The day the announcement of the winners is made is a great one for the student. But it is also a great one for his teachers and for the school he is attending. High schools are as proud of a Science Talent Search winner as they are of the football heroes.

The trip to Washington for the 40 winners provides five days of excitement, intellectual and otherwise. For one thing, the $11,000 in Westinghouse Science Scholarships must be distributed. The top winner receives $2,800 and the runner-up, $2,000. Everybody receives at least $100.

Four Judges for Scholarships

Four men judge the distribution of these scholarships: Dr. Harlow Shapley, president of the SCIENCE SERVICE Board of Trustees and director of the Harvard College Observatory; Dr. Harold Edgerton, vice-president, Richardson, Bellows, Henry & Co., New York; Dr. Steuart Henderson Britt, vice-pesident and director of research, Needham, Louis & Brorby, Inc., Chicago, and Dr. Rex E. Buxton, Washington psychiatrist. Drs. Edgerton and Britt devise the tests each year.

When they are not being interviewed by the judges, the winners may well be being interviewed by representatives of the press. There is a formal program laid out for them which includes visits to the scientific laboratories in defense establishments and government departments, talks with noted scientists and a visit with the President of the United States. The scholarship winners are announced with a great deal of suspense at the annual banquet which concludes the five-day Science Talent Institute.

The boys and girls who attend these Institutes come from all over the nation. Most of them are leaders in their schools, holding offices in their classes and school organizations. Some are athletic stars, a high proportion play musical instruments—there is usually at least one jam session during the Washington visit.

They are normal in every way except that they have more knowledge of science and much more of a drive to do scientific work than do their classmates. Some of them like the five-day visit because for the first time they meet people "like themselves" in this respect.

In the fall of 1951, almost ten years after the first 40 winners were picked in 1942, all but two are working in scientific, technical or engineering fields. One of these two is a political scientist, the other a retired chemist now a wife and mother. Six are Ph.D.'s, eight are doctors of medicine, almost half hold masters degrees, their equivalents or better. In the class of 1943 there are six Ph.D.'s.

The search is spreading the interest in science, too. Every year more than half the winners come from schools which have never before placed. The state Science Talent Searches grow, in numbers of states and in numbers of scholarships offered, every year.

On the cover of this week's SCIENCE NEWS LETTER, Paul Sternberg, top 1950 Science Talent Search winner, is shown at work in the Brookhaven National Laboratory of Associated Universities, Lipton, Long Island, N. Y. Now an 18-year-old sophomore at Swarthmore, Pa., during the past summer he examined tracks made by nuclear particles in photographic emulsions exposed to cosmic rays at high altitudes.

Meantime, the students go on with their careers. Last year's winners are just starting their first year in college, while the early groups are already involved in advanced research. They hope, and the nation does too, that more of our young men and women will join them in scientific careers. Confronted by a long-sustained crisis, the nation can certainly use them.

For complete details of the national and state Science Talent Searches, write to Science Clubs of America, 1719 N St., N. W., Washington 6, D. C.

Science News Letter, October 6, 1951

INVENTION

Radio Beacon Will Guide Plane by Coded Signal

➤ A WARTIME-DEVELOPED radio beacon for guiding airplanes in flight by a coded signal sent out in response to a signal from the plane brought patent 2,568,265 to Luis W. Alvarez of Belmont, Mass., with rights assigned to the U. S. Navy.

The radio beacon, designed to be located at an airport or on an aircraft carrier, is normally inoperative but may be triggered from remote points by radio signals. It will fire only when it receives a signal of a predetermined character, and then it will send out a single high-speed coded signal which permits the pilot to identify the beacon.

In the system, the coded signals sent out from the beacon are received by special instruments in the plane in which they are translated into light impulses on the face of a cathode ray tube, so that the code will actually be visible and instantaneously observed. This enables the pilot at a glance to know the direction of the beacon from the plane as well as its distance away.

Science News Letter, October 6, 1951

TECHNOLOGY

Concrete Now Made With Corncob or Air

➤ FARMERS WHO want a lightweight concrete for farm buildings can now utilize in making it either one of two plentiful farm materials—corncobs or air.

Both types of concrete are being made, the U. S. Department of Agriculture reports, but much work must be done before they are ready for general use. The first uses corncob pellets as filler or aggregate, the second is filled with bubbles of air.

The corncob concrete is being developed at the Michigan State College, East Lansing, in cooperation with the federal department. The pellets used are about three-eighths of an inch in diameter and replace ordinary aggregate. Before mixing with the cement, water and sand, the corncob pellets are soaked in water for hours. Otherwise they will absorb the water in the mix and cause the concrete to rupture in setting.

An improved air-containing concrete, suitable for farm use, has been developed by the National Bureau of Standards. Officially it is called air-gravel concrete. Gravel is used as the aggregate, but air replaces all or part of the sand. The air bubbles are created in the mix by the use of chemicals called air-entraining agents.

Science News Letter, October 6, 1951