

GENERAL SCIENCE

Projects of STS Winners

► WINNERS in the Ninth Annual Science Talent Search were required to write essays as part of the competition. Summaries of some of the essays appeared in *Science News Letter*, Feb. 25, 1950. Further summaries follow:

Rat Hypertension Relieved

High blood pressure can be relieved in rats just as it can in humans by a salt-free rice diet, Victor J. Rosen, Jr., 16-year-old Beverly Hills (Calif.) High School senior, has just demonstrated.

Patterning his experiment on ideas he got from reading technical literature on the subject, Mr. Rosen produced high blood pressure, or hypertension, by removing one kidney from each of six rats. After they had been six weeks on a standard rat diet, he divided them into two groups of three each.

One group got a salt-free rice diet and the other got rice with salt added. Autopsy showed that each of the salt-free rats had a normal heart and kidney while the other rats showed definite signs of hypertension.

This experiment is not the first scientific research Mr. Rosen has to his credit. With direction from medical men he has done dissections of several kinds to gain experience for his planned career as a surgeon.

Survey of Comic Readers

School kids from the fifth to eighth grades average better than a comic book a day, says 17-year-old Stanley Korenman, who has just completed a study of the reading habits of 774 grade schoolers who own a total of 28,500 comic books, or an average of 44 each.

Mr. Korenman, a senior at Brooklyn's Abraham Lincoln High School, came up with several other statistics in an independent survey.

He found that library book reading drops off much less slowly than comic book reading as the children get older—for the very good reason that it doesn't have as far to fall. While the children are reading an average of more than seven comics a week, even the library card-holders are averaging a bit less than four books a month.

Mr. Korenman, whose scientific interests range from mathematics and physics to biology and social science, hopes to go to Princeton in preparation for a career as a research physicist.

Measures Alpha Particles

A 16-year-old boy has devised an instrument which shows and measures alpha particles given off by radioactive atoms.

The teen-age physicist, Lawrence Rosler, is a senior at Brooklyn Technical High

School. His apparatus shows visually the intensity, energy, and range of alpha particles emitted by such substances as uranium, radium, and thorium.

Unlike the well-known Geiger-Muller counters now widely used to detect outputs of atomic energy, the device is sensitive to alpha particles only. Other rays are counted along with alphas in a Geiger counter, but in Mr. Rosler's device they are screened out.

The youth, who aspires to be a research physicist, stands fifth among the 610 classmates with whom he will graduate this month.

New Fish Species Found

Stickleback, round scad, and mangrove snapper have now been added to the lists of fish found in New York waters, thanks to the investigations of a 16-year-old Brooklyn high school boy, who aspires to be a marine biologist.

Malcolm Gordon, New Utrecht (Brooklyn) High School senior, found the hitherto unrecorded fish in an independent survey he made during the summer at Coney Island. In all he hauled in 20,000 fish of 33 species. Along with the expected herrings, alewives, menhaddens, anchovies, and eels, he found the three new fish. The stickleback is of the kind known as the 10-spined stickleback. The New York Zoological Society, which keeps track of the local fish population, has added his discoveries to the list of fish known to frequent New York waters.

Mr. Gordon's study of shallow-water fish has been published in the American Museum of Natural History's publication, *MARINE LIFE*.

Lectures on Atomic Energy

If the residents of Bellingham, Wash., and vicinity have a better understanding of atomic energy than their fellow citizens elsewhere, they can thank an 18-year-old high school boy, William D. Gunter, Jr.

Mr. Gunter, who stands first in the senior class at Mt. Baker High School at near-by Deming, was the moving spirit behind a model demonstration of atomic energy which has been shown to many local community groups.

The demonstration, accompanied with lectures by fellow students and a question-answering period by Mr. Gunter, was assembled at the request of the Atomic Energy Commission. It consists of charts and models emphasizing the theory and applications of atomic fission.

Although the exhibit was made by many students, most of the credit is given to Mr. Gunter who co-edits the school

paper and is active in a variety of extra-curricular activities from the Rifle Club to basketball and softball. He plans a future career in chemistry.

Studies Plant Galls

Donald McCormick, 17-year-old Oak Ridge (Tenn.) High School senior, has been preparing himself for a career in biochemistry by devoting his leisure hours to a study of plant galls, those abnormal plant growths which bear a close resemblance to human cancer.

Concentrating his investigations on galls appearing on goldenrod, Mr. McCormick found that the two main causes of stem gall are a gall fly and a gall moth which wound and infect the goldenrod stem. Altogether there are some 150 kinds of goldenrod galls. He did not find all of them in his collecting around Oak Ridge.

One of Mr. McCormick's findings was negative. Knowing that oak galls yield as much as 50% to 70% of commercially valuable tannin (used in tanning leather), he tested goldenrod galls for tannin content and found it too low to be profitable.

Builds Geiger Counter

From spare-time tinkering to a career as a research physicist is a long, hard road, but 18-year-old Ronald Fuchs of John Muir (Altadena, Calif.) High School has just taken the first step on this desired path.

Mr. Fuchs who hopes to enter California Institute of Technology to study physics and electronics, built a Geiger counter of his own design. Subsequent experiments with it led him to a study of the conductance characteristics of galls.

Prior to this the young scientist designed and built several other radio appliances, including a short wave receiver, a sound amplifier, and an instrument for analyzing sound distortion. He ranks fourth in the June graduating class of 445, and finds time to tutor fellow students in algebra.

Isolates New Bacteria

Three apparently new kinds of bacteria have been isolated by a 17-year-old high school boy. Edward Wawzkiewicz, of North Smithfield, R. I., discoverer of the tiny organisms, has built two bacteriological incubators for his home laboratory and worked long hours learning the best method of staining bacteria. Three unidentified species appeared in his cultures.

If he is correct, and they turn out to be new species, there is ample precedent for naming them after the youth. In the study he carefully described the three microorganisms.

The Mt. St. Charles Academy (Woonsocket, R. I.) senior, plans a career in bacteriology.

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