

GENERAL SCIENCE

Science Scholarships

Boy who is a research chemist and a girl metallurgist, both from Brooklyn, win \$2,400 each as top students in the Science Talent Search.

See Front Cover

► A YOUNG 16-year-old organic research chemist of Brooklyn who has already worked with two classmates to prepare scarce organic compounds for the U. S. Army, won one of the two top-honor Westinghouse \$2,400 Grand Science Scholarships in the Fourth Annual Science Talent Search just completed by the Science Clubs of America. He is Edward Malcolm Kosower, a student in the senior class of Stuyvesant High School, New York City.

Top winner among the girls for the \$2,400 scholarship is Marion Cecile Joswick, 17, also of Brooklyn, who has picked research metallurgy as her field of scientific work. She has made a collection of fluorescent minerals and has set up and demonstrated apparatus for the microscopic study of diatoms, the algal fossils which form a kind of earth.

Portraits of the top winners are shown on the front cover of this SCIENCE NEWS LETTER.

Eight other high school seniors were selected by the board of judges to receive four-year Westinghouse Science Scholarships worth \$400 each, and 30 were granted one-year Westinghouse Science Scholarships of \$100 each. All 40 of these high school seniors attended a Science

SCIENCE TALENT INSTITUTE
—Alternates for the \$2,400 scholarships are shown on the top row of the facing page: left, Robert Hall and right, Nancy Stafford. Center, a group of winners at the National Airport where, with the help of the Weather Bureau, they launched a balloon into the stratosphere. Second row left, Dr. Adams and a group of winners and right Maj. Gen. Osborn, Nancy Stafford, Edward Kosower, Marion Joswick and Robert Hall. The \$400 scholarship winners below are: Jerome Blackman, George Clark, Richard Milburn, Saul Kravetz, Michael Tinkham and Andrew Streitwieser. Photographs by Fremont Davis, Science Service Staff Photographer.

Talent Institute in Washington at which they heard lectures by eminent scientists and had the opportunity of meeting scientific leaders.

Edward

In addition to the manufacture of scarce chemicals, Edward Kosower has been doing research in an attempt to synthesize pyridazine, one of a group of chemicals from which important medicines are derived. He has not yet succeeded in this, but with his associates, he did develop a new method for synthesizing a form of glutaric acid, which is an intermediate in the synthesis of pyridazine. Other research on the chlorination of fluorene with sulfur chloride which he conducted with another finalist in the Science Talent Search has been published in the *Journal of the American Chemical Society*.

DENTISTRY

Caries May Be Prevented

► MAYBE some day in the future we will be able to keep our teeth from decaying by using toothpaste or chewing gum containing tryptophane or by swallowing regular doses of this chemical in the form of tasteless white crystals.

This possibility appears in a report by Mrs. Naomi C. Turner, of Radcliffe College, in the *Journal of School Health* (March).

"The essential amino acid tryptophane," she states, "has distinct promise as a preventive agent for dental caries."

Amino acids are protein building blocks. Certain of them are called essential because the body cannot synthesize them and must have them for growth and health.

Tryptophane's promise of preventing tooth decay is based on the finding that it slows down the rate of starch decomposition. In a previous study of 51 patients at the Forsyth Dental Infirmary Mrs. Turner and E. M. Crane had found a correlation between starch decomposition by the saliva and the amount of caries,

Marion

Metals and minerals have engrossed the attention of Marion Joswick since she was eight years old and was impressed with the beauty of a huge mass of translucent beryl at the Brooklyn Museum of Art.

Alternates for the \$2,400 Westinghouse Grand Science Scholarships are Nancy Jeannette Stafford, 17, of Watertown, N. Y., who is planning to be a psychiatrist when she can complete her training, and Robert Leonard Hall, 18, of Green Bay, Wis., who is interested in the study of ancient Indian life and other prehistoric man.

An ingenious method for restoring prehistoric pottery vessels that have been unearthed in fragments has been devised by Robert Hall, who has prepared a paper on Indian excavations that has been presented before the Wisconsin Academy of Sciences, Arts and Letters.

Nancy Stafford's essay was written about the use of the Indian arrow poison curare in the treatment of mental illness. She has, herself, done experimental work on animals to determine the effects of this potent drug.

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or tooth decay, in the mouth. Persons with 20 or more cavities produce saliva which decomposes, or hydrolyzes, starch very rapidly. Persons with little or no tooth decay produce saliva which hydrolyzes starch very slowly.

The finding that a high protein (low carbohydrate) diet has a favorable effect on caries and other findings led Mr. Crane to suggest looking to the amino acids for a material that delayed starch hydrolysis by the saliva.

Mrs. Turner has already tried the effects of doses of tryptophane in one person. Within a week, the time required for starch hydrolysis by this person's saliva had increased from a base rate of 20 minutes to 240 minutes. Whether tooth decay will be prevented, Mrs. Turner says, remains to be established.

Ordinarily, studies of a number of patients would be made before reporting results, but, Mrs. Turner states, she is reporting consistent studies of one individual at this time in order that interested research workers may undertake

