patients with calcium malabsorption. He is working on this synthesis.

Norman says he doubts that it would be advisable for the normal population to take the biologically active vitamin D rather than parent vitamin D, although the possibility should be clinically tested. He is inclined to believe that the biologically active D would be less satisfactory because it would be rapidly excreted by a person's body unless immediately needed. Parent vitamin D, on the other hand, is probably stored in the body until the body gives the liver and kidney orders to break the vitamin into its biologically effective form. □

Reaching design energy at Los Alamos meson unit

Mesons are physical particles intimately related to the strong force that binds atomic nuclei together. Pi mesons, and sometimes others, are regarded by theory as embodiments of the strong force, the intermediate particles that carry the strong force from place to place. Clouds of pi mesons appear to form part of the outer structure of protons and neutrons.

Because of their relation to the strong force, mesons are very useful as probe particles. They can be used to study the nature of the strong force and the structures of the particles that respond to it. They can be used to study the structure of nuclei either by entering the nucleus immediately or by being captured into orbit to form a short-lived mesic atom. Lately mesons have become interesting to radiobiologists because they can penetrate living tissue and deliver nearly all of their energy at the end of their flight.

All these considerations led physicists to begin about 10 years ago to ask for meson factories. This is a class of proton accelerator designed not for spectacularly high energy but for very high beam intensity. This intense proton beam would then be struck against a target to make a beam of pi mesons.

The decision was taken to build a meson factory at the Los Alamos Scientific Laboratory. On June 9 after four years of construction and the expenditure of $57 million the Los Alamos Meson Physics Facility (to be renamed the Clinton P. Anderson Meson Physics Facility) accelerated its first beam of protons to the design energy of 800 million electron-volts. The next step is to reach the design intensity of one milliampere (1,000 times the intensity of any proton accelerator of comparable energy). The remainder of this year will then be devoted to beam refinement and checkout in preparation for the completion of the experimental facilities, which is expected in 1973. □

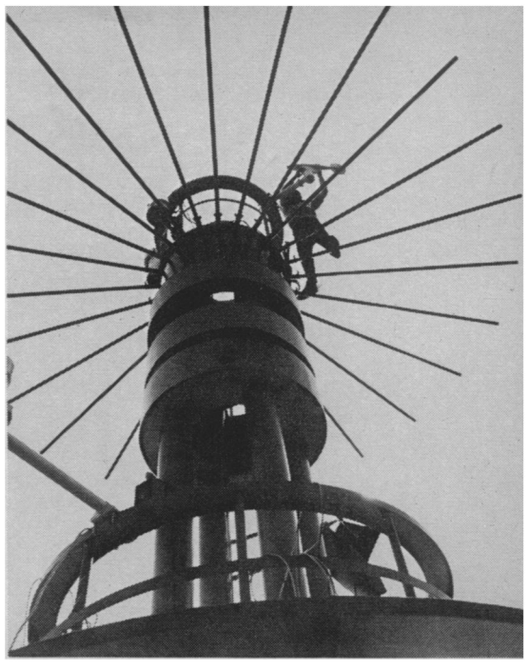
Oh (scientific) buoy! First one placed in Gulf

Its yellow and red markings and sensor-laden mast proclaiming its nautical individuality, a 100-ton experimental buoy was towed 220 miles out into the Gulf of Mexico last week and anchored in 8,292 feet of water.

The occasion, marked by dockside ceremonies at the Gulfport, Miss., departure point, was the emplacement of the first in a series of advanced scientific buoys developed by the National Data Buoy Center. The buoys will automatically gather and transmit oceanographic and meteorological data.

The buoys are admittedly experimental, and the one emplaced last week encountered almost immediate problems. After 2 hours 40 minutes it ceased transmitting, for unknown reasons, and choppy seas caused by Hurricane Agnes to the southeast prevented the Coast Guard cutter Acushnet from returning to check. Seas were subsiding this week, and another attempt was to be made this weekend. Project officials theorized that the problem was with the programming of the on-board computer that analyzes the data and controls the buoy's sensing, transmitting and power-generation systems. They believed the problem could be corrected as soon as technicians were able to reach the buoy.

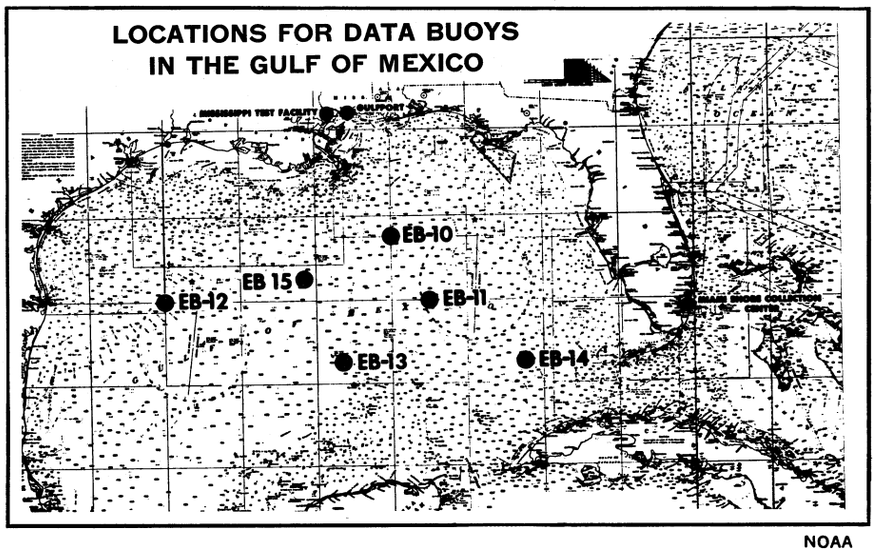
The inability to obtain regular meteorological data from a variety of fixed points in the oceans has long posed a problem to weather forecasters. A network of sophisticated data buoys was seen as a good way to solve the problem. In 1966 the (then) Interagency Committee on Oceanography suggested that a single national system of buoys be set up. In 1969 the Stratton Commission selected the advancement of buoy technology and deployment of a pilot buoy network as one of six ocean activities deserving national priority, and in 1970 the first funds for the National Data Buoy Project became available. The project is now within the National Oceanic and Atmospheric Administration, and is directed by meteorologist James W. Winchester at the buoy center's facilities at Bay St. Louis, Miss.



Westinghouse

Buoy's mast holds weather sensors.

At the dockside ceremony last week in Gulfport, the mood was one of both celebration and expectation. It marked the completion of the first phase of the project—placing the first of the buoys into operation. But it was only the beginning. The performance of the first seven buoys will be evaluated, and the lessons learned will be applied to later versions. Winchester and others envision someday a global network of automatic data buoys throughout world's oceans, bays, lakes and coastal waters. □



NOAA

A system of six data buoys will be put into operation in the Gulf of Mexico.