SECTION 3 *Questions 28–40*

Read the text below and answer Questions 28–40.

Animals can tell right from wrong

Until recently, humans were thought to be the only species to experience complex emotions and have a sense of morality. But Professor Marc Bekoff, an ecologist at University of Colorado, Boulder, US, believes that morals are 'hard-wired' into the brains of all mammals and provide the 'social glue' that allows animals to live together in groups.

His conclusions will assist animal welfare groups pushing to have animals treated more humanely. Professor Bekoff, who presents his case in his book *Wild Justice*, said: 'Just as in humans, the moral nuances of a particular culture or group will be different from another, but they are certainly there. Moral codes are species specific, so they can be difficult to compare with each other or with humans.' Professor Bekoff believes morals developed in animals to help regulate behaviour in social groups. He claims that these help to limit fighting within the group and encourage co-operative behaviour.

His ideas have met with some controversy in the scientific community. Professor Frans de Waal, who examines the behaviour of primates, including chimpanzees, at Emory University, Atlanta, Georgia, US, said: 'I don't believe animals are moral in the sense we humans are – with a well-developed and reasoned sense of right and wrong – rather that human morality incorporates a set of psychological tendencies and capacities such as empathy, reciprocity, a desire for co-operation and harmony that are older than our species. Human morality was not formed from scratch, but grew out of our primate psychology. Primate psychology has ancient roots, and I agree that other animals show many of the same tendencies and have an intense sociality.'

Wolves live in tight-knit social groups that are regulated by strict rules. Wolves also demonstrate fairness. During play, dominant wolves will appear to exchange roles with lower-ranking wolves. They pretend to be submissive and go so far as to allow biting by the lower-ranking wolves, provided it is not too hard. Prof Bekoff argues that without a moral code governing their actions, this kind of behaviour would not be possible. Astonishingly, if an animal becomes aggressive, it will perform a 'play bow' to ask forgiveness before play resumes.

In other members of the dog family, play is controlled in a similar way. Among coyotes, cubs which are too aggressive are ignored by the rest of the group and often end up having to leave entirely. Experiments with domestic dogs, where one animal was given some 'sweets' and another wasn't, have shown that they possess a sense of fairness as they allowed their companion to eat some.

Elephants are intensely sociable and emotional animals. Research by Iain Douglas-Hamilton, from the department of zoology at Oxford University, suggests elephants experience compassion and has found evidence of elephants helping injured members of their herd. In 2003, a herd of 11 elephants rescued antelopes which were being held inside an enclosure in KwaZulu-Natal, South Africa. The top female elephant unfastened all of the metal latches holding the gates closed and swung them open, allowing the antelopes to escape. This is

thought to be a rare example of animals showing empathy for members of another species – a trait previously thought to be the exclusive preserve of humankind.

A laboratory experiment involved training Diana monkeys to insert a token into a slot to obtain food. A male who had become skilled at the task was found to be helping the oldest female, who had not learned how to do it. On three occasions the male monkey picked up tokens she dropped and inserted them into the slot and allowed her to have the food. As there was no benefit for the male monkey, Professor Bekoff argues that this is a clear example of an animal's actions being driven by some internal moral compass.

Since chimpanzees are known to be among the most cognitively advanced of the great apes and our closest cousins, it is perhaps not remarkable that scientists should suggest they live by moral codes. A chimpanzee known as Knuckles is the only known captive chimpanzee to suffer from cerebral palsy, which leaves him physically and mentally impaired. What is extraordinary is that scientists have observed other chimpanzees interacting with him differently and he is rarely subjected to intimidating displays of aggression from older males. Chimpanzees also demonstrate a sense of justice and those who deviate from the code of conduct of a group are set upon by other members as punishment.

Experiments with rats have shown that they will not take food if they know their actions will cause pain to another rat. In lab tests, rats were given food which then caused a second group of rats to receive an electric shock. The rats with the food stopped eating rather than see this happen.

Whales have been found to have spindle cells in their brains. These specialised cells were thought to be restricted to humans and great apes, and appear to play a role in empathy and understanding the emotions of others. Humpback whales, fin whales, killer whales and sperm whales have all been found to have spindle cells. They also have three times as many spindle cells as humans and are thought to be older in evolutionary terms. This finding suggests that emotional judgements such as empathy may have evolved considerably earlier in history than formerly thought and could be widespread in the animal kingdom.

Questions 28–32

Complete the summary below.

*Choose **ONE WORD ONLY** from the text for each answer.*

Write your answers in boxes 28–32 on your answer sheet.

Complex social behaviour in wolf packs

Wolves live in packs and it is clear that there are a number of **28** ..... concerning their behaviour. Some observers believe they exhibit a sense of **29** ..... . The stronger, more senior wolves seem to adopt the roles of the junior wolves when they are playing together. They act as if they are **30** ..... to the juniors and even permit some gentle **31** ..... . What is even more surprising is that when one of the juniors gets too forceful, it bends down begging for **32** ..... . Only when that has been granted will the wolves continue playing.

Questions 33–37

Look at the following animals (Questions 33–37) and the list of descriptions below.

Match each animal with the correct description, ***A–G****.*

Write the correct letter, ***A–G****, in boxes 33–37 on your answer sheet.*

33 coyotes

34 domestic dogs

35 elephants

36 Diana monkeys

37 rats

List of Descriptions

A	often attack peers who fail to follow the moral code
B	appear to enjoy playing with members of a different species
C	sometimes share treats with a peer
D	may assist a peer who is failing to complete a task
E	may be driven away by their peers if they do not obey the moral code
F	seem unwilling to benefit from something that hurts their peers
G	may help a different type of animal which is in difficulty

Questions 38–40

Choose the correct letter, ***A****,* ***B****,* ***C*** *or* ***D****.*

Write the correct letter in boxes 38–40 on your answer sheet.

38 What view is expressed by Professor de Waal?

- **A** Apes have advanced ideas about the difference between good and evil.
- **B** The social manners of some animals prove that they are highly moral.
- **C** Some human moral beliefs developed from our animal ancestors.
- **D** The desire to live in peace with others is a purely human quality.

39 Why does Professor Bekoff mention the experiment on Diana monkeys?

- **A** It shows that this species of monkey is not very easy to train.
- **B** It confirms his view on the value of research into certain monkeys.
- **C** It proves that female monkeys are generally less intelligent than males.
- **D** It illustrates a point he wants to make about monkeys and other creatures.

40 What does the writer find most surprising about chimpanzees?

- **A** They can suffer from some of the same illnesses as humans.
- **B** They appear to treat disabled peers with consideration.
- **C** They have sets of social conventions that they follow.
- **D** The males can be quite destructive at times.

→ p. 128