GENERAL SCIENCE

Science, Youth and Tomorrow

The National Science Fair, still growing rapidly, is aimed at doing something about America's shortage of scientifically trained men and women.

By ALLEN LONG

➤ SEVERAL MILES from shore a gentle breeze stirred a ripple in the ocean. The ripple began moving toward the coast with the wind urging it on.

At length the ripple grew into a ground swell, and then into a wave. It finally washed ashore, hissing with its frothy white-cap. It was alive in its demeanor, spectacular in its beauty and awesome in its power.

The ripple that grew into a wave can be compared to the National Science Fair, which had its modest beginning in 1950.

Aimed at doing something about the critical shortage of technically trained men and women, the fair now offers reassurance that America's future scientific gauntlet will continue to be grasped by capable hands.

The first fair was held in Philadelphia. It attracted 30 teen-aged scientists from high schools in 13 areas of the United States.

In the following years, as it swept through St. Louis and Washington, D. C., the National Science Fair grew into a ground swell. Last year, the fair rolled into Oak Ridge with a crest of 70 sparkling-eyed teen-agers representing areas from California to Rhode Island.

This year an anticipated 100 youthful scientists will gather at Lafayette, Ind., to display their scientific exhibits on the Purdue University campus.

Like the wave, the National Science Fair is alive in its demeanor. It was established to stir up youth's interest in science in public, private and parochial schools.

Classroom Contacts Inspire

It had long been suspected that many boys and girls became interested in science through their contacts with it in the classroom. Subsequent studies have verified this. A questionnaire sent to past National Science Fair finalists revealed that 40% of them received their scientific inspiration this way.

Linked to school activities, the fair is beginning to make a visible impact upon America's youth. A 17-year-old Warwick, R. I., high school senior had this to say:

"If it hadn't been for the fair, I don't know that I would have become interested in science. But I saw a lot of my classmates preparing their scientific exhibits for our local fair, so I decided to make one too. The more I worked on it the more I got interested in science. Now I've about decided to be an engineer."

And like the wave, the National Science Fair is spectacular in its beauty. Distinguished chemists and physicists alike marveled at the scientific know-how exhibited by teen-agers at Oak Ridge.

Rows upon rows of tables were jammed with test tubes, motors and fossils that reflected maturing, inquiring minds at work. Experiments had been run, specimens had been gathered and analyses had been made by these youngsters. The final results were displayed in a brilliant panorama of science, invigorated with the spirit of youth.

While listening to a young man or woman explaining the whys and wherefores of his or her exhibit, it was not hard to catch a glimpse of the future. It was comforting to imagine John Jones designing a better rocket engine, or Mary Smith working on new vaccines.

Like the wave, the science fair program is becoming awesome in its power. It influence is being felt by hundreds of thousands of children from kindergarten through senior high school. It is attracting like numbers of adults who turn out to see their local fairs.

It is drawing its support from school teachers, civic-minded newspapers, universities, chambers of commerce, scientific societies, technical groups, medical associations and even banks. Large organizations that have been caught up in the fair program have volunteered continued backing.

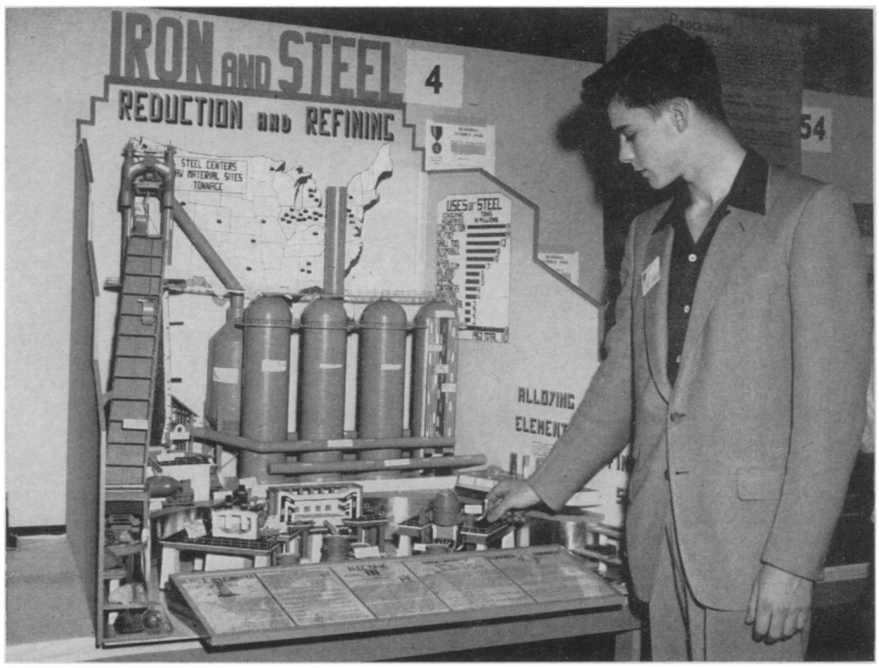
The National Science Fair is operated by Science Clubs of America, administered by SCIENCE SERVICE. Its scope has steadily spread westward. This year it bites into southern British Columbia in Canada.

