• Points of View

Supplementing page 67 of Eclipse Edition of July 30.

AUTOGYRO

WITH radio-equipped autogyro, special cameras for photographing the infrared and ultraviolet light of the eclipsed sun, and camera for natural color photographs of the corona, a group of Springfield, Mass., and Hartford, Conn., scientists and engineers plan an eclipse expedition on August 31 to the White Mountain region of the path of totality.

The autogyro with special radio license call letters W1OXN, owned by John Wells of Southbridge, Mass., will conduct five-meter wavelength tests cooperating with radio ground parties in charge of Ross Hull of the American Radio Relay League of Hartford, Conn.

The program of ultraviolet and infrared photography will be carried out by B. V. K. French of the United American Bosch Corporation, Springfield, Mass., and Kenneth L. Henderson and Charles Guerton of the same organization will operate a ten-inch photographic reflector of 8-foot focal length exposing one color plate for the whole period of totality. Dr. E. D. Tillyer of the American Optical Works will cooperate in observations and equipment construction.

Motion pictures of the shadow bands and other eclipse phenomena will be taken by F. C. Beekley of the American Radio Relay League and Arthur H. Lince of the Bell Telephone Laboratories, New York City. C. John Franks of Boonton, N. J. and Dr. Lloyd A. Jones of the Eastman Kodak Research Laboratories are expected to participate in the program while William Butcher, time study expert of the United American Bosch Corporation will schedule the operations.

The party will have the cooperation of Joseph Dodge, manager of the Appalachian Mountain club and will base at the Pinkham Notch huts of the club.

AIRPLANE OBSERVATIONS

DR. IRVING LANGMUIR, General Electric Co. chemist, will observe the solar eclipse of Aug. 31 from an airplane starting from Concord, N. H. in time to reach the center of the band of totality at the time the moon hides the sun.

As Dr. Langmuir's airplane will be equipped with instruments for fog flying, he will be able to rise above any clouds that may obscure the spectacle from the ground.

Two motion picture cameras, one with telephoto lens, will be carried and Dr. Langmuir will photograph the advance of the moon's shadow and take photographs of the corona.

DR. CLYDE FISHER, curator of astronomy of the American Museum of Natural History, will photograph the sun's eclipse from an airplane flying in the path of totality in Maine.

MONTREAL

CHOOSING to observe the eclipse of Wednesday, Aug. 31, from near the edge of the path of totality, Prof. Herbert Dingle of the Imperial College of Science and Technology, London, assisted by members of McGill University at Montreal, will make photographs of the sun's spectrum that are expected to be superior to previous efforts.

On the roof of a McGill University building, a large spectroscope with lens of 16-foot focus will be mounted. The bright line spectrum at the cusp of the partially eclipsed sun during the half hour before and after totality will be photographed with large dispersion. Prof. A. Fowler, a colleague of Prof. Dingle, made visual observations at a partial eclipse in London twenty years ago which cause Prof. Dingle to hope that the coming observations will yield more accurate values of the wavelengths of the bright line spectrum than those now available.

A photograph of the Fraunhofer spectrum of the sun's limb just before and after totality is expected to give a photograph free from the diffused atmospheric light from the center of the sun's disc.

BIDDEFORD

CANISIUS College will send an expedition to observe from near Biddeford, Me., within the path of totality. It will be headed by Rev. John P. Delaney, S. J., professor of physics, and Dr. James H. Crowdle, professor of chemistry, will be a member of the party. Photometric studies of prominences and corona radiation and spectroscopic photographs will be the principal observations of the party.

TIME SIGNALS

SPECIAL radio signals will be transmitted by CNRO, the Canadian National Railways station at Ottawa, to aid in the research upon the radio effect of the eclipse, Dr. A. S. Eve, director of the McGill University department of physics, has announced.

The transmissions will be on 600 kilocycles (500 meters) from 2 to 7 P. M., Eastern Daylight Saving Time, on Aug. 31, and for four days before and two days after the eclipse, the signals will be transmitted from 3 to 6 P. M. EDST.

Dr. Eve suggests that radio observers in eastern United States might measure the strength of the radio signals with a suitable galvanometer attached to their receiving sets.

The tests are expected to aid in understanding the way the sun affects the ionized layers of the earth's atmosphere that act as reflectors for radio waves.

TO GIVE astronomers observing the eclipse accurate time signals the U. S. Naval Observatory will broadcast special radio signals from 1:55 to 2:00 P. M. and from 3:55 to 4:00 P. M. Eastern Standard Time on Wednesday, Aug. 31, the day of the ecplise. The signals will be transmitted by NAA, Arlington, Va., on regular time frequencies of 113, 690, 4205, 8410, 12615, and 16820 kilocycles, and from Annapolis on 17.8 kilocycles. They will be rebroadcast by WGY, Schenectady, on 790 kilocycles and WCSH, Portland, Me., on 940 kilocycles.

FRYEBURG

A FAMILY eclipse expedition is being planned by W. H. Fulweiler, chief engineer of the United Gas Improvement Co. of Philadelphia, who with Mrs. Fulweiler and their three sons, Jack, Tom and Spencer, will be located near Fryeburg, Me. on the day of the total solar eclipse, Aug. 31.

A twelve-foot focus camera will be in operation and a spectroscope of four-foot focus will be used. A movie camera will record the shadow bands and extensive measurements of total radiation and illumination of the eclipsed sun will be made with special thermocouples and photocells arranged for the occasion.

