

# Arecibo: The pause that rededicates



The white spots are laser targets for surveys that maintain the shape of the dish.



Rubber footpads for work on surface.

The world's largest radio telescope is a hole in the ground. In a specially shaped natural valley near Arecibo, Puerto Rico, the 1,000-foot diameter reflector of the National Astronomy and Ionosphere Center was built a decade ago. At the time it was surfaced with a mesh of rather loose weave for observing mainly the long-wavelength end of the radio spectrum. Gradually the need and the desire to use it for short wavelengths grew, and now, at a cost of \$8.8 million, the telescope has been resurfaced with a closely woven aluminum mesh that will reflect the shorter wavelengths (SN: 8/24-31/74, p. 125).

In its new incarnation, the Arecibo telescope will be used both as a passive receiver and as a radar sender and receiver. The radar will be used for studies of the asteroids, planets and the earth's upper atmosphere. It will be able to find very tiny things, such as, perhaps, the yet unseen natural satellites of the earth that may lie at certain points of the moon's orbit. Passively the refurbished telescope could find as many as 100,000 celestial radio sources not recorded before.

Nov. 16 is the rededication day. As part of the festivities a message will be



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sent intended for any intelligent beings who may be listening, a matter long of interest to NAIC's Director Frank Drake. It will be the first such message sent

by radio from the earth. An answer, if there is one, may take centuries or millennia to receive. Meanwhile Arecibo will be listening too. □

## Firm footing for international labs

Daniel Parker, the administrator of the U.S. Agency for International Development (AID) says that new research funds promised by Secretary of State Kissinger in his address to the World Food Conference (SN: 11/9/74, p. 292) would put the eight international laboratories responsible for the "Green Revolution" on a firmer footing and allow major new expansion of their work. The funds will also be used to help developing countries establish their own national laboratories to adapt new crop strains and agricultural technology to local conditions.

Parker made his comments during an interview with SCIENCE NEWS in Rome.

Until now, funds to run the laboratories have only been provided on a year-to-year basis, through contributions to the Consultative Group on International Agricultural Research (CGIAR). Such annual funding did not leave much room for long-range planning or expansion into major new projects, which Parker says the new funds should do.

He did not elaborate on Kissinger's rather general statement that total U.S. commitment to international agricultural research would roughly triple over the next decade. The timing, he said, would depend on how much scientific manpower could be attracted into the project. At present, research is

limited by funding, and the infusion of new money may well reverse these limitations. The \$350 million Kissinger mentioned specifically in his speech has already been requested, and the initial thrust of the new program will not be unveiled until the next budget is announced in January.

The aim of the increased research will be to broaden the scope of food and technology available to farmers in developing countries. Crop research so far has concentrated on the most widely used grains. Now, Parker says, emphasis will broaden to include vegetables, animal husbandry and aquaculture. Farm technology developed in large producing countries will be more aggressively adapted for use in different climate and soil conditions, in a variety of cultures.

Environmental considerations will also be given high priority, Parker said, illustrating with an example of water control projects that would benefit both man and nature in the Sahel, from which he has just returned. A series of dams in the area, he said, could provide water for irrigation year-round, and could be coupled with a program of eradicating schistosomiasis to avoid epidemics that followed the building of the Aswan Dam.

"The ultimate objective," he said, "is to translate science from a test-tube in Purdue to a seed in Niger. A great deal of adaptation must be accomplished. □