Four Top Awards

Originally each local fair could send four finalists to the national event. Last year, however, it was decided that the fair was growing at such a rate that four finalists from each area would be too many in 1954. The number of finalists that each local fair can send was cut to two. Even so, about 30 more finalists are expected this year than entered last year's national fair.

Four top awards are given to two boys and two girls having the best exhibits in the physical and biological sciences.

These awards are unusual. Each finalist is asked to make a "wish list," naming the



IRON AND STEEL—This exhibit showing the physical layout of a plant for reducing and refining iron and steel won a second-place award for Albert C. Petersen Jr. at the National Science Fair at Oak Ridge, Tenn., last year. The 18-year-old youth from Farmington, Conn., now is a freshman in engineering at the University of Connecticut.

scientific equipment he would like to have if he wins. Then if the finalist later is chosen as a first-place winner, he gets his "wished-for" equipment. It amounts to a total value of $125.

Second- and third-place winners, distributed between the sexes in proportion to the number of boys and girls entering each category, amount to $75 and $50 each in scientific "wish" equipment and literature.

Base Exhibit on Project

Getting into the competition is not hard. A student decides upon some project and builds an exhibit around it.

The project can be something especially thought up for the fair. Frequently, however, the projects are the outgrowths of scientific hobbies the students have been pursuing in their spare time.

As many as two winners of each local fair can be declared finalists to the national fair. They are sent to the national event on all-expenses-paid trips by their sponsors, most of which are newspapers.

They again display their exhibits at the national fair. Competent scientists judge the myriad exhibits for national recognition.

Presents Many Opportunities

The boys and girls themselves, however, seem to look upon national honor as a minor achievement. Most seem to feel that just getting to the national fair is the most important thing. During the fair program, the finalists have the opportunity of talking with outstanding scientists. They also tour scientific laboratories and industries. This helps each finalist expand his knowledge of science and to see how science fits into the picture of everyday living in America.

Questionnaire responses from past National Science Fair finalists also showed the teen-agers enjoyed and benefited from meeting each other. The National Science Fair provided the opportunity, for instance, for West Coast students to compare the quality of their work with that of East Coast students.

Presumably, the finalists return to their home towns with helpful hints to pass on to their classmates—hints that could help them win honors for themselves the following year.

Science News Letter, May 1, 1954

GERONTOLOGY

Cortisone for "Stroke"

➤ PATIENTS STRICKEN by apoplexy, their relatives and doctors need no longer have a defeated feeling or, at best, one of waiting to see whether or not the patient will recover.

A discovery announced in the *Journal of the American Geriatrics Society* (April) seems likely to change that situation dramatically.

Cortisone, hormone chemical famous for its relief of pain-racked arthritics, may in future rescue many "stroke" victims from a helpless, vegetable-like existence.

"Striking" effects of cortisone treatment of nine out of 12 stroke victims have been obtained by Drs. Henry I. Russek, Burton L. Zohman and Allen S. Russek of the Department of Health, Education and Welfare's Public Health Service stationed at Staten Island, N. Y.

A rapid and nearly complete recovery may occur after a stroke with only good nursing care, the doctors point out. But their impression from their use of cortisone is that this hormone chemical "accomplished in one day what ordinarily might take several weeks under conservative treatment."

The patients who responded to cortisone were those whose strokes came from clots. Those who had hemorrhages on the brain were not helped. The treatment was given 15 consecutive patients, but three were dying when treatment was started and cortisone did not save them. These were the three with hemorrhages.

The cortisone was given either by mouth or by hypodermic injection starting on the first day of the stroke. It was continued for three weeks. In the patients helped by it, "dramatic" improvement came within the first 24 hours. Paralytic signs and symptoms began to lessen and difficulty in talking cleared rapidly.

The greatest effects were seen in those patients who were continually drowsing, in a stupor, mentally depressed or apathetic. In patients so afflicted, these symptoms were replaced overnight by a keen alertness and interest in their progress toward recovery. As a result of this and an improved sense of well being, active rehabilitation to overcome the disabling effects of the paralysis could be started after the first or second day.

Four patients were able to walk alone or with a cane after three days of treatment, four more walking at the end of a week, and two after 10 days. Two more were kept in bed because of heart trouble, but these were so improved that they could otherwise have been walking after a short time.

Supporting the view that the cortisone helped the rapid recoveries of the patients was the experience with two patients who had the drug stopped before the full course of treatment. Paralysis increased in these after the treatment was stopped, and lessened when cortisone was started again.

The more seriously ill patients were the ones in whom cortisone seemed to have the greatest effect. The doctors believe the drug acts by reducing the watery swelling in the brain after the stroke.

Science News Letter, May 1, 1954

MAMMALOGY

Philippine Lizard Glides on Skin Wings

➤ THE PHILIPPINE flying lizard glides through the air with the greatest of ease using two folding skin flaps for wings.

Dr. Austin L. Rand, curator of birds at the Chicago Natural History Museum, has observed the lizard "flying" more than 15 feet between trees. In a typical flight, the lizard will lose only about five feet of altitude.

At the top of a tree, the lizard makes a flat jump of three or four feet, then spreads its skin flaps and glides the rest of the way. It is a slender animal about three or four inches long.

Science News Letter, May 1, 1954