NANTUCKET

THE ECLIPSE expedition of the Maria Mitchell Observatory on the island of Nantucket will be located atop

a 250-foot tower at North Truro, Cape Cod, Mass., as guests of H. M. Aldrich. Dr. Margaret Harwood, director, will lead the party consisting of Miss Marjorie Williams, Mrs. Francis W. Davis, Miss Merle E. Turner, Albert E. Brock, Edgar F. Sanborn, Jr., Gerald M. Reed, Jr. and Nathan C. Davis.

This only scientific expedition to be located on Cape Cod will make photographs of the corona designed to study photometrically the light of the corona, using a 4-inch photographic telescope. Visual observations will be made with another telescope.

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RADIO-ASTRONOMY

Sunspots May Interfere With Radio Observations

MAGNETIC storms may interfere with the radio observations of the total eclipse of the sun on August 31. This is predicted by A. M. Skellett of the Bell Telephone Laboratories, New York City.

Measurements of radio transmissions planned by numerous investigators during the eclipse will be related to the magnetic character of the day, Mr. Skellett pointed out. The state of the ionized regions of the atmosphere bears about the same relation to radio experiments as does the weather to the visual observations of the astronomers.

"On the basis of the 27-day recurrence tendency, it is probable that the earth's magnetic field and radio transmission will be disturbed moderately and possibly severely, the maximum disturbance occurring a day or so before the eclipse," Mr. Skellett predicted. "The date of the eclipse falls in a sequence of magnetic disturbances which have been active for at least three revolutions of the sun which has approximately a 27-day period.

"The latest storm of this sequence on August 1 or 2 has been of moderate intensity. A large sun-spot surrounded by bright hydrogen flocculi crossed the central meridian of the sun on August 2. On this basis a storm would be expected to begin on August 28 or 29 and might last until after the eclipse. Since the radio phenomena are different on days when magnetic storms occur from those on days without disturbance it is important that experiments to be carried out during the eclipse be planned with this possibility in mind."

Science News Letter, August 20, 1932

RADIO-ASTRONOMY

Bureau of Standards To Study Radio During Eclipse

With Apparatus on Both Sides of Path Scientists Will Hear Broadcasting Stations and Study Kennelly-Heaviside Layer

SCIENTISTS of the U. S. Bureau of Standards will make extensive studies of the radio effect of the eclipse of the sun on Wednesday, August 31.

From a field location either in northeastern Maine or eastern Nova Scotia and simultaneously from the permanent laboratories at Washington, physicists and radio engineers under the direction of Dr. J. H. Dellinger will record the effects of the eclipse on the field intensities of received radio waves and on the height of the ionized or Kennelly-Heaviside layer.

The Washington location is expected to be very satisfactory for studies of changes in the ionized layer due to the optical eclipse as it is nine-tenths total at the earth's surface and somewhat nearer totality in the ionized layer above Washington.

The purpose of the observation in Maine or Nova Scotia is to test for the existence of effects in the ionized layer due to neutral corpuscles shot off from the sun. Professor S. Chapman, British physicist, has presented considerable evidence to show that the ionization of the lower part of the ionized layer, called the E-region, is probably produced by these corpuscles. (*SNL, July 30, p. 75; Aug. 13, p. 95*). Because the velocity of the corpuscles is much less than that of light, and because of the motions of the moon and earth during passage of the corpuscles from the moon to the earth, the corpuscular eclipse should occur two to two and one-half hours earlier than the solar eclipse, and farther to the northeast. These differences, particularly the difference in time, allow the effects of ultraviolet light and neutral corpuscles to be separated.

To Measure Ionized Layers

Three members of the Bureau of Standards staff will take to Maine or Nova Scotia two small pulse-signal transmitters, and an automatic recorder and a cathode ray oscillograph for measuring ionized layer heights. They will also observe the critical frequencies and heights of both the E and F regions of the ionized layer. In order to help interpret the records obtained during the eclipse, observations will be made for several days preceding and following the eclipse.

Records of field intensities of received waves from broadcasting stations, and possibly from a high-frequency station, will be made both at Washington and on the eclipse expedition.

Dr. Dellinger explained that this type of work differs from the visual and some other observations in that it will not be prevented by clouds; and that there is reasonable certainty that successful work will be done.

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ASTRONOMY

Lights Out During Eclipse, Astronomers Ask

COOPERATION by amateur observers at the total eclipse of the sun over New England and Canada on Aug. 31 is requested by the astronomers, in order that any unwitting interference with the professional observations may be avoided. The eclipse committee of the American Astronomical Society, of which Dr. Frederick Slocum, of the Van Vleck Observatory at Middletown, Conn., is chairman, has requested laymen in the path of totality to avoid doing anything that might so interfere.

Tourists driving automobiles are requested to park their cars some time before the total eclipse, which comes about 3.30 P. M., Eastern Standard Time. Even though it will become dark enough to see the stars, they are requested not to turn on automobile lights. The glare from a single pair of head lights would ruin the view of all the observers in range. Similarly, town and city officials and residents of houses within the path, are requested not to turn on lights on streets or in buildings. The darkness will last less than two minutes even where longest, so all ordinary traffic and other activities can be suspended during totality.

Though dozens of groups of profes-