Hunting with Sound

Zoologists have long wondered how huge whales, such as the sperm whale, catch fishes as small as 4 cm long, and invertebrates as elusive and fast moving as squid. But size is not the only reason that the predatory habits of some of these animals, known as odontocetes (toothed whales), are unusual. The fossil record shows that odontocetes' teeth and beaks have become less, not more, functional over time. Then how do they catch their prey?

Recent evidence indicates that these sea mammals' secret weapon may be sound. Odontocetes immobilize prey with loud vocalizations. Zoologists have been able to record the animals' loud hunting bursts, called "bangs," and have found that they are of a different frequency from those used in echolocation, which is the normal form of auditory communication among whales and dolphins. Evidence indicates that when an odontocete emits a "big bang," at least one prey species—anchovies—is stunned, with hemorrhaging in their abdomens as a result of the power of the "bang." Studies are currently measuring the effects of low-frequency "bangs" on locomotion in a variety of other fish.