GENERAL SCIENCE

First National Science Fair

Winners in the First National Science Fair ever to be held are named. Millikan says that peace and plenty can be brought about through the effort of science.

➤ ANTIBIOTICS, the laws of motion, chemistry and plant science: complicated exhibits in these four fields won first place awards for two boys and two girls at the First National Science Fair in Philadelphia's Franklin Institute.

The nation's most highly skilled teen-age science technicians were chosen from a field of 30 finalists, shown on this week's cover SCIENCE NEWS LETTER, whose exhibits were the cream of the crop in 13 local and regional science fairs held in the past two months across the country. On Sunday, May 21, awards of $1,000 in scientific equipment were made to the winners.

Boys' Division: Alan J. Fletcher, 18, Warwick, R. I., took first place in physical sciences with his proof of the laws of motion. His exhibit, designed to illustrate and prove the laws of accelerated motion and laws of the pendulum, utilized multiple image photos of bouncing golf balls, balls rolling down inclined planes and pendulums. Measurements from the photos provided the time element necessary to prove these laws of motion.

William G. Horton, 15, of Oneonta, N. Y., won the biological sciences competition with his exhibit on antibiotics. Wishing to learn about the sources of bacteria, the methods of growing them and simple laboratory techniques, William became particularly interested in the antibiotic, bacitracin, produced by a strain of *Bacillus subtilis* which is native to hay and soil. It was Dr. Frank Meleney's work which first attracted William to this subject. His exhibit showed steps in the study of the methods and techniques involved in the production and assay of antibiotics.

Girls' Division: Frances Ann White, 17, of Hyattsville, Md., took first place in physical sciences with a chemical analysis of paper chromatography. Frances' exhibit showed a simplified chemical analysis of the separation of ions and compounds on paper by solvent action and adsorption. Samples of each step in the process were shown.

Martha Mary Schuld, 18, of Philadelphia, won in biological sciences by demonstrating the effects of doubling chromosome numbers in plants. Inspired by Dr. Albert F. Blakeslee of Smith College, who has done extensive work with the effect of colchicine on plants, Martha's charts gave a complete explanation of chromosome doubling in violets and the effects of colchicine on plants. Treated and untreated plants were displayed. All were raised from seed and cared for by her at home. The changes resulting from the experimentation were pointed out by cards and arrows.

Eight other contestants received second and third place awards in their respective divisions. They were:

Second Place Awards:

Anne K. Conant, 17, Dedham, Mass.; Donald H. Richards, 17, Belleville, Ill.; Harry Phillips, 18, Allentown, Pa.; David Kusner, 17, Philadelphia, Pa.

Third Place Awards:

Dominic B. Edelen, 17, Upper Marlboro, Md.; Mary Helen Martin, 17, College Park, Md.; Lenore Y. Taylor, 17, Utica, N. Y.; and Walter L. Morgan, 19, Haverford, Pa.

Fourth Place Awards:

Serge Boutourline, Jr., 18, Cambridge, Mass.; Robert B. Dunston, 18, Point Pleasant, New Jersey; Werner A. Fehlauer, 17, Paulsboro, New Jersey; Terrell Feistel, 18, Oklahoma City, Okla.; Carolyn Freeling, 18, Oklahoma City, Okla.; Theodore S. Garnett, Jr., 15, Norfolk, Va.; Johanna Martha Giese, 15, Norfolk, Va.; Maureen E. Harten, 17, Lincoln, Rhode Island; Lorraine A. Johnson, 17, Point Pleasant, N. J.; Charles L. Kimbell, 17, Hyattsville, Md.; Duane S. Kuhn, 18, Snyder, New York; Morton Lurie, 17, Rockville, Conn.; Helene D. McFetridge, 18, Philadelphia, Pa.; John W. Myers, 16, Norfolk, Va.; Frank Schippell, 18, Norfolk, Va.; Robert E. Welcyng, 16, Glens Falls, New York; Carolyn Kay Wimber, 16, St. Louis, Mo.; Jean Yanelli, 17, Hartford, Conn.

The top four winners received $125 scientific equipment of their own choice, the second place winners received equipment of $75 value and the third place winners received equipment of $50 value. The fourth place awards consisted of $10 worth of Science Service materials.

From Atomic Burst to TV

Among other ingenious exhibits built and displayed by America's young scientists were demonstrations of atomic energy, of how a violin is made, the inner secrets of a papier-mâché earthworm, and an induction furnace heated by high-frequency radio waves.

High-school senior Serge Boutourline, Jr., 18, son of French parents, carried off top honors at the Massachusetts Science Fair with a working atomic-hydrogen furnace using the principles of electrolysis of water.

