

"to use this occasion as a time to gather with parents, teachers, and other citizens, or by themselves, in schools, churches and community centers, and to consider how we can make our home and community life contribute in full measure to the building of buoyant health and valiant spirit in all our boys and girls."

Food, housing, safety, recreation, and such matters of personal hygiene as exercise, sleep and rest are topics suggested by the U. S. Children's Bureau for consideration at the May Day planning forums. The idea, of course, is to decide on one or possibly two such

health problems to be tackled during the coming year, but not to try to take on all the health problems of the community.

"People who run down their own health while trying to help others aren't smart," the Children's Bureau points out in a warning not to attempt too much.

Good advice on which is the biggest health job for boys and girls in your community can be had from the local health department, the local medical society, the parent-teacher association, church organizations and similar groups.

Science News Letter, April 29, 1944

MEDICINE

Leukemia Conquest Clue

Fatal malignant disease causing increased number of white blood cells can be prevented in rats by injections of adrenal or pituitary hormone.

➤ A NEW CLUE that may lead to conquest of leukemia, fatal malignant disease characterized by increased number of white blood cells, has been found in the adrenal glands.

Transplantable lymphatic leukemia can be prevented in rats by injections of the adrenal cortical hormone or the pituitary hormone that stimulates adrenal gland activity, Dr. James B. Murphy and Dr. Ernest Sturm, of the Rockefeller Institute for Medical Research, report. (*Science*, April 14).

Attempts to prevent the disease in humans by injection of adrenal cortical hormone will not be practical, Dr. Murphy said, unless or until some test can be devised for picking out persons with hormone deficiency likely to lead to leukemia.

As to treatment of leukemia, he and

Dr. Sturm state that it would be "entirely unjustifiable" on the basis of the rat studies "to predict that the adrenal hormone would be of value in treating either the transplanted or the spontaneous disease."

Present importance of the studies seems to lie in the fact that they open an entirely new point of view for investigation. Heretofore efforts to control leukemia have been along the lines of attempting to destroy the malignant cells by X-rays or radioactive substances. Now it appears that this malignant disease may be controlled through the endocrine gland system, just as another malignant disease, cancer of the prostate, is apparently proving amenable to control via the endocrine glands.

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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 second contact of the Jan. 25 eclipse, according to the calculations of Lima astronomers, was 14 hours 7 minutes 33.6 seconds, universal time. Their observations showed the total phase to begin at 14 hours 7 minutes 34.25 seconds, or slightly later than predicted. 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 by the Lima astronomers 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.

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PSYCHOLOGY

Tests Show Marihuana Does Not Help

➤ MUSICIANS, especially members of dance orchestras, may think marihuana improves their musical ability, but psychological tests with a synthetic marihuana-like chemical show it does not, Dr. C. Knight Aldrich, U. S. Public Health Service, reports. (*Public Health Reports*, March 31.)

The tests were made with 12 healthy white male patients who volunteered for the experiment. All were serving prison sentences for violation of the Marihuana Tax Act and had used the drug for an average of nine and one-half years. Of the 12, two were professional musicians and two had musical ambitions.

The Seashore tests, played on phonograph records, were used "because they seemed to offer the most carefully standardized tests available of musical capability."

Each man was given the test three times at intervals of one week. The

ASTRONOMY

January Eclipse Time

➤ 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 Jan. 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 transmitted the

results of observations by Prof. Alfred Rosenblatt and Juan M. Portocarrero. Their observations of the eclipse were made at the observatory in the Colegio San Jose 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, Mexico.

first two were given without any drug, the third four and one-half hours after the drug. The dose and time interval produced a "kick" comparable to a satisfying amount of marihuana in most cases.

When asked whether they noticed any differences in their own performances on the tests, eight said they felt sure they had improved with the drug, three felt they remained the same, and one "couldn't say."

Actually, however, nine of the 12 had lower scores on the tests after the drug than on the second trial without it.

"The Seashore test," Dr. Aldrich points out, "measures only sensory musical capacity and leaves out of account such factors as motor-speed and coordination, release of inhibitions and fatigability, which could conceivably influence the playing of present-day music."

