

ASTRONOMY

Clouds Prevent the Viewing Of Sun's Total Eclipse

Expeditions From United States With Elaborate Equipment Disappointed Despite Favorable Forecast

EVEN though they chose a location in a very dry as well as high region of South America, where the chances for good weather seemed extremely favorable, cloudy weather spoiled the astronomical observations of the two expeditions from the United States to observe the total eclipse of the sun October 1. One of these was sponsored jointly by the National Bureau of Standards and the National Geographic Society; the other was from Brown University.

A report received from Dr. Irvine C. Gardner, leader of the former party, said that the eclipse itself was eclipsed by the clouds. Thus, the elaborate equipment, weighing about seven and a half tons, which they transported from Washington, was largely useless. No opportunity was given to try the control device, operated like an electric player piano, which had been arranged to operate the various cameras automatically, and give the astronomers the opportunity to watch the events in the sky.

This expedition, however, was better off than many others in the past, for which cloudy weather has meant complete failure to secure useful results. One of the main items on the program was a study of the way that the transmission of radio waves through the upper layers of the atmosphere is changed as the moon's shadow goes by. This is unaffected by clouds, and these observations were made satisfactorily, Dr. Gardner reported. The actual results will not be known until after careful study of the data.

Dr. Charles H. Smiley, of Brown University, had journeyed about 50 miles farther inland, to the town of Curema, but there were clouds there, too.

Dr. Smiley had planned to take photographs at Curema with a special type of star camera, known as a Schwarzschild telescope. With this he hoped to record the zodiacal light, a faint glow sometimes seen near the sun. Accompanying him was Dr. Alice Farnsworth, of Mt. Holyoke College, who was to use other equipment, including a spectroscopic camera, for further observations. Dr. Smiley's report, which was delayed because of the

remoteness of Curema, said that all the films were exposed, though he is certain they will be of little value.

Science News Letter, October 12, 1940

Photography Incidental

NO WORD has yet been received by the Cruft Laboratory of Harvard University concerning the expedition to Queenstown, South Africa, to make radio observations in connection with the eclipse.

The party, under the direction of Dr. J. A. Pierce, is now carrying out a three-months' program to study the effect of the eclipse on radio transmission before, during, and after the time the moon passed in front of the sun. Since this is unaffected by clouds, it is assumed that the observations were carried out as planned.

A motion picture of the eclipse was planned incidentally, mainly to give a record of the extent to which the moon covered the sun, for checking with the radio data. If this was taken, it may have considerable value, as one of the few photographic records made of this eclipse.

There are, however, several large observatories in South Africa. It is quite likely that some members of their staffs made an effort to observe the eclipse, for it is hard to imagine an astronomer neglecting one so near home. On account of the war, it may be some time before news of any such results reaches the United States.

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Next Seen from China

ASTRONOMERS are turning to their reference works to see when they will have another chance. This will come on Sept. 21, 1941, though plans are very uncertain, because the best place from which to see it will be the coast of China, between Foochow and Wenchow, as well as farther inland, at Hankow and Nanchang. Whether foreign astronomers, especially Americans, will be able to set up their instruments there by next Sep-

tember is perhaps rather questionable.

The tip of the moon's shadow, on that date, will first touch earth at sunrise in Russia near Astrakhan. Then it will cross the Caspian Sea, the Aral Sea, Turkestan, Tibet and China. After that it will pass across the western Pacific Ocean, including the American island of Guam. Here the sun will be blacked out for about two and one-half minutes, or fifty seconds less than in China, but this would still give time for many valuable observations.

Science News Letter, October 12, 1940

BIOLOGY

Barro Colorado Island Now a Government Center

SCIENTISTS of both Americas have a new common center for research, on the tropical laboratory island of Barro Colorado in the great artificial Lake Gatun, Panama Canal Zone. This island, which has hitherto been administered by a non-government board under the auspices of the National Research Council, has now become a government research area by recent act of Congress, and the first meeting of its board of directors has just been held at the headquarters of the National Academy of Sciences.

The official board of trustees consists of the Secretaries of War, Agriculture and Interior, the Secretary of the Smithsonian Institution, the President of the National Academy of Sciences, and three eminent biologists. The three biologists on the present board are Dr. Thomas Barbour, director of the Harvard Museum of Comparative Zoology, Dr. Elmer D. Merrill, director of the Arnold Arboretum, and Dr. Alexander Wetmore, assistant secretary of the Smithsonian Institution. Future meetings of the board will be held on the day after the spring meeting of the National Academy of Sciences in Washington.

Barro Colorado Island was once a hill rising out of a valley in the Panama Canal region. When the waters backed up behind Gatun Dam it was cut off and became an island, harboring a most interesting sample of tropical American plant and animal life. Interested scientists mainly from the United States, arranged for the establishment of a research center there, which constitutes the beginnings of what is expected to become, under the newly established government auspices, one of the most important natural laboratories in the world.

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Foot arch supports made of plastic are new.