

GENERAL SCIENCE

Strom Wins Fair Prize

► TEN YEAR-OLD Robert E. Strom, of television fame, won a \$15 prize by exhibiting his homemade binary converter in the Science Fair at his big brother's school, the Bronx High School of Science. Since his converter earned a certificate of merit at the Fair in his elementary school, P.S. 26 Bronx, he was eligible to compete in the larger Fair where his brother Stephen, 14, exhibited a six-inch telescope that earned Stephen top honors and a trip to the National Science Fair in Los Angeles, May 9-11.

Bob has already won \$192,000 on the CBS-TV program, "\$64,000 Question."

He was pleased as punch to be able to exhibit the binary converter which he made out of such oddments as a cheese box, a coat hanger and wrapping paper from a roll of film, and ingenuity. With this little device, ordinary numbers can be converted, by an arrangement of lights shining through punched tape, to the binary system of numbers, used in large computers.

When Bob's Science Fair project won him some recognition, no one was more gratified than his brother Stephen, who has been sharing his amazing fund of scientific knowledge with the younger boy as fast as Bob could absorb it. Also, it was Stephen's winning in a Science Fair four years ago, and taking Robert along when he was invited to appear on a TV program, that launched Robert as a TV personality.

As a matter of fact, the whole Strom family presents a warmly appealing picture of mutual affection and encouragement. Mr. and Mrs. Albert Strom, both college graduates and devoted to their family, have made the two-bedroom apartment at 1950 Andrews Avenue, Bronx, a hospitable haven for whatever projects the boys want to concoct. Mr. Strom teaches electricity in

a vocational school. So, considering teachers' salaries, Bob's winnings on the "\$64,000 Question" may answer some questions about financing college educations for the boys and, perhaps, providing a little more room for computers and telescopes.

The acting principal of Robert's school, Timothy J. Brick, says Bob is a "very nice kid." He gets along well with the rest of the fifth grade and the other children are very proud of him. Brilliant as he is, he makes some mistakes when it comes to spelling or arithmetic. However, he casts a glow that lights up the classroom in any discussion that includes one of his scientific specialties.

Mr. Brick says there is no question as to why Bob is so enthusiastic about the Science Fairs, for "his main interest in life is science and he would naturally go into anything connected with science."

Stephen, at 14, is considered even superior to Robert "in many ways" by his high school principal. Long before the younger brother's TV triumph, Dr. Morris Meister, principal of the Bronx High School of Science, became interested in Stephen because of his astonishing knowledge of astronomy, as well as of physics and other subjects. When Dr. Meister found that the school was to have a new astronomical laboratory, with reflector and refractor telescopes and a planetarium, he turned over the job of designing and equipping it to Steve.

Since then, Stephen has been collecting information and advice from all over the country.

When he and Dr. Meister discussed the relative merits of an eight-inch telescope mirror versus a larger one, Stephen advised a six-inch mirror as an economical and

conditions. "Then he volunteered to grind the mirror himself!" related Dr. Meister.

The fair at which Bob had his exhibit was one of the five New York City Science Fairs conducted by the American Institute of the City of New York. All are affiliated with the National Science Fair, a SCIENCE SERVICE activity.

Science News Letter, April 27, 1957

PUBLIC HEALTH

Radiation Exposure From Fallout "Calculated Risk"

► EXPOSURE to radiation from fallout caused by atomic and hydrogen bomb explosions is a "calculated risk" Americans should decide whether or not they are willing to take, Atomic Energy Commissioner Dr. Willard F. Libby told an audience at the University of New Hampshire.

Although the added danger from radioactive materials thrown into the air after nuclear tests may be small, it is nevertheless a risk, he said.

Dr. Libby said the "real danger to mankind" is what would happen if the world should engage in a nuclear war. He pointed out that radiation from weapons test fallout, from natural sources such as cosmic rays and from the normal use of X-rays is probably so "minute as to have very small effects on either present or future generations."

Science News Letter, April 27, 1957

CHEMISTRY

Alloy May Give 100 MPH Boost to Jet Planes

► JET PLANES may be given a 100-mile-per-hour-boost through use of an alloy that would increase operating temperatures in jet engines about 100 degrees Fahrenheit.

Drs. J. T. Brown and A. W. Hoppe of Westinghouse Electric Corporation in Pittsburgh, Pa., developed the metal, an alloy of iron, nickel, chromium, molybdenum, titanium and boron known as W545. The high-strength, high-temperature material was designed to help push back what might be called the second "heat barrier" being met by supersonic jets.

The first heat barrier is excessive heating of the plane due to its own impact with onrushing air. The second is in the turbine section of the engine, where white-hot gases from the burning fuel push against turbine blades.

A jet engine gets its operating energy by increasing the temperature of air passing through it. Usually, the greater the air temperature increase, the more thrust a given engine will produce and the faster the airplane will fly.

The alloy is intended as a structural material for use in the jet engine's turbine section. It was developed to enable operation of jet engines at temperatures higher than now possible. W545 is being processed on a pilot plant scale in 3,500-pound ingots.

Science News Letter, April 27, 1957

MEDICINE

Leukemic Genes Different

► A STRIKING DIFFERENCE between the genes of normal and leukemic white blood cells has been found by Dr. Avery A. Sandberg, Roswell Park Memorial Hospital, Buffalo, N. Y.

The difference lies in how DNA (deoxyribose nucleic acid), the essential gene substance of the cells, is put together from its four basic components. The various combinations that are possible hold the key to species, race, coloration and all the inherited characteristics of human and other life forms.

In victims of leukemia, the white cells have a different balance of adenine, guanine, cytosine and thymine than is found in the white cells of normal individuals. The sick cells have much more thymine than

guanine, while healthy ones have more guanine than thymine, he reported.

Leukemic patients also excrete unusual quantities of DNase II, an enzyme found in very small quantities, if at all, in normal people. Another enzyme, called DNase I, is found in both normal and leukemic people and is believed by some researchers to make cells age and die by breaking up the large DNA molecule into smaller ones.

Somewhere in this complex relationship may lie the secret of the enormous life span of the cancerous white cell which lives up to 25 times as long as a normal white cell.

The findings were reported by the American Cancer Society which supported the work.

Science News Letter, April 27, 1957