
"the grounding of the entire shuttle fleet for much of 1990." The shuttle has scored some dramatic successes, such as 1993's daring repair in space of the disabled Hubble telescope. But political support has ebbed, and funds for operations have fallen.

Project Apollo succeeded in part because Cold War fears seemed to obviate the need for the government to satisfy a wide variety of interests. Such conditions are not likely to be seen again. In these more "normal" times, Kay concludes, "big science" may simply be too much for democratic government to handle.

Puffinology

"The Puffins Keep Their Secrets" by Les Line, in *National Wildlife* (Aug.-Sept. 1994), National Wildlife Federation, 8925 Leesburg Pike, Vienna, Va. 22184.

Pity the puffin. Forever overshadowed by the penguin, this plucky sea bird leads a colorful life veiled in obscurity. Even careful scientific study, reports Line, former editor of *Audubon*, fails to reveal much about what puffins do or why.

Although puffins and penguins are similar in stature and demeanor, they are entirely unrelated and inhabit opposite ends of the earth. Like penguins, puffins swim well underwater and mob islands once ashore, but they can also take to the air. Puffins belong to the auk family of northern sea birds, populating islands in both the Atlantic and the Pacific. Penguins are confined to the far south seas of Antarctica. An estimated 15 million Atlantic puffins nest in Iceland, Newfoundland, California, and Maine. Pacific puffins—the rhinoceros auklet, the horned puffin, and the tufted puffin—number about six million and are spread from the Aleutian Islands to the Alaskan mainland.

Puffins disappear for eight months at sea. "What they do out there, even where they go in winter," Line notes, "remains a scientific mystery." They court and mate on water, sporting attractive bills, tufts, and horns whose brilliant colors disappear after the breeding season. The same eye-catching, trian-

gular bills later serve as chisels when the puffins come ashore to dig their nesting burrows and lay their eggs. With dogged persistence, they scrape and push their way into the island turf until their burrows are spacious and rock-free. Home remains home every year thereafter—to be redug and reused until, in some cases, the island is stripped bare by excavation, wind, and weather.



Such labors seem extreme for one egg—all that a puffin will lay in a season. Six weeks pass before the egg hatches and six more pass before the puffin chick is ready to experience sea and sand. During that time its parents are diving as deep as 200 feet in the ocean, several times a day, to fetch fat-laden sand eels and capelin (smelts) for their young. This nutritional treasure is guarded from pirating herring gulls in a unique way: puffins coming home from the hunt hover above their colony, forming a large group, and land all at once to discourage attacks on individuals. But against a far more serious threat, the radical reduction of the capelin fisheries by fishing fleets, the puffins have no defense whatsoever. And that, says a specialist quoted by Line, "doesn't bode well" for the puffin and other denizens of the northern seas.

The Secrets of Baby Talk

"Phases in the Child's Development of Language" by John L. Locke, in *American Scientist* (Sept.-Oct. 1994), P.O. Box 13975, Research Triangle Park, N.C. 27709.

When baby utters his first "mama" at age one, adults exult that he has finally begun learning to speak. But his lessons in language began long before. Even in the womb, the infant's neural and vocal senses are being actively developed, writes Locke, director of the neurolinguistics laboratory at Massachusetts General Hospital in Boston.

Most theories of language assume that in-