

Young scientists compete

Acclaimed as the most successful fair so far, the 20th annual International Science Fair in Fort Worth, Tex., May 5-9, played host to 391 competing tenth, eleventh and twelfth grade students, winners of regional and state fairs held earlier this spring. The students represented 47 states and Puerto Rico, Canada, Germany, Japan, Peru, Sweden and Switzerland.

The fair's success, says E. G. Sherburne Jr., director of Science Service, which conducts the annual fair, shows up in the fact that the projects continue to get more and more sophisticated. Improved curricula in schools and the added emphasis on out-of-school science-oriented activities, especially the Summer Science Training Programs, account for the improvements, he says.

In previous years, boys and girls competed separately. This was the first year that they competed on an equal basis. There were 281 boys and 110 girls. Of these, 75 boys and 26 girls won awards.

First place awards consisting of \$100, to go for scientific equipment or books of the students' choice, were presented in nine categories:

- Applied physics and engineering: James Nicholas Wisner of Detroit, Mich., for study of fluidics used to demonstrate the operation of logic elements; Bill Dibrell of Ardmore, Okla., for eliminating unnecessary waiting at red traffic lights.

- Biochemistry: Demetrio Mena Jr. of Brooklyn, N.Y., for examining the possibility for a third hydrogen bond between DNA bases in the DNA helix.

- Botany: Betsy Lucille Kraus of Wilmington, Del., for study of the effects of amoebas on algae growth.

- Chemistry: John Hardy Cawley of Tucson, Ariz., for determining the bridging tendencies of bound atoms or molecules; Glenn W. Hanes of Glenn Dale, Md., for studying plastic decomposition by sunlight.

- Earth and space sciences: Paul M. Ford Jr. of Portsmouth, Va., for studying solar synchrotron radiations at 432 megacycles.

- Mathematics and computers: Jennie Orr of Coeur d'Alene, Idaho, for developing and proving a new mathematical theorem; David Leroy Hindman of Lubbock, Tex., for developing a new low-cost method of evaluating large social structures.

- Medicine and health: R. Richard Harris of Reading, Pa., for studying immunology on the development of mammary carcinoma; Greg Kauffman of Albuquerque, N.Mex., for work on the recurrence of inflammation of the kid-

neys: Bradford Powell Keeney of Smithville, Mo., for studying the effects of adrenalin, hydrocortisone and insulin on the glycogen content of liver tissues.

- Pure physics: Ransom Myers Jr. of Clarksdale, Miss., for study of the effects of X-rays on crystallization.

- Zoology: William Thomas Mason III of Jacksonville, Fla., for studying the toxic effect of a poison from the sea anemone on the synthesis of ATP, an energy transferring chemical; Donald A. Rice of Ironton, Mo., for studying the locomotor reactions and their inducers in a cockroach when the specimen is subjected to various periods of light and dark.

Second place honors and awards of \$75 went to 15 students. Third place awards of \$50 were presented to 28 students and 43 received fourth place awards of \$25.

More than 200 students won separate special awards from 36 professional, governmental and military organizations, including the American Dental Association, the American Medical Association, the American Chemical Society, the American Psychological Association, the General Motors Corporation, the National Aeronautics and Space Administration, the U.S. Atomic Energy Commission, the U.S. Department of Agriculture and the U.S. Army, the U.S. Navy and the U.S. Air Force.

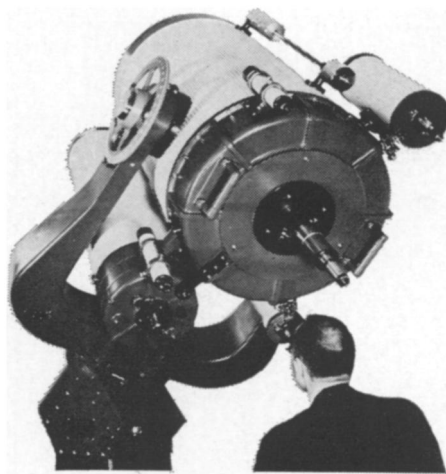
RESISTANT TO SULFA

Trial vaccine for meningitis

Among U.S. civilians, mostly young children, about 3,000 persons a year get spinal meningitis and 900 die of it. In the Army, small epidemics have been occurring among recruits. Dr. Malcolm S. Artenstein of the Walter Reed Institute of Research in Washington, D.C., reports 472 cases in 1968, with 24 deaths.

This incidence, and the disease's growing resistance to sulfa drugs during the past six years, has made a vaccine desirable. And a promising, highly purified vaccine against the disease, developed by Dr. Artenstein and two colleagues, is now being tried out on thousands of volunteers in U.S. Army camps.

Meningitis gets its name from the meninges, three membranes covering the brain and spinal cord, which become inflamed in the infection. Several types of bacteria can cause the disease. Type C is most prevalent this year; type A caused most trouble in World War I and World War II. The Walter Reed



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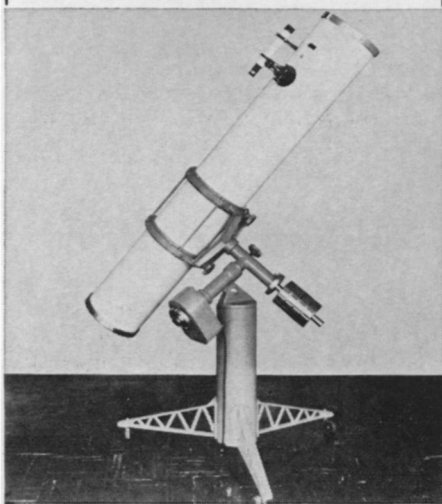
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vaccines cover these two types, but not yet type B, which was believed to be the cause of an epidemic at Ford Ord, Calif., in 1964.

"We cannot actually say that our vaccine prevents meningitis," Dr. Arntstein says. "The vaccine is safe, it does produce antibodies and reduces the transmission from person to person. More work needs to be done before it can be approved by the Army Investigational Drug Review Board."

Meningitis in the U.S. develops most often where people live in crowded quarters.

Dr. Emil C. Gotschlich, who headed the research team before he became an assistant professor at Rockefeller University in New York City, describes the vaccine as a purified portion of the bacterium that causes the disease. It consists of polysaccharide antigens which cause the body to develop its own defense against meningitis.

DRAFT

Lottery again

"Draft the youngest first" is advice that has been given to the Government by many—including drill sergeants who find younger bodies more malleable than men in their middle twenties. But present draft practice takes the oldest, sometimes men as old as 26.

Now President Nixon proposes a reversal of the field. He is asking Congress to change the law so that selection by lot will start with 19-year-olds.

Local boards would take men in the order of their birthdays as determined by one lottery. A second lottery would determine the order of drafting for those born on the same day.

What the President and many others seem to have missed, says Betty M. Vetter of the Scientific Manpower Commission, is that no matter how you establish a prime selection group, so long as you take the oldest first, you already have a totally random system, and all the scrambling is not necessary.

Switching prime eligibility to the youngest age group would, however, aid graduate students. "Almost anything that would take away the concentration on graduate students, brought about by the combination of taking away their deferments and continuing to make the oldest men the most eligible, would be of benefit to them," says Mrs. Vetter.

But passing the bill through Congress will take time—and a lottery draft bill failed two years ago. Without emergency administrative action in the meanwhile, says Mrs. Vetter, "there is no way to avoid taking out of graduate study an inordinate number from three classes." ◇

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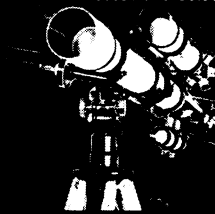
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