

ENGINEERING

Deaf People Will See Sounds of Speech

► DEAF PEOPLE will some day be able to use the telephone without an interpreter and to enjoy radio programs by seeing the sound patterns of speech, music and the like, it appears from a report by Dr. Ralph K. Potter of the Bell Telephone Laboratories. (*Science*, Nov. 9.)

Several devices for translating sound into visible, easily understood patterns for this purpose have been developed at the laboratories. So far, they are still largely in the experimental stage, but Dr. Potter suggests that in the future a deaf person will be able to carry on a telephone conversation with an apparatus about the size of a portable typewriter, the speech patterns from the party at the other end of the wire appearing on a moving drum of phosphorescent material.

First practical use of the new devices apparently will be in teaching the deaf to speak or, if they already speak, to improve their speech and eliminate unpleasant tones, blurring and the like.

Study of foreign languages, dialects, bird songs and music can be helped by the sound-to-vision translators. Industrial applications are also foreseen.

The apparatus, it is explained, makes use of the fact that speech is fully defined by three qualities: pitch, loudness and tone. Sound at any instant can be analyzed by separating it into a suitable number of pitch groups, and measuring the intensity in each group. When this separating and measuring process is continuous, and the results are exhibited on a moving screen, patterns are formed which to a trained eye reveal not only the words spoken, but even the dialect of the speaker.

Science News Letter, November 17, 1945

ELECTRONICS

ANRAC Aided Navigation During War, Now Released

► ANRAC is the newest addition to the now-it-can-be-told family of electronic devices developed during the war that are being put to peacetime uses. ANRAC is a system for turning on and off such aids to navigation as unmanned lighthouses, light buoys, foghorns and electric bell strikers by means of a set of coded radio signals sent out from a central control station. The word was coined from the initials of Aids Navigation Radio Control.

The system was installed by the U. S.

Coast Guard at Pearl Harbor, Midway, sections of Alaska and certain islands in the South Pacific, as well as along both coasts of the continental United States, so that navigation aids could be turned on for the benefit of friendly vessels and shut off at other times to deny any involuntary aid to the enemy.

Peacetime uses are expected to be largely in the direction of economies in operation, permitting lights to be turned on and off according to natural lighting conditions, bells and foghorns to be stopped when there is no fog, etc. An added benefit, in the case of foghorns, is the abatement of their nuisance character; residents on foggy coasts become resentful if a foghorn keeps right on with its monotonous, disagreeable sound after the fog has cleared.

Science News Letter, November 17, 1945

CHEMISTRY

Knockout Drops Ingredient In Making DDT

► OLD-FASHIONED knockout drops, or chloral hydrate, figured in the original formula for making DDT, the "Mickey Finn" of the insect underworld, states F. C. Bishopp of the U. S. Department of Agriculture. The directions for making DDT, as given in the first British patent, call for mixing chloral hydrate or chloral with chlorobenzene, then adding sulfuric acid.

Science News Letter, November 17, 1945

CHEMISTRY

Iron Compound Makes Stronger Wallboard

► STRONGER fiberboard for building purposes can be made with shorter application of heat and pressure if the mass of wood, cane or other fiber is first sprayed with a solution of ferric sulfate or other related iron compound, Harry R. Linzell of Long Lake, Ill., states in his preamble to patent 2,388,487, which has been issued on the process. Patent rights are assigned to the United States Gypsum Company.

The chemistry of the process is still but dimly understood, Mr. Linzell continues, adding that perhaps the ferric salt has some kind of catalytic effect on the self-bonding substances generated in the heat treatment of lignocellulosic fibers. The effect, however, is to make the final product stronger, more workable and less brittle, as well as more water-resistant.

Science News Letter, November 17, 1945

IN SCIEN

PHYSICS

Atom Scientists Federate To Help Congress

► THE SCIENTISTS who made the atom bomb, several thousand strong, have banded together as the Federation of Atomic Scientists, welding into one national organization the separate associations that were formed at the atomic research laboratories at Los Alamos, N. M., Clinton, Tenn., Chicago and N. Y.

"Rank and file" scientists from each of these four experimental centers are being sent to Washington in relays to give information to members of Congress and government officials while atomic energy and scientific bills are being considered in Congress.

Representatives from similar groups at Cambridge, Philadelphia, and other localities joined the atomic scientists in a national conference held in Washington, Nov. 16 and 17.

A continuous monopoly of the atomic bomb by the United States is impossible, the atomic scientists have declared. No specific defenses against the disastrous effects of the atomic bomb exist, scientists further state, and no nation can feel secure until the control of atomic power is solved on a world level.

Science News Letter, November 17, 1945

AGRICULTURE

Sugar Shortage Means Less Honey, Too

► SWEET-TOOTH folk have another jolt coming to them; not only does the sugar shortage continue, but there will be less honey than anticipated this year.

Actually, there will be more honey this year than there was last, the U. S. Department of Agriculture states, but so much of it will have to be left to feed the bees that the human public's share of amber sweetness will be less than if there were plenty of sugar.

Ordinarily, beekeepers take most of the honey away from their bees and give them a cheaper "ersatz" food in the form of sugar syrup. But when they can't get enough sugar they find it necessary to leave more honey in the hives, to keep the workers alive until spring brings new nectar flowers.

