

SCIENCE NEWS

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THE JANUARY ECLIPSE OF THE SUN

WORD has been received at the Harvard Observatory clearing house from astronomers at Lima, Peru, giving more precise observed times for the eclipse of the sun on January 25 than have heretofore been published. These make the actual duration of totality slightly more than 164 seconds, which is about three seconds less than the predicted duration.

Dean Godofredo Gracia, of San Marcos University in Lima, transmits the results of observations by Professor Alfred Rosenblatt and Juan M. Portocarrero. Their observations of the eclipse were made at the observatory in the Colegio San José in Chiclayo, Peru, close to the center of the path of totality and near where several other expeditions had made their headquarters, including the Mexican eclipse expedition headed by Dr. Joaquin Gallo, director of the National Observatory at Tacubaya.

An important moment during an eclipse occurs when the moon first touches the sun's disk, making what astronomers call first contact. It is very difficult to determine this time by observation precisely, whereas timing the moment of second contact, when the moon completes its job of covering the sun's brilliant disk, is considerably easier because at second contact the last ray of direct sunlight is hidden by the moon just as if a camera shutter had been closed.

The predicted time for the second contact of the January 25 eclipse, according to the calculations, was 14 hours 7 minutes 33.6 seconds, universal time. The observations showed the total phase to begin at 14 hours 7 minutes 34.25 seconds, or slightly later than predicted. The third contact, the end of totality, was predicted for 14 hours 10 minutes 20.9 seconds, but observed at 14 hours 10 minutes 18.53 seconds, or nearly two and a half seconds early. The total observed duration of totality was thus two minutes 44.3 seconds, or some three seconds shorter than the calculated time of two minutes 47.3 seconds.

The position of the observing site used is given as longitude 79 degrees 51 minutes 23.42 seconds west; latitude 6 degrees 47 minutes 15.10 seconds south; altitude 28.57 meters.

ITEMS

THAT the war and its restriction on automobile driving have pushed falls into first place as cause of accidental deaths in the United States, is reported by the Metropolitan Life Insurance Company. Nosing out motor vehicles, falls in 1943 killed more than 25,000, which was about 2,000 in excess of the number killed by motor vehicles. The chief victims of fatal falls are old people. Whether because they fall more often or because when they do fall the results are more serious is not known, but more than two thirds of the deaths from falls happen among persons aged sixty-five years and older.

THAT the appendicitis death rate has been almost halved in the last four years, is also announced by the Metro-

politan Life Insurance Company. The statement applies to the company's industrial policyholders but records of the Census Bureau quoted in the company's statement show that in all but five states the appendicitis mortality has been lowered by more than fifty per cent. in the years between 1930 and 1942. The reduction in appendicitis mortality, called an "outstanding public health achievement," is credited primarily to the intensive educational campaign to encourage early hospitalization in appendicitis and to discourage the use of laxatives in the presence of abdominal pain.

A NEW deficiency disease, marked by muscular stiffness and deposits of calcium phosphate in all organs and parts of the body, was described before the Cleveland meeting of the American Chemical Society by Professor William J. Van Wagendonk of the Oregon State College. The preventive dietary factor is present in cream, in very small quantities. Professor Van Wagendonk stated that he has isolated one milligram of it, and that he used up 550 gallons of cream for the purpose. It would take about 30,000 milligrams to make an ounce by weight. Pasteurization destroys it. The same factor has also been detected in green vegetables, especially cabbage. Guinea pigs kept on a diet containing skim milk but no cream developed the stiffness in two or three weeks, and the lime deposits in about a year. One tenth microgram of the preventive factor (which is a ketone) abated the stiffness in about five days, but it took a year for the lime deposits to be eliminated. The discovery of the lime deposit formation is credited to Professor Van Wagendonk's colleague, Professor Rosalind Wulzen.

A TELEVISION studio plan for the post-war period, with a revolving stage carrying four sets, which two audiences can watch by turns or simultaneously while the cameras shoot, was demonstrated on April 6 as a large working model before an audience of technical men and newspaper writers. The "unveiling" was done by Dr. Walter R. G. Baker, vice-president of General Electric Company. A circular revolving stage under a central dome-shaped roof is divided into quadrants, each bearing a complete stage, so that while one of the four is facing the cameras and the studio audience the other three can be undergoing dressing for scenes to follow, which can then be swung into place when ready. The auditorium is divided into three sectors. The center part is occupied by the cameras, which are set to take the scene on the stage from any range and all angles. Flanking this are the sectors occupied by the radio audience. Sound-proof curtains are so arranged that at the end of any scene either sector can be cut off from the stage, and the people may file out without disturbing the action; or both audience sectors may be used simultaneously if desired. Design for the new studio was worked out by architects of the firm of the Austin Company of Cleveland.