Part 6

You are going to read extracts from articles in which four experts discuss the reasons why animals, including humans, sleep. For questions 37-40, choose from the experts A-D. The experts may be chosen more than once.

Why do we sleep?

A

Although an average human spends a third of their life sleeping, there are great variations in how much time other animals devote to it. For some, it appears to be remarkably little, though there is clear evidence that all species do spend some time asleep. As many major bodily restorative functions occur almost entirely during that time, it seems reasonable to conclude that this is the principal purpose of sleep. The benefits to the human memory of sleep still need to be assessed accurately and conclusively, however, and may indeed have been overrated. Indeed, some assert – though the findings they cite are unconvincing – that sleep is merely something that animals are able to enjoy when they have no more pressing needs, such as eating or reproducing. In many circumstances, or so they say, sleeping may simply be a less dangerous choice than roaming around and exposing oneself to predators. However, evidence to support this view remains sparse at best.

B

Most experts believe that sleep is a universal requirement in animals, and I would not differ from that viewpoint. It is nevertheless true that nobody has yet identified the core function of sleep. Sleeping at night or day was very probably an adaptation for survival at a time of daily vulnerability through low visibility or oppressive temperature. Over millennia, its role developed and is now far more complex. The argument that it serves predominantly to maintain and repair the body fails to convince, as this can be done while resting as well as while sleeping. Of more interest is the research into the role of sleep in memory, particularly memory consolidation. There is solid evidence of its prime importance in this area, and the significance of the variations in electrical activity detected in the brain during sleep remains a fascinating area to investigate.

C

Nobody really knows why we sleep, though theories and counter-theories abound. Research into the functions of sleep has proved beyond doubt, in my opinion, that it assists in memory formation. It is certain, however, that sleep is important for other reasons, and I subscribe to the view that its primary role is to allow us to recover from any damage or wear sustained during waking hours. Given this, it fascinates me to discover that some animals, though admittedly very few, have no need for it. The evidence for this, however unlikely it may seem, appears indisputable. Nevertheless, this does not lead me to conclude, as others have done, that sleep is merely a means of conserving energy at times when other activity would serve no useful purpose. It is certainly safe to say that the investigation into and debate about the reasons why animals sleep will continue for a long time.

D

Why animals sleep is the subject of debate, and yet the search for complex reasons may be misguided. One proposition is that sleep restores the brain and body in a way impossible to achieve through resting whilst awake. I believe, however, that this need for periods of sleep has its roots in the simple fact that in nature, efficient use of energy resources is vital – if a species uses those it has even more effectively, it gains an advantage over similar species, especially if sleep occurs during a part of the day or night with little opportunity to do anything more useful such as obtain food. There is ample evidence that, without exception, no species can survive without sleep, and there are obvious advantages from an evolutionary point of view for animals to sleep through periods of time during which otherwise they would be most at risk from predators.

Which expert

has a different view from the others regarding whether all animals sleep? **37** ☐

shares D's view on whether sleep evolved as a way for animals to remain safe? **38** ☐

expresses a different view from B on the extent to which sleep aids memory? **39** ☐

takes a similar view to C regarding the importance of sleep for body repair and maintenance? **40** ☐