

# Research fails to land the definitive answer

By Nigel Hawkes

THE argument over whether fish feel pain has been lengthy and acrimonious.

The early view was that because fish are cold-blooded they do not experience pain in the same way as mammals, which are warm-blooded. This made it possible to draw a distinction between hunting foxes and deer and angling.

In recent years this view has been ridiculed by animal activists, who point out that fish have nervous systems and must, for their own protection, be able to sense danger and escape from it.

Some experiments have attempted to answer the question by looking at the subsequent behaviour of fish that have been hooked. Dutch researchers in the 1980s com-

pared carp which, having been hooked, were held on either a tight line or a loose one. They found that the fish held on a tight line avoided food for some time afterwards, as if the experience had affected them quite significantly. By contrast, those held on a slack line quickly resumed feeding once they had been released.

A report prepared for the RSPCA in 1994 by a Bristol University scientist, Steve Kestin, made a similar point. He found that fish go to considerable trouble to avoid situations that could cause them harm and can learn rapidly in response to stimuli — both findings suggesting that they do feel pain.

Dr Kestin concluded: "It cannot be argued that fish experience pain in exactly the same fashion to humans. Such an ar-

gument is untestable. But it can be argued that the pain fish feel as a result of injury is likely to be just as important to them in their own way as human pain is to humans."

But other experts say that possession of a nervous system, while necessary for feeling pain, is not sufficient. What matters, according to Professor James Rose of the University of Wyoming, is not sensation but the emotional reaction to it.

Reaction to injury, in his view, is not the same as feeling pain. He uses the analogy of a human patient who is under a general anaesthetic. "Such a person will react physically to an external stimulus but will not feel pain," he says.

The reason is that fish lack the parts of the brain that generate the emotional or psychological response that we call pain. Human beings are dominated by the cerebral hemispheres, fish by the more primitive brainstem. They can feel, but in his analysis cannot feel pain.

The latest studies come from the Roslin Institute, famous as the place where Dolly the sheep was cloned. They show that fish exposed to unpleasant sensations do react in a way that suggests they can feel pain.

But they do not address the issue that was raised by Professor Rose. Are the fish simply reacting to a stimulus, or are they experiencing an emotion? To many people this will seem like a meaningless distinction, but it is not.

The difference is that between behaviourism and neuroscience. By projecting human experience on to animal and fish behaviour it may seem obvious that they experience pain as we do, but Professor Rose's approach suggests the opposite. The argument is not settled, and may never be.

## Fish facts

- There are 3.5 million anglers in Britain, making it the most popular participant sport.
- They spend £1.2 billion on fishing tackle, and £3.3 billion on petrol, fees and accommodation.
- Angling supports 6,000 jobs.
- Each caught salmon is estimated to generate £10,000 for the national economy.
- According to latest statistics from the Department for Environment, Food and Rural Affairs there are more than 7,000 commercial vessels and 15,000 fishermen.
- They catch 748,000 tonnes of sea fish a year valued at £550 million.
- There are 500 fish farms in Britain, of which 360

specialise in trout producing some 16,000 tonnes a year.

Some 364,900 tonnes of fish are exported to the continent.

Haddock, cod, whiting and plaice account for 52 per cent of the catch.

A third of the catch is shellfish, mainly crab, prawns and scallops.

The latest household food spending survey says the average person eats almost 5oz fish a week.

WHAT'S IMPORTANT

Should angling be banned?

E-mail your views to

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