Oklahoma City's Carolyn Freeling, 17, spotlighted the atomic age with a cotton cloud reproduction centering the scene at Bikini when the fourth atomic bomb exploded. Terrell Feistel, 18, also of Oklahoma, showed a seven-foot-long, boomerang-like model of a flying wing.

Duane Kuhn, 18-year-old from Buffalo, N. Y., built a scale model of a television studio, complete even to hand-carved cameras and lights.

The fair was conducted by newspapers in cooperation with Science Clubs of America, administered by Science Service, Washington, D. C., institution for the popularization of science, whose trustees include members from the National Academy of Sciences, National Research Council, the American Association for the Advancement of Science, the E .W. Scripps Estate and the journalistic profession.

The newspapers cooperating in the First National Science Fair were The Hartford Times, The Washington Daily News, The Boston Daily Globe, St. Louis Star-Times, The Oklahoman and Times, Oklahoma City, The Buffalo Evening News, The Knickerbocker News, Albany, N. Y., The Philadelphia Inquirer, Providence Journal and Bulletin, Norfolk (Va.) Ledger Dispatch, Atlantic City Press, The Ocean County Leader, Point Pleasant, N. J., and The Oneonta (N. Y.) Star.

The judges at the National Science Fair included Dr. James Creese, president of Philadelphia's Drexel Institute of Technology; Roger Conant, curator of Philadelphia Zoological Garden; Peter Abrams, president of Williams, Brown and Earle, manufacturers and distributors of scientific instruments; Cyril N. Hoyler, assistant to the vice-president in charge of research at RCA Laboratories in Princeton, N. J.; Dr. James K. Hunt, technical adviser, public relations department, E. I. du Pont de Nemours in Wilmington, Del.; and Dr. Walter C. Michels, professor of physics at Bryn Mawr College, Bryn Mawr, Pa.

Millikan's Challenge

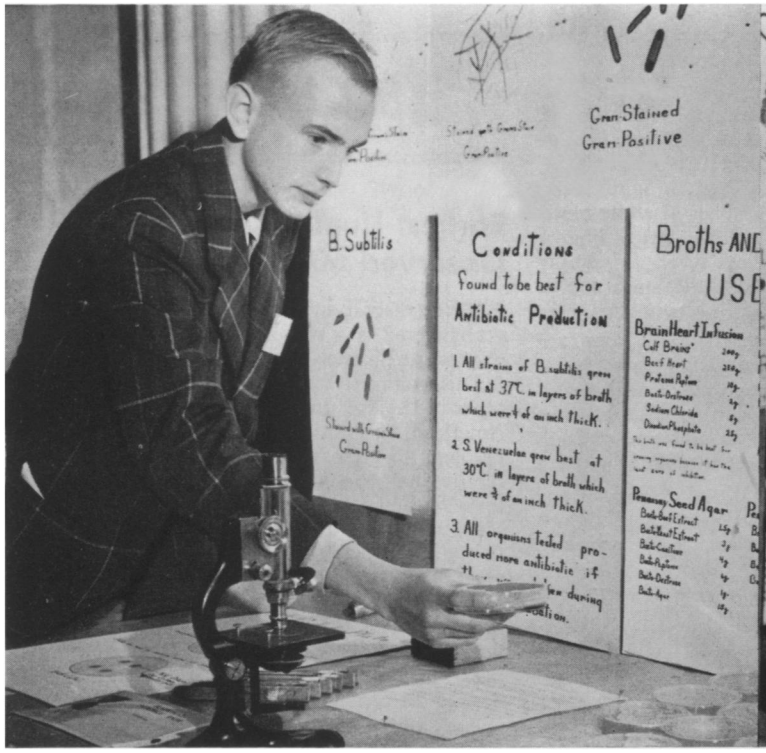
Today's youth must meet a scientific challenge—"so to understand the world that there may be peace and plenty for all peoples"—Nobel physicist Dr. Robert A. Millikan believes.

This was Millikan's challenge in a message to the 30 high school finalists at the first National Science Fair banquet in Philadelphia.

"The future of science belongs to youth," said Dr. Millikan's statement, which was read at the National Science Fair banquet in Philadelphia.

"Those of us who have attempted to understand the world and the universe expect young scientists to carry on the exploration that the generations of the past began, and the generations of your fathers and grandfathers have advanced at a continuously accelerated pace," the 82-year-old scientist, dean of American physicists, wrote.

He described the finalists of the nationwide science competition as "symbolic of the hundreds of thousands of potential scientists in all the nations of the world."



William G. Horton
Antibiotics
Boys' Division: Biological Sciences

TOP FOUR WINNERS

Martha Mary Schuld
Chromosome Doubling
Girls' Division: Biological Sciences

Alan J. Fletcher
Laws of Motion
Boys' Division: Physical Sciences

Frances Ann White
Paper Chromatography
Girls' Division: Physical Sciences