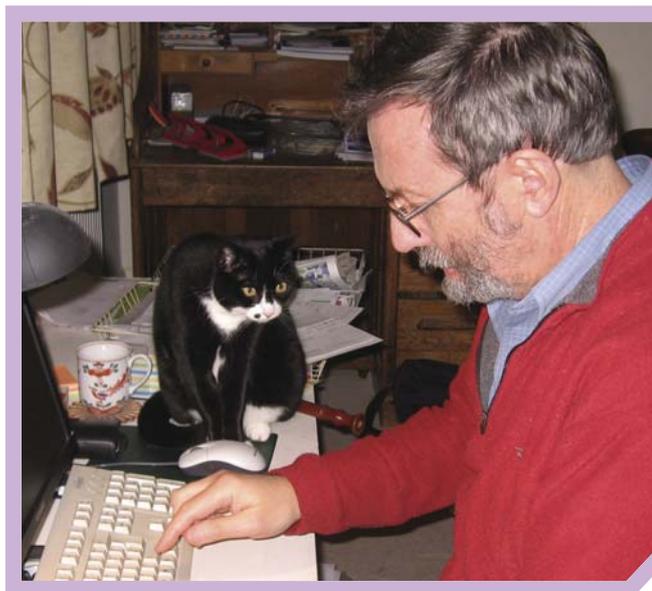
The conventional account of money is that essentially it's a tool, and lots of psychological theories line up around the notion that money is just a very convenient way of arranging economic transactions. The trouble with this is that it implies a very rational and cold approach in our behaviour towards money. This isn't actually what we observe – there are quite a lot of behaviours towards money which are odd in various ways.

The drug theory of money might help to explain these oddities. For example, one of the oddities of money is the inappropriateness of money as a gift in some contexts. The nearest I have come to being physically assaulted when carrying out psychological research was when I was doing a study with my long-term collaborator Paul Webley. According to economic theory, if you were going to give a gift that was morally taboo you could perhaps make it all right by making it more valuable. So what we did was to ask young people – students in fact – if they were going to give a cheque to their mothers as a birthday present, which we all know is socially unacceptable, how much would they give?

A significant number of people refused even to answer this question and said, 'No, I would not do it – there is no sum that I would make it up to. This question is not right and that's non-negotiable'. A small number even got really very angry about this – it was just totally beyond the pale to do this. Now from a rational point of view, if money is simply a tool for giving your mother pleasure then this response is all wrong. But if we consider money as a drug rather than just a transactional tool then this response makes sense. To use an analogy, it's like saccharin. Saccharin affects

centres in our brain that are designed by evolution to give us pleasure when we eat something that gives us energy, but it doesn't actually give us any energy. Sweetness tastes nice for a very good functional reason, but saccharin subverts that – it tastes nice without giving us the calories. The obvious drugs of addiction and pleasure have the same sorts of properties: they get to our pleasure centres without giving any functional benefit. So it makes sense to call saccharin a drug. Now our idea about money is that it can have that same effect – it can subvert the processes whereby functional goods give us pleasure, and make you feel pleasure without actually having any of the biological functions that pleasure would normally be linked to.

Of course money does work as a tool as well, but we argue that it is this drug aspect of money that leads to the odd behaviours about money. One of the things that supports this analysis is the



way that transactions change when money enters into them. When you go from acquiring good things in direct exchange for other good things, to using money to make the transaction, then the nature of the transaction changes. What love is there in prostitution? What real service is being a domestic servant? The moment the relationship is paid for its nature changes.

**Finally, and leading on from the relationship between students and money, you've been involved in looking at the difficulties that students face because they're getting into more debt as we have the double whammy of**

**rising fees and the recession.**

We've spent a lot of time looking at students' money management – that was driven by our interest in debt. This interest started at the time when student loans were coming in, and this seemed to be a very interesting natural experiment as we could look at how students' behaviour changed as a result of this political change. One widespread idea is that students with more money worries might have poorer academic outcomes, perhaps related to mental health problems and particularly depression. This ties in with one of the oldest findings in economic psychology, going right back to the turn of the 19th/20th century, when it was discovered in the USA that, as the stock market goes down, so admissions to mental hospitals go up.

Of course, we are seeing the link between debt and mental health on a much wider scale now with the current recession. I think that there are three

phenomena going on here that link mental health problems to economic changes during a time of recession. The first is the direct effect – when the economy takes a downturn then a certain number of people are put out of work or have their homes repossessed. These are highly distressing situations, and some will be tipped over the edge into mental problems. Second, there is an indirect effect, because the majority of us will not lose our jobs or our homes in a recession, but an awful

lot more of us will be afraid that we will. And thirdly, there's what I call 'atmosphere effects' – in an economic downturn things just feel different. The sort of general discourse around the state of the world becomes different and this can have an effect on people's mental health.

So mental health problems change for a number of quite complex reasons during a recession. And, to come back to where we started this bit of the conversation, when we combine these with the rise in student debt we need to be aware that the lives of young people could change quite rapidly. It's something that, as psychologists, we should be looking at.