

## GENERAL SCIENCE

# For Science Understanding

For the youth of America, a great national quest for knowledge in the sciences is needed. The existing groundwork presents an opportunity.

*A statement by the Director of Science Service:*

➤ AMERICA today needs a great national quest for knowledge and understanding of the sciences. Already a million and more boys and girls in the high schools of America are eager to do things in science, and many of them are doing so now. Almost as many more adults, people who may not have had a chance to study the sciences in college, would find satisfaction, inspiration and personal development in science as an avocation.

The benefits to America and to the world that would result from an accelerated development of this science program would be most effective and gratifying.

America needs such a great quest for knowledge and science understanding. Operating in the schools it would kindle the sparks of interest and genius latent in our youth. Extending into our communities as a hobby and educational opportunity for adults it will bring great personal satisfaction and explain the fundamentals of American material and spiritual development.

For the future of America—for peaceful living, for industrial progress, for a successful democracy, for a strong and prepared nation—this quest for science understanding must be accomplished.

The foundations of this great movement have been built in the youth activities of SCIENCE SERVICE'S Science Clubs of America. There are about 10,000 affiliated clubs in every state—and almost every county, city and town of the land. A third of a million members are on the rolls of these clubs.

State science academies, colleges, teacher associations, museums, newspapers, and other organizations are cooperating. In 32 of the 48 states, there are statewide movements as a part of the Science Clubs of America development. In some of the larger states there are regional organizations as well.

The National Science Talent Search for the Westinghouse Science Scholarships is now in its 11th year. This is a nationwide selection of the high school seniors who are most likely to be creative scientists of the future. The selections are made through a vigorous competition based upon results of science aptitude examinations, recommendations, evaluations and science project reports. In all, 3,000 boys and girls have been picked for honors, and the National Science Talent Search has been extended into the states through the utilization by state committees of the entries for further honors,

The Science Talent Search has pioneered the recognition by the educational and scientific world that those with talent can be picked successfully at the high school level.

The work of science clubs is culminated in science fairs and congresses held as part of the science movement in about 40 localities. Science fairs attracting up to 1,500 entries in some cases are held annually. Newspapers and educational institutions cooperate in sending winners from these affairs to the National Science Fair, the second of which was held in St. Louis in May, 1951.

The "grass-roots" of science understanding is the typical club or group in a high school in some town or big city. Science is the hobby as well as the study of each boy and girl among the 20 to 30 members. A teacher who likes science as he enjoys teaching youth, is the "sponsor." During noon hours, in class time, after school, on Saturdays, the science club members work on their projects—investigations of varying

degrees of difficulty, originality and importance. The whole range of human interest and science is spanned—everything from astronomy to zoology—inventions, aids to health for the neighbors, insect collections, study of rocks, building of mechanical models, raising of animals, weather observations, food tests, chemical experiments, and thousands of other projects.

Some of these are scientists of tomorrow—and all are the citizens of tomorrow who will use and understand science.

This great structure of science for youth—primarily in our senior and junior public high schools and in our private and parochial secondary schools—has been built in the years since Pearl Harbor. (In 1941 there were only 700 clubs nationally organized.) The national network of clubs has been organized and each club has been supplied *free* with basic materials for fruitful activity. This is a minimum activity, nevertheless.

Now there should be much more service to these youthful scientists. The need is greater, for we realize more keenly the importance of the facts, the utility and the philosophy of the sciences.

Of equal importance to the youth movement would be the development and stimulation of adult hobby and avocational interest in science. A certain number of the clubs in Science Clubs of America do have adult membership.



**SYNTHETIC CORTISONE**—From the Mexican roots, "cabeza de negra"—meaning "black head"—carried on this boy's shoulder, come the substances used in the synthesis of cortisone. (See SNL, July 14.)

Participation of adults in science activities could be developed so that numerically it would be just as large, perhaps even larger, than the participation of youth in such activities. A study made in Philadelphia some years ago showed that there were as many amateurs of adult age as there were science club members.

SCIENCE SERVICE is the national educational and scientific institution, not for profit, with trustees nominated by the National Academy of Sciences, the National Research Council and the American Association for the Advancement of Science, the journalistic profession and the E. W. Scripps Estate. In operation since 1921, it is equipped by years of experience, staff, physical plant, and contacts with the educational and scientific work to undertake the contemplated essential educational service to be performed.

The popularization of science and its understanding by the people is the objective of SCIENCE SERVICE. Thirty years ago when we began, science was not considered news by newspapers. We created science reporting as an accepted part of the American scene. We serve several hundred newspapers reaching many millions of readers with SCIENCE SERVICE news and feature

articles. We pioneered in science on the radio. Our personal subscription services are important. Our weekly SCIENCE NEWS LETTER magazine has a significant circulation. THINGS OF SCIENCE is a unique monthly service. CHEMISTRY magazine covers an important field. We are a national center for science information.

