鹿児島大　2013年

２

次の英文を読んで，後の設問に答えなさい。

Have you ever been lost in a big city, mapless, and in a rush to make an appointment? If so, then you know how important it is to find someone who can give accurate directions and is trustworthy. When we find someone, (1)we evaluate their information on the basis of several characteristics, including what the person looks like, how confident they sound, and the extent to which their information appears truthful. How do animals evaluate the truthfulness of spatial information?

In our exploration of spatial navigation in animals, I argued that honeybees, like many other animals, have an exquisite sense of where they are in space, and where they are relative to a home base. To fly home, they use landmarks and their dead reckoning sense. They may also access, as some have argued, an internally represented cognitive map. You will recall that the biologist Jim Gould conducted an experiment to determine whether honeybees would fly out to feed from a food source located on a boat in the middle of a lake. These were the precise instructions from the hive mates who had been trained to fly out to this spot to feed on such food. After the dance, however, Gould observed that (2)the honeybees stayed put, as if they had rejected the directions to fly and feed. Why? Because, food has never been found out in the middle of this lake, or presumably any lake, and thus the information in the signal was unreliable, inaccurate. The hive members refused to move, treating the signal skeptically. The control experiment makes this interpretation quite ( A ), given that the bees flew to the boat if it was displaced the same distance away but on the edge of the lake, a presumably more likely place to find bee food.

What we don’t learn from Gould’s work is the nature of the bee’s knowledge, the extent to which an individual’s own knowledge of pollen location can override the social message. For example, if a bee knows that a field of flowers has been burned down, leaving no pollen behind, would it accept or reject a dance indicating pollen at this location a week after the burn? What about one year after the burn, when there has been time for new growth? (3)If an experimenter brings the bees to the lake and allows them to feed from the boat, would they then follow the dancer to this location? If a bee repeatedly lies about the location of pollen, does she lose ( B )? Is she punished for falsely crying pollen?

We don’t have answers to these questions. However, the critical aspect of Gould’s work for the present discussion is that bees, and perhaps other animals, can check on the veracity of a piece of information by comparing what they are told with ( C ).

(Partially excerpted from *Wild Minds: What Animals Really Think* by Marc Hauser)

(注)

spatial：spaceの形容詞形 exquisite：卓越した

dead reckoning：推測航法(出発点からの針路と航程によって現在位置を推算しながら進む航法)

cognitive map：認知地図(人間や動物がもつ環境空間についての認知構造)

hive：ミツバチの巣箱 skeptically：懐疑的に

control experiment：対照実験(結果を検証するための比較対象を設定した実験)

pollen：花粉 override：～に優先する veracity：真実性

設問

(1) 下線部(1)について，私たちが情報を評価する際に手がかりとする特徴は何か，日本語で3つあげなさい。

(2) 下線部(2)にあるように，ミツバチが餌のある場所へ飛んでいくのを拒絶したのはなぜか，日本語で答えなさい。

(3) 前後の文脈から判断して，空欄( A )に入る最も適切な単語を，以下の選択肢から選んで記号で答えなさい。

(ア) doubtful (イ) elementary (ウ) flexible (エ) reasonable

(4) 下線部(3)について，the dancerの意味を明らかにしながら和訳しなさい。

(5) 前後の文脈から判断して，空欄( B )に入る最も適切な単語を，以下の選択肢から選んで記号で答えなさい。

(ア) command (イ) food (ウ) profit (エ) respect

(6) 前後の文脈から判断して，空欄( C )に入る最も適切な語句を，以下の選択肢から選んで記号で答えなさい。

(ア) the way they are sacrificed (イ) what they have experienced

(ウ) the way other animals do (エ) what the hive mates indicate