GENERAL SCIENCE

Background of Winners

The family background of the winners in the Science Talent Search varies in occupation of parents, size of families, economic status and nationality of parents.

➤ AMERICA'S scientists of the future are coming from a variety of family backgrounds. No certain set pattern of family living produces boys and girls talented in science, if a study of the home life of 40 of the most promising young scientists this year is an index.

These 40 high school seniors arrived in Washington, D. C., March 2 for the Institute of the Ninth Annual Science Talent Search, conducted by Science Clubs of America, administered by Science Service. Chosen for their potentialities as future research scientists, they will compete for $11,000 in Westinghouse Science Scholarships to be awarded March 6.

The winners enjoy stable home life. All except six are fortunate in having both parents still living.

Exactly half of these 15- to 18-year-old high school seniors have parents who were both born in this country, but that the U.S.A. is still a melting pot is indicated by the parentage of the other 20. Nine have one parent born outside the U.S.A. They include four from Russia, two each from Canada and Poland and one from Austria. The other 11 have parents who were both born outside this country: 11 are from Russia, four from England, two from Switzerland and one each from Canada, Czechoslovakia, Germany, Lithuania and Poland.

Economic status aand occupation of the father seem to have very little to do with the making of a scientist. The fathers of the 40 winners are about evenly divided in professional and non-professional occupations. Among them are three teachers and a school principal; four managers: a theater, a sand and gravel concern, a shoe store and an office; three salesmen; two college professors; two lawyers; two farmers; a mechanical, an electrical and an aircraft engineer. One each is a railroad man, mill worker, architectural draftsman, cab driver, dress presser, decorator, internal revenue agent, sign painter, chemist, boiler maker, real estate operator, milliner and laundry route man.

Mothers of the winners are in general occupied with their duties as homemaker but 10 find time for full or part-time jobs in addition. Among them are two teachers and a school clerk, a seamstress, newspaper publisher, rent consultant, secretary, factory hand and a business woman.

Approximately 57% of the winners' fathers and 35% of their mothers attended college.

Twenty of the winners admit they have no known relatives who are scientists. Relatives of the others include scientists or science teachers of varying age and importance. Among them is a predominance of medical men and engineers.

Examples of scientific relatives include:

Miss Alice J. Warren of Ithaca, N.Y., has a father and a grandfather who have each served Cornell University as professor of agricultural economics.

Saul Sternberg of Brooklyn, N.Y., is the nephew of Dr. Mildred Cohn who, as a physical biochemist, has worked with three Nobel prize winners: Dr. Harold Urey at Chicago University and now with the Drs. Cori at Washington University in St. Louis, Mo.

The father of Donald B. McCormick of Oak Ridge, Tenn., is a chemist who holds patents in ceramic chemistry.

Miss Cynthia Wyeth of Philadelphia, Pa., comes from a long line of scientists, some of whom established the pharmaceutical house: John Wyeth and Bro. Her father is an electrical engineer; her uncle a cold weather expert with the USAAF and an amateur ornithologist.

Edward Wawszkiewicz of Woonsocket, R.I., is the cousin of a former professor of mathematics at the University of Warsaw who "was put in a concentration camp and used as a guinea pig by the Nazis."

Size of the family does not seem to have anything to do with guaranteeing ability as a scientist—or in stifling it. Twelve of the 40 are only children. Nine have one brother and five have only one sister. Of the other 14: six are one of three children; one has three siblings; four are one of five children and three are one of six children.

Two of those from a family of six are Patricia and Cynthia Jackson of Forest Hills, N.Y., who are themselves two of a set of triplets. Their sister triplet is not interested in science as a career and did not enter the Science Talent Search competition. Of those with brothers and/or sisters nine are the oldest of the children while 11 are the youngest children in the family.

Science News Letter, March 4, 1950

ENGINEERING

Material Selection for Atomic Plant Has Problems

➤ IT IS "internal corrosion" from high-energy radiation that creates the hard-to-solve problems which engineers designing the furnace of an atomic power plant have to solve. Ordinary rusting and other corrosion problems present no special difficulties.

Some of these problems were summarized by Harry E. Stevens, of General Electric, a staff member of the Knolls Atomic Power Laboratory which G-E operates for the Atomic Energy Commission.

From a nuclear reactor, which is the furnace of an atomic power plant, there are emitted high-energy particles and radiation, he stated, comparable with those that would be discharged from several tons of pure radium.

These are able to penetrate considerable thicknesses of any material, he said. They may change the arrangement of the atoms of which a structure is made, and materially alter its physical properties.

Thus a structural material that may be entirely satisfactory for ordinary engineering uses might be unfit for prolonged operation in an atomic power plant.

There may be an adverse effect in another way, he continued. The atomic particles, called neutrons, which are produced in large numbers in the reactor, are responsible for maintaining the chain reaction by which atomic energy is released. Control rods, which soak up these neutrons as a blotter soaks up water, are required to keep the reactor from running away.

However, if very much else of the structure acts as a neutron blotter, the supply of neutrons will be depleted, and the power reduced.

Such considerations, Mr. Stevens declared, "drive us to consider strange new structural materials, and these in turn raise a whole new array of procurement problems."

Science News Letter, March 4, 1950

THE ARCTIC LOOK—The newest item in Arctic flying gear is this seat-style survival kit which doubles as a cushion in flight. The kit contains 22 different items, including a vacuum packed sleeping bag.