SCIENCE

## Boy and Girl Scientists Will Receive Honors

BOY AND GIRL science leaders throughout the nation will be presented honorary junior memberships in the American Association for the Advancement of Science each year upon nomination of academies of science affiliated with that national science organization.

Each of the affiliated academies will nominate both a boy and a girl according to rules that each academy will formulate for itself. Where the youthful scientists have been organized into junior science academies, they will be chosen from their memberships. Otherwise they will be selected from junior science clubs, such as are found in many high schools.

The boys and girls chosen for honorary junior membership will be given privileges in the A.A.A.S. for a year and they will receive the SCIENCE NEWS LETTER.

Arrangements for this cooperation between the Association and its affiliated academies of science are now being made by Drs. Otis W. Caldwell and F. R. Moulton, general and permanent secretaries of the American Association for the Advancement of Science .

*Science News Letter, August 13, 1938*

GEOLOGY

## Hot Pools Become Geysers In Yellowstone National Park

**See Front Cover**

BY SOME unexplained quirk of subterranean nature two of the best known hot springs pools in Yellowstone National Park have turned into geysers. Rainbow and Congress Pools, known to thousands of tourists, are putting on a new show this summer.

Rainbow, located in the Black Sand Basin near Old Faithful, is doing considerable damage for all its spectacular display. Three times daily it shoots a 60-foot column of water high in the air and at each eruption it washes away geyserite from the margins of the pool. Walks leading to the pool are vanishing and a bridge over Iron Creek is in danger if the eruptions do not cease.

Congress pool is littering the surrounding countryside with a gray coating. At irregular intervals it is erupting muddy waters containing powdered rhyolite of the fineness and consistency of talc. This substance has drifted over the highway, guard rails and trees in the vicinity until they are a dirty, grayish white.

Something is definitely happening deep underground beneath Yellowstone, for increased activity is also reported in the upper basin geysers and in the hot springs at Mammoth. Park naturalists have seen the displays of the Park show too many abnormalities in the past to hazard any forecasts of the future, however.

The front cover illustration, from a J. E. Haynes photograph, shows a part of the terrace formation at Mammoth Hot Springs, where unusual thermal activity has been noted this season.

*Science News Letter, August 13, 1938*

SCIENCE

## Canadian Research Helps Industries and Agriculture

ONE OF the finest buildings in Ottawa, Canada's capital, houses the Canadian National Research Council, which to the Dominion is what the National Bureau of Standards is to the United States and what the National Physical Laboratory is to England.

It is a cradle of industry where new industries are born and nurtured and where old ones are rejuvenated. A company of scientists of all varieties is at work in laboratories within the building, while in various colleges cooperative projects are under way.

Storage and transport of food is being studied as an aid to Canada's commerce. New developments in agriculture are being applied.

Plant hormones that speed growing and may have important practical results are being manufactured and used experimentally. A new kind of barley, with promise of superiority over the original variety, has been produced by heating the seeds and changing their chromosomes. This is the first time that new and valuable economic plant characters have been produced by heat treatment.

To Canada forests are important and acres are being cut daily for paper and other needs. Scientists are looking forward to fast-growing poplar trees to replace the original forests. Canadian cytologists find that natural hybrids between European and native species, with exceptional vigor and some promise of disease resistance, have an extra set of chromosomes, those minute bearers of heredity within the germ cells. They expect to use this fact in breeding rapid growing trees.

*Science News Letter, August 13, 1938*

# IN SCIENC

FISHERIES

## Starfish, Oysters' Enemy, Controlled by Quicklime

STARFISH, most destructive enemy of the North Atlantic's oysters, can be controlled effectively by a chemical warfare barrage of quicklime (calcium oxide) rained on them as they lie on the ocean bottom.

This good news for oystermen comes from Victor L. Loosanoff and James B. Engle of the U. S. Fisheries Biological Laboratory at Milford, Conn. For a century efforts have been made to eradicate the common starfish in oyster beds, hitherto without success.

Extensive tests in Long Island Sound proved the efficacy of the new method. Eight out of ten starfish were destroyed by coarse lime spread 480 pounds to the acre of ocean bottom. The caustic chemical does its work by direct contact. Particles fall on the starfish, disintegate its delicate skin membrane, create larger lesions and finally expose the internal organs fatally.

Fortunately the lime does not seem to be very harmful to oysters, clams, crabs, barnacles and adult flounders, and the report states it promises therefore to be a practical method of controlling the starfish.

*Science News Letter, August 13, 1938*

METEOROLOGY

## $CO_2$ in Stratosphere, German Research Shows

THE stratosphere contains a great deal more of carbon dioxide than it theoretically should. This gas, a by-product of life activity, should have its greatest concentration near the surface of the earth and should diminish rapidly with increasing altitude.

Actually, Prof. N. Regener of Stuttgart has discovered by analysis of upper air samples captured by means of high-flying robot balloons, the carbon dioxide content of the atmosphere at 18 miles elevation is only five parts in 100,000 less than it is at the surface.

Constant mixing by vertical air currents is credited with this unexpectedly even distribution of carbon dioxide.

*Science News Letter, August 13, 1938*

# E FIELDS

PUBLIC HEALTH

## Jungle Mosquitoes Guilty Of Carrying Yellow Fever

JUNGLE bred mosquitoes can harbor and transmit yellow fever, a Rockefeller Foundation research team at Rio de Janeiro report (*Science,* July 29.) Until recent years yellow fever was regarded as a house disease, but when in 1932 it broke out under rural and jungle conditions the existence of a jungle type of the disease became evident.

