

Qualia

Dolphins speaking whale?

February 6, 2012 | Author: AAAS member -- Freelance Writer Mary Bates, Ph.D.



Dolphins, like the bottlenose dolphin shown surfing the wake of a boat, are incredibly smart mammals whose brains continue to amaze researchers. (Photo: U.S. Fish and Wildlife Service/File)

Scientists wanted to record the sounds made at night by the five dolphins at the Planète Sauvage dolphinarium in *Port-Saint-Père*, France. Martine Hausberger of the University of Rennes and colleagues hung underwater microphones in the tank because little is known about what dolphins sound like at night. What they found surprised and amazed them.

During one night recording, the scientists heard 25 new sounds that they had never heard from the dolphins before. Dolphins are known for their mimicry, so the scientists searched their environment to try to find where the dolphins heard these strange noises. They discovered that during the dolphins' daily shows, Planète Sauvage played a soundtrack that featured music, sea bird calls, dolphin whistles – and humpback whale songs. The dolphins appeared to be mimicking the whale songs hours after they heard them. And it just gets weirder.

The dolphins only made these sounds at night, between about 1 a.m. and 3 a.m., when they were resting and possibly even sleeping. They had never been trained or rewarded for making whale-like sounds. All five of the dolphins had been born in captivity, and so had never encountered an actual whale.

Hausberger and her colleagues played typical dolphin sounds, typical whale sounds, and the dolphins' nighttime vocalizations to 20 biologists, none of whom knew the hypothesis of the study. About 76 percent of the time, they thought the dolphin imitations were actually whale sounds, particularly when the clips were slowed down to half-speed to make the dolphins' voices more similar to the deep voices of whales.

Until now, dolphins have been known to mimic sounds only immediately after hearing them. If these dolphins truly are imitating the whale songs they hear during their daytime performances, this would mark the first time that dolphins have been heard to rehearse new sounds hours after hearing them.

If it's not entirely clear what the dolphins are doing, it's even less clear why they are doing it. They could be mentally rehearsing the events of the day to come. Hausberger believes the shows might prime the animals to learn and remember information. The dolphins are rewarded for learning their performance routines and performing well. Perhaps this makes them more likely to learn other cues associated with their shows, like the soundtrack.

Hausberger is eager to find out if the dolphins are asleep and dreaming when they produce their whale imitations. Since dolphins don't sleep in the same way we do (one hemisphere of their brain sleeps at a time), not much is known about if or how they dream. The next step for Hausberger is to capture electroencephalogram recordings of the dolphins' brains at night to learn more about what their nocturnal brain activity looks like.

Although this study reports a small number of examples in only five animals, it presents an intriguing concept. Do dolphins dream? Do they rehearse their shows when they're resting at night? I imagine that after this paper, more scientists will be looking for the answers to these questions.

Related Links:

- [Read the paper](#) to learn more about the strange dolphin sounds recorded