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GENERAL SCIENCE

Guggenheim Fellowships

► POST-WAR Guggenheim Fellowships from a special appropriation have been announced as awarded to five men either in the Army or engaged in war research. A total of \$200,000, in addition to the usual Fellowship budget, has been set aside by the John Simon Guggenheim Memorial Foundation for fellowships exclusively for men and women now serving the Nation in the war effort.

Recipients of post-service Fellowships include Dr. Melvin Calvin, University of California chemistry professor now in war research, who plans to go to Soviet Russia after the war to study new methods of synthesis in organic chemistry. Joseph Hickey, an ornithologist now engaged in war research at the University of Chicago, proposes to analyze approximately 250,000 records of banded birds to learn their life expectancies, population turnover, and other facts of value to conservationists.

Sixty-nine Guggenheim Fellowships, totaling \$155,000, were awarded for the year 1944-45 to American and Canadian scholars and creative workers. The list contains 13 women, the largest number ever to receive Guggenheim Fellowships in any one year. Two Negroes and one American-born Japanese were so honored.

Fellowships for work in the biological sciences are more numerous than Fellowships granted for work in any other field. Dr. Tilly Edinger of Harvard University will study the development of teeth in the evolutionary line leading from ancestral fishes to mammals.

Investigations of the causal factors involved in the embryonic development of vertebrates will be conducted by Dr. Johannes F. K. Holtfreter, one of the world's leading experimental geneticists. Of German origin, Dr. Holtfreter was sent from England to an internment camp in Canada. He was

released from there upon the appeal of Canadian scholars who admire his work and have a high personal esteem for him. During the past two years he has worked at McGill University as the guest of the University and under the auspices of the Rockefeller Foundation.

The origins of corn and tomatoes, food plants indigenous to the Western Hemisphere, will take two Fellows to Latin America. Dr. Paul Weatherwax of Indiana University will go to the highlands of Peru and Bolivia, one of the great pre-Columbian centers of agriculture, where corn may have been domesticated. Dr. James Angus Jenkins of the University of California at Berkeley will study varietal differences in cultivated tomatoes in the state of Jalisco, Mexico.

This is the 19th annual series of Fellowship awards by the Foundation, established and endowed by the late United States Senator Simon Guggenheim and his wife as a memorial to their son John. Fellowships are granted to scientists, artists, writers and others who have shown creative abilities in their previous work.

Citizens of the United States and Canada, and of certain Latin-American countries, are eligible on equal terms. The stipends usually amount to \$2,500 a year. Those announced now were granted to Americans and Canadians; a series of Fellowships for Latin Americans will be granted in June.

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ENGINEERING

Speed Motion Pictures Used To Study Stoker Fuel

► "SPEED-UP" motion pictures in color are used in a new method of determining efficiency and economy of combustion in stoker fuel beds in industrial



WORM'S EYE VIEW—One look at this miniature monster should be enough to scare away most of its natural enemies. A mature *Cecropia* caterpillar is about four inches in length and bluish-green in color. It is armed with rows of spiny tubercles which are red with spots of black near its head, yellow along its back and blue on the sides. Photograph by George A. Smith, Quarryville, Pa.

furnaces. Pictures were shown and the method explained by Otto de Lorenzi of the Combustion Engineering Company, New York City, at the meeting of the American Society of Mechanical Engineers in Birmingham, Ala. Ordinary motion pictures of stoker fuel bed movements are too slow to have value in studying the burning coal behavior.

"The general impression gained, when looking into a stoker-fired furnace, is that the fuel bed is motionless, incandescent and active," he stated. "While the actual motion is very slow, nevertheless it is positive and regular. The slowness makes it difficult for the human eye to see, follow and remember successive steps during any given cycle. Consequently, to have a true picture of sequence of operation and resulting changes, the action must be speeded up."

Interval photographs pieced into a continuous motion picture are found satisfactory for complete analysis of coal behavior in the various fuel bed zones. The exposure rate can be adjusted to secure any desired degree of speed-up. The studies made by this new method are being used in improved designing and engineering.

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