During the epidemic of this year jungle mosquitoes were caught and allowed to bite monkeys in order to determine whether they carried and transmitted the disease. The research workers were Drs. R. A. Shannon, Loring Whitman and Mario Franca of the Cooperative Yellow Fever Service of Brazil and the International Health Board.

*Science News Letter, August 13, 1938*

PUBLIC HEALTH

## No Typhoid Deaths in 27 Large Cities Last Year

TWENTY-SEVEN large American cities have achieved a place on the American Medical Association's honor roll for no deaths from typhoid fever during 1937. They are: Bridgeport, Conn.; Canton, Ohio; Duluth, Minn.; El Paso, Tex.; Fall River, Mass.; Fort Wayne, Ind.; Long Beach, Calif.; Lynn, Mass.; Milwaukee, Wis.; Newark, N. J.; New Bedford, Conn.; Paterson, N. J.; Reading, Pa.; Rochester, N. Y.; Seattle, Wash.; Somerville, Mass.; South Bend, Ind.; Spokane, Wash.; St. Paul, Minn.; Syracuse, N. Y.; Tacoma, Wash.; Tampa, Fla.; Tulsa, Okla.; Utica, N. Y.; Waterbury, Conn.; Wichita, Kan.; Yonkers, N. Y.

In the previous year only 18 cities placed on this A. M. A. honor roll.

Special mention is given to nine cities that had no typhoid deaths either in 1936 or 1937: Bridgeport, Duluth, Fort Wayne, Somerville, South Bend, Syracuse, Tampa, Utica and Waterbury. Bridgeport and Somerville have the proud distinction of having had no deaths from this disease in four years; Fort Wayne, in three years.

Only 280 persons died last year from typhoid fever in the 78 cities for which the A.M.A. has complete data since 1910, the lowest rate ever recorded. While there were a few small outbreaks of the disease last year, this statistical study continues to show the downward trend in the death rate from typhoid.

Only one city — Miami, Fla., — was placed in the A.M.A.'s third, or lowest rank. Miami had 6.3 deaths per hundred thousand population last year.

*Science News Letter, August 13, 1938*

ARCHITECTURE

## Aluminum May Puzzle Future Archaeologists

THE INCAS of Peru decorated their buildings magnificently with gold and silver. They had no money, and they liked bright metal.

In Washington, public buildings are being adorned with other metals that shine pleasingly, and that may impress archaeologists of the future as much as Incan gold overwhelms us.

The interior of the United States Public Health Service building, in particular, shines with metallic trimming. Silvery aluminum is extensively used to beautify halls and stairways of the entrance, windows, and the attractive lecture room. When the building was planned, Andrew Mellon, aluminum king, was Secretary of the Treasury. The Public Health Service is a Treasury Department bureau.

It is intriguing to wonder what archaeologists will make of this display when they unearth our civilization, say, a few thousand years hence. Busy excavators will doubtless have some contempt for Washington. After the pomp of Old World palaces and New World temples in Peru, this Washington lacks splendor. Not a jeweled throne or a solid gold dome in the place!

But when the Public Health Service building is dug out of its accumulated hillock of earth, the excavators may feel repaid, after all. For here is metal used with regal display. Here, they will infer, is the stuff that people of our time admired so much they used it to adorn their greatest buildings. Remnants of office files and desks may puzzle the excavators. We can only hope they will not leap to the conclusion that this was the ruler's palace, and that here he dictated to an army of secretaries.

But it will be the bright trimmings of the building that will create the archaeological sensation of the site.

*Science News Letter, August 13, 1938*

CHEMISTRY

## Fiber and Cloth Made From Soybean Protein

A JAPANESE company is preparing to start production this fall on a small commercial scale of another new synthetic fiber, produced this time by chemical means from the soybean, food plant grown widely in northern Asia and of increasing importance throughout the rest of the world.

Fibers and cloth derived from the soybean, latest source for a flood of new synthetic fibers that is revolutionizing the textile industry in every country, are to be manufactured at a rate of 20 to 30 tons a day when the factory begins operations, it is reported.

Development of the process for converting soybean protein into fiber is credited to Ryojei Inouye, awarded recently the Fujii prize of the Physical and Chemical Study Council of Kyoto Imperial University, one of Japan's "big six" universities, for his accomplishment.

The drive to produce the new material as soon as possible is admittedly inspired by German success with a process that makes a fiber containing 50 per cent. fish albumin and 50 per cent. cellulose and from an Italian method which turns casein into yarn.

Soybean cake, the material remaining after the highly-regarded oil is pressed from the plant in giant mills in Manchuria, is the starting point for the process. Estimates indicate that cloth enough to manufacture a suit can be turned out for a dollar.

*Science News Letter, August 13, 1938*

ENTOMOLOGY

## Spiders Show Hearing; React to Tuning Fork

SPIDERS can hear at least some of the sounds audible to human ears, Dr. F. L. Wells of the Harvard Medical School has discovered. He tested a number of species of orb-weaving spiders, the kind that make the handsome wheel-shaped webs, using a tuning fork of medium pitch, held close to them but not touching them.

The spiders showed various responses, ranging from slight movements of the legs to attacks upon the fork itself, as if it were an insect. Most interesting was the reaction of some of the species, which made their webs vibrate or dance violently. The individuals that attacked the tuning fork swathed its end in loops of silk and tried to bite it.

*Science News Letter, August 13, 1938*