ACOUSTIC RHYTHM DISCRIMINATION IN THE BOTTLENOSE DOLPHIN (*TURSIOPS TRUNCATUS*)

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The ability to discriminate among acoustic rhythms (i.e., temporal patterns) was investigated in a two-year-old Atlantic bottlenose dolphin (*Tursiops truncatus*). In Experiment 1, rhythm discrimination was examined using a habituation technique. The dolphin was presented with pairs of rhythms over a five-day period. In the first session of each day, she heard a rhythm for six minutes (e.g., rhythm A). In the second session of each day, she heard the previously played rhythm (e.g., rhythm A), followed by a different rhythm (e.g., rhythm B). An analysis of the dolphin's behavior suggested there was no systematic change in behavior when one rhythm was substituted for another, apparently because the dolphin did not habituate to rhythms within the time frame. In Experiment 2, the dolphin's ability to respond differentially to three acoustic rhythms was investigated. Each rhythm was used to solicit a different behavior. For example, the dolphin was rewarded for performing a leap in response to rhythm B, whereas she was rewarded for performing a spin in response to rhythm C. In test sessions, the dolphin did not respond differentially to the rhythms, but rather performed the behavior "spin" in 72% of the test trials. The results appear to be due to abbreviated training trials, the inexperience of the dolphin subject, and temporal similarities between the rhythms. A comparative analysis of rhythm discrimination in other species, and dolphins' production of temporal variations in their whistles suggests that it is probable that dolphins can perceive rhythms.

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