

whaling from 9390 for 1983–1984 to 6623 for the coming 1984–1985 season. The biggest cut came in the quota for minke whales, the species now taken in the largest numbers. The limit on minke whales in the Southern Hemisphere this year is 4424 compared with 6600 last year. By agreement, Brazil takes 10 percent of the catch and Japan and the Soviet Union divide the balance evenly.

The minke is a comparatively small whale type, measuring about 25 feet in length at maturity. It became the mainstay of pelagic whaling in the 1970's as stocks of larger types were depleted and their capture prohibited. Observers say that this year's cuts in the quota could make whaling operations in the Antarctic uneconomic for the Japanese and Soviets and prompt them to reject the quotas.

Such action by Japan would be likely to cause a collision with the United States that both countries have been anxious to avoid. Implicit in U.S. policy toward the IWC, which is a voluntary organization without enforcement power, is that this country will back IWC conservation rules with economic sanctions against offenders such as curtailment of fishing rights in U.S. waters (*Science*, 25 May, p. 850). A serious test of these tactics was foreseen if Japan decided not to observe the moratorium, but an earlier trial may be in the offing.

—JOHN WALSH

## Omens of Doom for Nuclear Waste Tomb

The Department of Energy (DOE) has gotten occasionally exotic advice as it goes about preparing for the establishment of a high-level nuclear waste repository that will have to last for thousands of years.

It has asked Battelle Memorial Institute to propose ways the public could be warned away from such a facility centuries hence in the event that all records are destroyed, fences and signs have disintegrated, and the English language itself has mutated to strange new forms.

One proposal solicited by Battelle came from anthropologist Thomas Sebeok of Indiana University, who suggested making use of the "Tut-

ankhamen phenomenon." That is, devising myths of evil spirits along the lines of the "curse of the Pharaohs" to keep trespassers at bay. These stories, he said, could be perpetuated by an "atomic priesthood" of scientists and scholars which would appoint new members when the old ones died.

Sebeok says his idea has been distorted by members of the press, who have seized on it with considerable amusement. He says it was intended as a supplement to his two primary proposals. One is to inscribe redundant messages at the repository



DOE is looking for warnings more durable than this.

site, using iconic (a pictorial sequence), indexical (a physical demonstration), and symbolic (language) approaches. The other would be a "relay system" whereby the site would be inspected, perhaps every century, and the message updated in current parlance. The myths of evil spirits would fill in for those who could not read.

Sebeok's proposals actually fit in with DOE's plans which are to erect massive stone monuments at repository sites, perhaps "miniature pyramids," that would bear messages carved in pictographs and symbols warning passersby not to dig in the area. Contractors are looking around the world for written symbols that have stood the test of millennia. "Not too many people have made a study of this kind of communication into future generations," says Stanley Goldsmith of Battelle.

Communicating to future humans is only a tiny part of the massive preparations going on for this country's first high-level nuclear waste repository. DOE says between 2000 and 3000 scientists, social scientists,

and engineers are conducting probes, studies, and assessments of the nine sites under consideration. It is hoped a site will be selected in 1992, and ready for business by 1998.

—CONSTANCE HOLDEN

## Senate Wants Academy to Assess Medical Technology

The Senate has approved legislation directing the National Academy of Sciences to form a center for advising Health and Human Services on medical technology. The step is part of a move to have the private sector take an active and more centralized role in evaluating emergent health care technologies. It could lead to a permanent council on health care technology.

The idea for such a council was the major recommendation of a study conducted by the Academy's Institute of Medicine last year. The Senate action, which comes as an amendment to the Health Professions Training Assistance Act, authorizes the Academy to set up a 15-member council with a \$2-million federal grant, but stipulates that a \$1.5-million matching grant be obtained from the private sector. The amendment represents a modified version of a bill (S. 2504) introduced by Senator Dan Quayle (R-Ind.). A similar proposal has been approved by the House of Representatives.—JEFFREY L. FOX

## Hughes Medical Institute Funds Michigan Center

The Howard Hughes Medical Institute will establish a new \$8-million unit at the University of Michigan Medical Center for the study of molecular genetics, the university announced on 12 July.

Plans include the construction of two new buildings, one funded solely by the institute and the other funded jointly with the university. The institute will recruit three principal researchers for the new branch and staff.

The institute was founded by the late industrialist and has established laboratories at 15 medical centers around the country.—MARJORIE SUN