

by Dr. J. R. Lindsay of Chicago at the meeting of the American Academy of Ophthalmology and Otolaryngology.

Tyrothricin is the crude substance isolated by Dr. Rene Dubos, at the Rockefeller Institute, and contains two crystalline substances, gramicidin and tyrocidine. Gramicidin has been hailed as an important new chemical remedy for diseases caused by germs of the gram negative group. Dr. Lindsay's experience with the parent substance, tyrothricin, shows one group of infections for which it is ineffective. Tyrothricin cannot be given by injection, because it must be kept out of the blood stream since it separates hemoglobin from the red blood cells. So Dr. Lindsay used it in the nose, throat and sinuses by spraying, swabbing and dropping.

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See Ear Drum Movements

► THE ACOUSTIC movements of the human ear drum have been seen and photographed for the first time. Moving pictures showing these movements of normal ears and also of ears of patients suffering from deafness were shown by Dr. H. G. Kobrak, of Gary, Ind., and Dr. J. R. Lindsay and Dr. H. B. Perlman, of Chicago, at the meeting of the Ameri-

can Academy of Ophthalmology and Otolaryngology in Chicago.

Fresh specimens from human cadavers were used. The various parts of the sound conduction apparatus were exposed and the vibrations during the con-

duction of sound were photographed.

"On stroboscopic illumination," the doctors pointed out, "one sees the acoustic vibrations of the ear as distinct and slow movements."

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MEDICINE

Try Immune Serum

In case an influenza epidemic comes this winter, the blood of persons who have just had the 'flu should "be considered" for protection.

► IF AN influenza epidemic strikes this winter, the use of immune serum from the blood of the first patients attacked "should be considered" for treatment and prevention and for further studies of influenza prevention, Dr. Joseph Stokes, Jr., of the University of Pennsylvania School of Medicine, declared at the meeting of the Medical Society of the District of Columbia.

Dr. Stokes' cautiously worded advice to his fellow physicians was based on extensive experiments with mice in which relatively small amounts of immune serum protected mice against influenza virus when the protective serum was inhaled by the mice. Somewhat larger amounts of the immune serum were required when the serum was injected. In treatment of the mice, the immune serum had to be given within six hours after infection with influenza virus.

Immune serum, from the blood of persons who have just had influenza, contains substances called antibodies which are defensive forces of the body for fighting off the 'flu virus. Instead of borrowing these defensive forces from someone who has already had the disease, it is possible to build them up in a per-

son's own blood by vaccination with influenza virus. Such a vaccine, Dr. Stokes recently reported, protected 43 out of 44 boys who were directly exposed to influenza virus in an experimental study.

Third method of protection against influenza epidemics described by Dr. Stokes consists in sterilizing the air of hospital wards, school rooms, barracks or similar places where large numbers of people congregate. This sterilization may be done by ultraviolet rays or by spraying propylene glycol vapor into the room. In the studies Dr. Stokes reported, the propylene glycol vapor seemed somewhat more effective than the ultraviolet rays.

Neither of these air sterilization methods, however, can be entirely relied on to stop an influenza pandemic such as swept the world in 1918. The reason, Dr. Stokes explained, is that in pandemics, the travel of the virus through the air may not be the chief manner in which the disease is spread. In pandemics, the disease breaks out suddenly in many widely separated places at the same time. Virus spread through the air is more a factor in epidemics such as those of recent years which travelled across this country in a few weeks.

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SUBMARINE VICTIM—This California Murre died while crawling away from the breakers. You can see blobs of thick grease on the bird as well as on the sand.

ORNITHOLOGY

Birds U-Boat Victims

► U-BOATS CLAIM thousands of victims never mentioned in the tragic lists of "missing at sea." They are aquatic birds—ducks, gulls and many others—that get their feathers soaked in oil set afloat from torpedoed ships (sometimes, too, from the fuel tanks of submarines destroyed in combat) and either sink from exhaustion or struggle ashore only to die in misery.

This distressing picture of suffering

among war's innocents is presented by Roger T. Peterson of the National Audubon Society (*Audubon Magazine*).