The science youth movement developed by SCIENCE SERVICE has been financed modestly out of the limited resources available through income from our non-profit activities, largely publications, supplemented by a limited income from the original E. W. Scripps endowment.

The opportunities for investment in the science of the future now far outrun the resources available. We are proud of what has been accomplished. Our service to the science clubs can not be placed on a self-supporting basis, as some of our other pioneering science popularization efforts have been. We feel justified in suggesting that financial aid be given our activities, particular those in the science club field, in order that the urgent opportunities be realized. We shall discuss gladly in detail the possibilities.

Science News Letter, July 21, 1951

#### PUBLIC HEALTH

## Aerosol Process for BW

Enemy biological warfare agents could spread death easier by making use of aerosol process, familiar in method for killing mosquitoes.

► ENEMY BIOLOGICAL warfare agents have a much simpler problem in spreading death if they make use of the "aerosol" process familiar to thousands who use it to kill mosquitoes or make whipped cream. By spraying disease agents through the air—which is what the aerosol process does—they can leave out some of the steps to infection usually necessary in natural disease.

Drs. S. Edward Sulkin and Robert M. Pike of the Southwestern Medical School of the University of Texas found that laboratory-acquired infections do not always follow the pathways of transmission established for the naturally occurring disease. Yellow fever, they pointed out, developed in laboratory workers in the absence of mosquitoes to carry it. A venereal disease, lymphogranuloma venereum, developed without the usual contact between persons.

The two scientists attributed this to the release in the laboratory of agents "properly dispersed in the environment." This means that the agents were thrown out into the air of the laboratory in a fashion such as is done by an aerosol bomb, or might be done from an enemy plane.

More than 70 different disease-producing agents were involved in the study done by the two scientists for the government's National Institutes of Health. Bacteria, viruses, fungi, rickettsiae and protozoa were represented.

They concluded that "these examples should be of interest to those concerned with protection against biological warfare because they suggest that even in the absence of some of the links in the usual chain of transmission a given agent might be a potential danger if properly dispersed in the environment."

Their conclusions appear in the journal, SCIENCE (July 13).

Science News Letter, July 21, 1951

#### MEDICINE

### New Chemical Tested Against TB in Warsaw

► HOPE OF a new chemical for use in treating tuberculosis is reported from Warsaw where a scientific team is beginning tests upon human patients.

The new chemical is called T 28. It is reported in a communication to the British

journal, NATURE (July 7), as a substance active against tuberculosis in the test tube and in guinea pigs, with low toxicity. Chemically the product was prepared by the action of sodium hydrogen sulfite on 5-nitroso-8-hydroxyquinoline.

In the guinea pigs infected with tuberculosis, T 28 was not as effective as streptomycin, which is being used widely in treating some kinds of tuberculosis. It is nevertheless being tested clinically.

The investigators were Drs. T. Urbanski, S. Slopek, and J. Venulet.

Science News Letter, July 21, 1951

#### ENTOMOLOGY

### Light Helps Hatching Of Damaging Mite

► LIGHT PLAYS an important part in the hatching of the fruit tree red spider, a mite that does extensive damage to common fruit trees in Europe, the United States and Canada.

This eight-legged pest belongs to the same family as spiders and is therefore not a true insect. The mite's damage is not inflicted directly upon the fruit, but its sucker-mouth robs the fruit tree leaves of sap, thus weakening the tree and making the leaf a less efficient factory for changing sunlight into energy.

Although only about half-pinhead size, the female red spider is nevertheless prolific—laying hundreds of eggs, usually on the tree's twigs, before dying. If laid in the fall, the eggs do not hatch until the following spring, and it is these winter-eggs, Dr. H. J. Hueck of the University of Leyden in Holland reports in the journal, NATURE (June 16), whose hatchings are influenced by light. More break through the shell when exposed to the daylight than when kept in the dark. By passing light through variously colored filters, he also found that a considerably higher percentage of eggs hatched in blue light than in red.

Science News Letter, July 21, 1951

#### INVENTION

### Patent Bed Mattress Designed for Invalids

► BED MATTRESS with a compressible center section, designed particularly for invalids, permits sanitary facilities to be inserted under a bedridden patient without moving the person. Compression of this mid-section is made with the aid of straps passing through it and mechanism by which tension is easily applied to them. Inventors are Alexarena Hay, Glace Bay, and Starr R. McLeod, Sydney, both in Nova Scotia, Canada. Patent 2,559,956 was awarded to them.

Science News Letter, July 21, 1951