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Like many creatures, humpback whales migrate long distances for feeding and mating purposes. How animals manage to migrate long distances is often puzzling. In the case of humpback whales, we may have found the answer: they may be navigating by the stars, much as early human sailors did. What we know about humpback whales makes this a distinct possibility. First, humpback whales seem to be intelligent enough to use stars to navigate by. Whales' brains have a high degree of complexity'a common determiner of intelligence. This suggests that the whales' brain power far exceeds that of most other animals. The whales' well-developed cognitive ability seems to provide a sound basis for the ability to use a complex, abstract system of sensory stimuli such as the night sky for orientation. Second, humpback whales migrate in straight lines. Animals can maintain movement in a straight direction for long distances only if they orient themselves by some external objects or forces. Many birds and other terrestrial creatures, for example, use physical landmarks to help them stay on track as they migrate. Whales, which swim in the open ocean, cannot rely on land features; they could, however, rely on stars at night to provide them with external signs by which to maintain direction over long distances. Third, humpback whales exhibit an unusual behavior: they are sometimes observed floating straight up for minutes at a time, their heads above the water as though they were looking upward. The behavior is known as spy-hopping, and it is very rare among marine animals. One explanation for the function of spy-hopping is that the whales are looking at the stars, which are providing them with information to navigate by.

Now listen to part of a lecture on the topic you just read about. The theory that humpback whales use the stars to navigate the open seas is a fascinating one. But the evidence supporting the theory is not very convincing. First, there doesn’ t seem to be any real connection between intelligence and an animal’ s ability to use stars for navigation. You know, there are other animals that use stars to navigate. Some birds have this ability—like ducks, for example. Now, the general cognitive ability of ducks is only average—they are not highly intelligent. The fact that the ducks evolved the ability to use stars for navigation does not seem to have much of a connection to their overall intelligence. It’ s just an instinct they were born with, not a sign of intelligence. So, the fact that humpback whales happen to be intelligent does not make them particularly likely to use stars for navigation. The two things just don’ t seem to be connected. Second, there may be a different explanation for the humpback whales’ ability to navigate in straight lines. Remember that for animals to be able to do this, they have to sense some external object or force. Well, the external force the whales could be sensing is Earth’ s magnetic field. Humpback whales have a substance in their brains called biomagnetite. Generally, the presence of biomagnetite in an animal’ s body makes that animal sensitive to Earth’ s magnetic field. The fact that there’ s biomagnetite in the brains of humpback whales suggests that they orient themselves by the magnetic field rather than the stars when they migrate. Third, spy-hopping probably has nothing to do with looking at stars.
Spy-hopping is rare, but there are other animals that exhibit it. Some sharks do it for example. But sharks don’ t migrate or look at stars. Sharks spy-hop to look for animals they want to hunt. And another thing: humpback whales often spy-hop during the day when no stars can be seen. So to suggest that the function of spy-hopping is to look at stars is pure speculation.

Summarize the points made in the lecture, being sure to explain how they cast doubt on the specific points made in the reading passage.

Do you agree or disagree with the following statement? The ability to maintain friendships with a small number of people over a long period of time is more important for happiness than the ability to make many new friends easily. Use specific reasons and examples to support your answer.