Normally, swimming birds' feathers, filmed with the birds' own natural body oil, keep their bodies warm and dry, no matter how cold the water they swim and dive in. But contact with mineral oil breaks this natural protection. Cold water reaches their skins, and if they do not die of chill and exhaustion, pneu-

monia is apt to set in. In any case, a badly oiled bird becomes unable to fly, and hence unable to seek its food.

Oil slicks on the water are deceptive death-traps. To birds, weary of flying, they are likely to look like patches of smooth water. Only when the luckless fowl has settled on one of them does it realize its mistake, and then it is too late. Sometimes, too, a duck will dive somewhere outside the boundary of an oil slick and come up in the midst of the oil. Then its doom is sealed in a most literal fashion.

Sea birds have only minor importance as food, but they have more than esthetic significance in other ways. Gulls and some of their relatives are natural garbage incinerators, and do much to keep down the amount of rubbish on our waterfronts. Eider ducks are prized for the light, warm down collected from their nests and used in making quilted jackets for aviators, seamen and others exposed to severe weather. Several thousands of these ducks have been oil-killed on Nova Scotia coasts alone.

Little can be done for oil-soaked birds, Mr. Peterson regretfully states. If they are really badly oiled, the most merciful thing is simply to make a quick end of their pain. Less severely oiled individual birds can be freed from the black contamination by careful treatment of their feathers with salad oil; but obviously that cannot be done for more than a few out of the many thousands of bedaubed sea-fowl. The most practical answer would seem to be to make as speedy an end as possible of the submarines, and when peace returns to obtain close observance of maritime rules against discharging oily bilge and ballast waters into the sea.

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ENGINEERING

Electronic Robot Records Changes During Flight

➤ A NEW electronic instrument is helping flight test America's newest airplanes by recording temperature and pressure changes at the rate of 144 readings every three or four minutes.

Developed by the Brown Instrument Company, this flight recorder replaces three or more men who needed half a minute to write down each reading.

First used on the world's largest plane, the Douglas B19, the recorder automatically prints on paper, during the test flight, the temperatures of all 72 cylinders of the four motors, changing

temperatures of the carburetor, exhaust, and of the oil in the fuel lines, and the pressures on wing struts, bulkheads and tail surfaces.

In the case of single-seater pursuit

ships, the recorder made records that otherwise could not be obtained because test engineers in addition to the pilot could not be carried aloft.

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MEDICINE

Cancer Fight Honored

➤ A MEDAL was pinned on a woman in New York City recently because of her long and valiant efforts in helping other women to escape cancer death. The woman is Dr. Elise S. L'Esperance. The medal is the Clement Cleveland Medal awarded each year by the American Society for the Control of Cancer and its New York City Cancer Committee.

Dr. L'Esperance's cancer-fighting has been carried on through cancer prevention clinics where thousands of women anxious to know if they had cancer were given thorough physical examinations in which every part of the body is searched for signs of the malignant disease.

"During the past five years," she reports, "approximately 1,500 women were examined and among these 7% were found to have cancer, most of them in the early stages. This 7% of cancer incidence represents the number of unrecognized early malignant tumors, 98% of which were curable because

recognized early and treated promptly. It also emphasizes the rather startling fact that five out every 100 of these adult women will now have an increased life expectancy of many years."

All of this work in prevention of cancer deaths was for and by women, you notice. But the masculine population, Dr. L'Esperance pointed out, is also subject to cancer. Each year 70,000 men die of cancer in the United States. As in the feminine population, many of these cancer deaths among the men could be prevented, and cancer preventive clinics need not be limited to women. With the war taxing hospital and clinic facilities and physicians' time and strength to the utmost, it may not be possible to get such clinics started immediately. The future possibilities for after the war are, however, worth keeping in mind. For the present, men should learn the minor symptoms that signal cancer in its early stages, and consult a physician promptly about them.

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FLIGHT RECORDER—Lieut. William C. Clay, Navy flight test officer inspects the ingenious electronic robot that obtains data in the flight testing of airplanes. The device was developed by the Brown Instrument Company.