## Films of The Week

Listing is for readers' information, not advertising. For further informationn on purchase, rental or free loan, write to distributor listed.

The following films were among those shown at the Science Film Theatre of the annual meeting of the American Association for the Advancement of Science held in Washington, D.C., December 26-30, 1966. Further information on individual films may be obtained from the sources indicated.

CONTROLLING VARIABLES: FERMENTA-TION. 16mm, b&w, sound 25 min. Unrehearsed scenes from a sixth grade classroom as an exercise is being taught from the AAAS elementary science school curriculum (Science—A Process Approach). Davidson Films, 1757 Union Street, San Francisco Calif San Francisco, Calif.

FORCE, MASS, AND MOTION. 16mm, b&w, sound 10 min. A computer-animated film illustrating the motion of massive bodies under gravity and other forces. Bell Telephone Laboratories, Murray Hill, N.J. 07971.

FRONTIERS OF THE MIND. 16mm, b&w, sound, 23 min. The story of the exploration of the frontiers of the mind through scientific experimentation with chemicals, drugs, electrode implantation, and the explanation of the purpose and benefits of such research. Special edited version of the TV program. Encyclopedia Britannica Films, Inc., 425 N. Michigan Ave., Chicago, Ill.

IN THE WORLD OF SHARKS. 16mm, color, sound, 12 min. Films of sharks in normal modes of behavior in the open seas, shot in the Atlantic 20 to 100 miles off Montauk Point, Island. Blue Meridian Company Inc., New York, N.Y. 10023.

LET US TEACH GUESSING. 16mm, color, sound, 60 min. Dr. George Polya leads an undergraduate class to discover the number of components into which 3-space is divided by five arbitrary planes, and demonstrates along the way the steps involved in "plausible reasoning". Modern Learning Aids, Summit, New Jersey 07901.

LIFE CYCLE OF THE MONARCH. 16mm, color, sound, 11 min. Detailed study of the four life stages of this typical and common butterfly. Includes close-up and time-lapse photography. Ken Middleham Productions, P.O. Box 1065, Physicide Colif

MITOSIS IN ENDOSPERM OF HAEMAN-THUS. 16mm, color, silent, 4 min. 15 sec. Uses latest techniques in research microscopy to show cell division in individual endosperm cells of the African Blood Lily. Ealing Corporation, Cambridge, Mass. 02140.

MONKEYS OF MYSORE. 16mm, color, sound, 19 min. Studies the social system and daily activity of about 60 bonnet macaque monkeys in the southern Indian state of Mysore, pointing up the importance of the troop as a social unit and the strict dominance hierarchy that determines the stable but flexible social system. University of California Extension Media Center, Berkeley, Calif.

NATIONAL MAGNET LABORATORY. 16mm, color, sound, 28 min. Shows the functioning of this MIT laboratory which provides powerful magnetic fields as extreme research environments for all major divisions of physics. Air Force Office of Scientific Research, Washington, D.C. 20333.

OCEANOGRAPHIC RESEARCH USING THE COUSTEAU DIVING SAUCERS. 16mm, color, sound, 26 min. Shows how five Navy scientists used the Soucoupe Sous-Marine (diving saucer) in physical oceanography and marine biology. U.S. Navy Electronics Laboratory, San Diego, Calif. 92152.

A PAIR OF PARADOXES. 16mm, b&w, sound, 3 min. Demonstrates two paradoxes, one vital and the other aural. A bell which appears to bounce ever upward is accompanied by a sequence of musical tones which appear to ascend indefinitely. Bell Telephone Laboratories, Murray Hill, N.J. 07971.

PELICAN ISLAND. 16mm, color, sound, 28 min. Shows the life cycle of the great white pelican, which nests on an island in the Great Salt Lake in Utah. Nature Guide Films, 64 East Val Verda Road, Bountiful, Utah 84010.

**OCEANOGRAPHY** 

## Secrets of Sunken Lands

Submarine studies off the Atlantic Coast are revealing the history and wealth of the shelf. Ancient glaciers and volcanoes are among finds.

by Barbara Tufty

A fascinating new land, rich in minerals and history, is being probed and explored-many fathoms deep in the Atlantic Ocean, just off the coast of North America.

Eons ago, this land was strained and twisted by powerful natural forces. Icy glaciers grated across its northern reaches, and fiery volcanoes spewed ashes and lava over the southern part. Today the submerged land is being invaded by gentler forces—the flow of ocean currents, the growth of fragile sea anemones and other sea life, and the resonant impact of scientific equipment persistently probing the area.

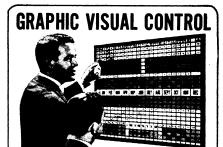
With one of the most comprehensive and thorough studies yet made of any large undersea area, more than 260,-000 square miles of the United States continental shelf, extending from the tip of Florida to Nova Scotia, are being studied under a joint program of the U.S. Geological Survey and Woods Hole Oceanographic Institution.

In a quiet but intense multi-year study, scientists are amassing valuable data on submerged petroleum fields, gravel and sand pits, sources of fresh water and aluminum ore-as well as plotting tracks of ancient glaciers, measuring sizes of extinct volcanoes, and surveying many plateaus, trenches, ocean rivers, and other geological features that lie along the continental shelves and slopes that stretch toward the dark abyssal plain of the ocean.

There may be no immediate economic, practical result of the painstaking sampling, analysis, recording and documenting, the scientists well know. But the scentific knowledge they are acquiring is astonishing, and perhaps in the long run, will be of greater economic value.

Whether any of the minerals and materials discovered along the Atlantic coast will be exploited for human use will depend upon future developments in marine engineering, and also upon conditions where the price of materials justifies the cost of extracting them from the sea, says Dr. Kenneth O. Emery, coordinator of the joint Geological and Woods Hole program.

The five-year study, begun in 1962, will continue for at least another five



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