Science News Letter, November 17, 1945

CE FIELDS

BIOLOGY-GENETICS

Genes Seen at Work For First Time

► WHAT IS believed to be the first instance of genes, or heredity-determining units within a cell, actually being seen at work chemically influencing the course of physiology is reported by two biologists, Dr. J. F. Danielli and Dr. D. G. Catcheside, both of Cambridge University. (*Nature*.)

By means of exceedingly delicate biochemical methods, the two researchers were able to demonstrate a concentration of the enzyme phosphatase in zones or bands on a chromosome, one of the structures within the cell's nucleus credited with being the carriers of groups of genes. These zones of concentration correspond closely with the fixed positions long since assigned to particular heredity-units by geneticists. Phosphatase is an enzyme having to do with the chemical transformations of phosphorus-containing compounds, important in the life-economy of the cell.

Regarding their discovery, Drs. Danielli and Catcheside comment:

"This apparent coincidence between sites of enzyme activity and of genetic activity suggests that we have here an indication of a process whereby genes influence cellular activity, and is, we believe, the first experimental indication of the nature of such processes."

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GENERAL SCIENCE

Problem Is to Stop War, Not Curb Science

► THE WORLD'S main problem is not to curb science but to stop war, Dr. Raymond B. Fosdick, president of the Rockefeller Foundation, said in a discussion of the atomic bomb and other scientific achievements in relation to the world at large.

In the relations of one government with another, Dr. Fosdick said, law must be substituted for force and international government for anarchy. This is a job in which Dr. Fosdick feels everybody must participate, including the scientists.

"The bomb on Hiroshima suddenly woke us up to the fact that we have

very little time," he said. "The hour is late and our work has scarcely begun.

"Can education and tolerance and understanding and creative intelligence run fast enough to keep us abreast with our own mounting capacity to destroy? That is the question which we shall have to answer the one way or the other in this generation. Science must help us in the answer, but the main decision lies within ourselves."

Dr. Fosdick talked over CBS network during a Philharmonic Symphony United States Rubber Company broadcast.

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ZOOLOGY

First Baby Gibbon Born At New York Zoo

See Front Cover

► THE WHITE-HANDED Gibbon baby, shown with his mother on the cover of this SCIENCE NEWS LETTER, was born on Sept. 10 at the zoo in New York. Two hours of coaxing went into the making of the picture, taken three days after the birth of the baby. Before the birth, the mother showed very little timidity and willingly approached her keeper and photographers.

Gibbons have been bred rarely before, but this is the first for the zoological park in New York. Both of the parents are a soft, café au lait, a variation occurring frequently in the wild state. (Photograph from *The Animal Kingdom*.)

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ZOOLOGY

Baby Bats Born with Eyes Wide Open, Report States

► "BLIND as a bat" certainly doesn't apply to a litter of young tropical bats whose birth was observed by Dr. T. S. Jones of the Imperial College of Tropical Agriculture at St. Augustine on the island of Trinidad. These young bats came into the world with their eyes wide open, something never hitherto reported in print for any family of bats.

Dr. Jones states, however, that one similar occurrence was reported to him in a private letter from Dr. H. B. Sherman of the University of Florida, for one litter of young of another species of bat.

These zoological rarities are discussed in a communication to the editor of the British scientific journal, *Nature*.

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ICHTHYOLOGY

Trout Three Feet Long Found in Peruvian Waters

► THE ANSWER to the angler's prayer, for "a trout so big that I, in telling of it afterwards, shall have no need to lie," seems to be in Lake Titicaca, the great freshwater sea high in the Peruvian Andes. Speckled and rainbow trout there, descended from fish eggs brought from the United States by a mining company 20 years ago, are reported to be as much as three feet long, and to give tough tussles to Indian fishermen in their frail reed canoes.

For the first time, eggs are being obtained from the Titicaca trout this year for artificial stocking of other Peruvian waters. Eventually, it is hoped, a commercial trout fishing industry may be developed in the Andean uplands, to aid in the effort to give the population a higher protein ration.

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ENTOMOLOGY

German Bee Researcher Continues His Work

► GERMANY'S leading student of bees and their ways, Prof. Karl von Frisch of Munich, well known the world over in pre-Nazi days for his researches on the "language" of bees, is still carrying on as well as he can, despite past misfortunes and present hardships, states Prof. Arthur D. Hasler of the University of Wisconsin. (*Science*, Oct. 26)

Because of his outstanding work, Prof. von Frisch had been provided with a building and special equipment by the Rockefeller Foundation. This has been badly bombed; only the basement and first story remain. Prof. von Frisch had removed the special library to his own home, thinking that the residence districts of Munich would not be bombed; nevertheless, his house and the library were destroyed. And all the time, both before and during the war, he was subjected to constant hazing by the Nazis because one of his grandmothers was a "non-Aryan."

Prof. Hasler states that this case is typical of the plight of many another non-Nazi German scientist. He adds, "It is my opinion that those who have acquaintances in Germany would do science, and, may I venture, world peace a great service by sending them a word of encouragement or perhaps some reprints or warm clothing."

Science News Letter, November 17, 1945