

Technology Review, November 1961

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[[image]]

A NEW RESEARCH SHIP, to be called Atlantis II, is being built for the Woods Hole Oceanographic Institution. It will be a 210-foot Vessel, paid for by the National Science Foundation, and one of the few ships specifically designed and built in this country for oceanography. It will have a bulbous bow containing six glass windows for underwater observations, and four laboratories, including one below decks at the center of least motion for gravity measurements.

Flotation of Micro-Organisms

AN IMPORTANT TECHNIQUE of the mineral and chemical engineer. flotation, may also prove helpful in the future to the biologist and foodprocessing engineer.

Antoine M. Gaudin, Richards Professor of Mineral Engineering at M.I.T., pointed this out in Denver on September 18 when the Society of Mining Engineers celebrated the 50th anniversary of froth flotation in the United States. Professor Gaudin reported the findings in work done under contract with the U.S. Army Chemical Corps at M.I.T., which indicated that microorganisms could be separated by differential flotation.

In experiments with cultures of escherichia coli-a readily available. hydrophilic, nontoxic organism, which would not float-it was found that by adding salt to the concentration the number of organisms in the tailing from flotation could be reduced to the vanishing point. And in experiments with another microorganism, the researchers found that its spores could be separated from the vegetative cells of the same organism by flotation. They succeeded, too, in floating a contaminant from a mixture of organisms of this type.

Hence, Professor Gaudin suggested, flotation may be helpful in such projects as the treatment of solid to isolate various strains of antibioticproducing organisms.

Ore pulps are commonly described in terms of the percentage of the pulp that is fine enough to pass through a 200-mesh sieve. The microorganisms with which Professor Gaudin has been dealing could pass through a 20,000-mesh sieve, and are so light that their setting velocity in a liquid is vanishingly slow. They are, moreover, living, reproducing and dying things, rather than inanimate particles, which makes the striking of a balance of materials very difficult. Nevertheless, the experiments showed, they can be floated from one another, or concentrated in a portion of the aqueous phase, and the operation can be both simple and rapid.

Guidance for Apollo

The National Aeronautics and Space Administration has given M.I.T's Instrumentation Laboratory responsibility for developing the equipment that will guide and navigate this country's first manned spaceship to a landing on the moon and during a return voyage to the earth. The laboratory, a teaching-and-research facility under the Institutes's Department of Aeronautics and Astronautics, will design the first several systems for which NASA will choose a contractor. First-year development costs at M.I.T are estimated at \$4,000,000.



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and half in this country for occanography. It will have a halbeen how containing six glass eladeres for underwater observations, and four laboratories, including one below firehe at the center of least motion for gravity on

Flotation of Micro-organisms

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the radius beat dotation could be reduced to the van-bling point. And is experiments with smother electro-segment, the researchers found that its sports outline to represent from the vegetative cells of the same or-

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Guidance for Apollo

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This country's offert to early our moreout explora-tion of the moon is being confunct outer NASA's Project Apollo and solicition of the Instrumentation Laboratory to develop the guidance neutration reads. M.T. the firm member of the Apollo contractor term. The Instrumentation Laboratory has been design theoretical guidance entitypation studies on a moon right for NASA since February. 1997. Chantes S. Desput. 'Ny. the laboratory's head, other is raised the father of inertial guidance. Regar it, Woodburg, 18, and Former B. Hossica, "48, modular discusses, have supervisory responsibles for several of the laboratory's measure programs, leadings the Apollo guidance work. Development of the Apollo guidance enginglish system is expected to take several This country's affect to easy our married ex-

guidance-nerigation system is expected to take several years and will be supervised by Milton B. Tragener, '81, Balph R. Ragur, '82, and John W. Harsh.

Lincoln Decennial Lectures

The construction Leadermay, Lincoln Laboratory has arranged a series of lectures on "The Age of Educations" in M.3.7% Kreege Auditorium. The speakers will lackade Professor H. H. G. Castenie, November 13, discussing impurant pioneers in electronics; Non A. Getting, '13. November 28, on rador, and L. V. Berkner. Discenter 11, on communications.

SOVEMBER 1962

This country's effort to carry out manned exploration of the moon is being conducted under NASA's Project Apollo and selection of the Instrumentation Laboratory to develop the guidance-navigation system made M.I.T the first member of the Apollo contractor team. The Instrumentation Laboratory has been doing theoretical guidance-navigation on a moon flight for NASA since February, 1961.

Charles S. Draper, '26 the laboratory's head, often is called the father of inertial guidance. Roger B. Woodbury, '48, and Forrest E. Houston, '48 associate directors, have supervisory responsibility for several of the laboratory's research programs, including the Apollo guidance work. Development of the Apollo guidance-navigation system is expected to take several years and will be supervised by Milton B. Trageser. '51, Ralph R. Ragan, '52 and John W. Hursh.

Lincoln Decennial Lectures

TO OBSERVE its 10th anniversary Lincoln Laboratory has arranged a series of lectures on "The Age of Electronics" in M.I.T.'s Kresge Auditorium. The speakers will include Professor H. B. G. Casimir, November 15, discussing important pioneers in electronics; Ivan A. Getting, '33, November 28, on radar; and L.V. Berkner, December 11, on communications.

November, 1961

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