

ORNITHOLOGY

Horned, Turkey-Like Bird Found In South America

A TURKEY-LIKE bird with a three-inch horn growing out of its forehead, which was discovered in the jungles of Bolivia, was announced by James Bond and Rodolphe Meyer de Schauensee, curators of Birds of the Academy of Natural Sciences of Philadelphia. They call it the unicorn bird; *Pauxi unicornis*, to the scientist.

The bird resembles the new streamlined Thanksgiving bird which was recently developed by the Department of Agriculture, in its size, which is about eight to 10 pounds in weight. The horn which suggested its name is grayish-blue, while the feathers on the nape of the neck and back of the head are tightly curled and shiny.

The new species was discovered by a collector for the Academy. Mr. de Schauensee, in announcing the finding of the unicorn bird, said, "The mystery surrounding this turkey-like bird is great, particularly in view of the fact that it is edible. Few edible birds escape the natives of a South American jungle. That it should have remained unknown in a relatively well-explored portion of the country is additionally strange."

Science News Letter, December 2, 1939

MEDICINE

New Instrument For Giving Sex Hormone Pills

A NEW instrument for depositing "banks" of male sex hormone within the body in a painless injection in the doctor's office without need for surgical operation is described by Drs. Samuel A. Vest, of Charlottesville, Va., and John E. Howard, of Baltimore (*Journal, American Medical Association*, Nov. 18).

"Hormone banks" are the latest method of supplying sex or other gland products to patients lacking a supply of their own. Young men cheated of manhood by a mistake of nature have been given virility by this method, and Addison's disease sufferers have been restored to healthy, normal lives by it.

Instead of injecting a fluid preparation of the hormone, solid pellets of the material have been buried beneath the skin by surgical operation. The pellets form "hormone banks" on which the body may draw as the material is needed. Several months' supply can be given at one time. Injections of the hormone solution had to be given repeatedly and

often, sometimes every day in Addison's disease, because not so much could be given at one time and because the material was rapidly dissipated.

The new instrument now makes even the surgical operation unnecessary. In the doctor's office, a wheal is made in the patient's skin by a local anesthetic. The injector instrument, containing the desired supply of hormone pellets, is pushed painlessly through the skin. The pellets or pills are ejected from the instrument, which is then withdrawn. The puncture wound is closed with a silver clip, but Drs. Vest and Howard say this may not be necessary, as the hole is so small it would probably close by itself.

The instrument, developed with the aid of Frederick C. Wappler, of the American Cystoscope Makers, Inc., might, Drs. Vest and Howard suggest, be used for injection of other solid medicinal materials.

Science News Letter, December 2, 1939

MEDICINE

Surgery Saves Lives Of Those With Lung Cancer

THE healing knife cuts on, saving lives. Cancer of the lung, impossible to cure a few years ago, with modern methods of diagnosis can be operated on with only 10% mortality, X-ray and bronchoscope assisting, provided the tumor is not too advanced. But the unhappy fact is that 80% of the cases get to the surgeon too late.

The whole lung is removed, an operation performed by Dr. Evarts A. Graham, professor of surgery of Washington University, St. Louis, 40 times for lung cancer and many other times for noncancerous conditions—probably performed several hundred times all over the world. The first lung was removed in 1933. The patient was a doctor who is now perfectly well.

About one out of ten of all cancers are in lungs and are most common in middle-aged men. They nearly always arise in bronchial tube. Characteristic symptoms: persistent cough, feeling of tightness or pain in chest, bloody sputum.

Another striking surgical advance reported by Dr. Graham in delivering this year's oration on surgery before the American College of Surgeons: Benign, non-malignant, tumors can be removed from the chest with only 10% mortality and no chest deformity, not even a rib removed. The scar is invisible and the operation undetected even by X-ray after a few years.

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IN SCIENCE

GENERAL SCIENCE

British Scientists Ask More Scientific News

ALL is not serene under cloak of the British censorship so far as scientific information is concerned. In England as in America there are many scientists who feel that the public should be given information on scientific advances as they happen. Because science is important in war, some scientific research is kept secret in any country. This is particularly the case in a country at war. But the feeling is expressed in a leading article in the British science journal, *Nature* (Oct. 14), that the Ministry of Information (the British censorship) is alone among government departments in not having a special organization from which scientific advice, scientific criticism and scientific fact can be obtained. The science of a scientific war is "not all so secret or so unintelligible that it cannot usefully be made public." The danger is that the censor, not understanding science, will refuse to pass anything scientific for fear of giving aid to the enemy.

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ENGINEERING

You Could Get 450 Miles to the Gallon If—

LAATEST gasoline dream told at the American Petroleum Institute, Chicago meeting: Any gasoline is sufficiently powerful to propel a car 450 miles to the gallon, if—and the IF must be very, very big—there were no power losses through friction, heat radiation, wind resistance, and other such factors . . . if roads were perfectly level.

One gallon of gasoline contains 99,000,000 foot-pounds of energy. It is impossible to eliminate all power losses in the gasoline engine and vehicle, as impossible as to smooth out all the ups-and-downs on the surface of the earth. Most of us will zip along on less than 20 miles per gallon, certainly not more than a tenth of that 450 miles per gallon. Doubtless the sellers of gasoline would not be too happy if the miles per gallon increased too much.

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E FIELDS

ENGINEERING

Illuminating Gas May Run British Automobiles

ORDINARY illuminating gas will soon be running many British automobiles according to plans now underway. Gasoline (petrol to Englishmen) is scarce. It is perfectly practical, although not convenient, to use gas fuel in an automobile internal combustion engine. (*Nature*, Oct. 7.)

In place of carburetor, gas is piped through a needle valve and mixed with 6 to 10 volumes of air as it enters the cylinders. Large and cumbersome bags of gas are carried on the roof of the car. Filling stations would sell bags of gas instead of gallons of gasoline. The idea is not new. It was used in England during the World War and has been used since in other countries.

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PUBLIC HEALTH

Government Makes Loan In "Stable Currency"

THE FEDERAL government has just made first shipments on loans which will not depreciate significantly as centuries pass by, although its monetary value is less than \$200,000.

The loan consists of radium, eight grams of which are going out from the National Cancer Institute in Washington, D. C., to hospitals and medical schools to help in the fight against cancer. But in the year 3629 A. D. these institutions between them should have four grams of radium, if the institutions themselves are still in existence, if they are still using radium to treat cancer patients, and the radium has not been lost or stolen. For radium does not get used up as do medicines and does not wear out as does mechanical equipment. It goes on emitting its powerful, cancer-healing rays continuously, and after 1690 years it still has one-half its potency left.

Shipments of radium have already been made to the Medical College of Virginia, at Richmond, to the Albany, N. Y., Medical College, and to the Misericordia Hospital, at Philadelphia, Dr.

Thomas Parran, Surgeon General of the U. S. Public Health Service, announced. Other shipments will be made later. The National Cancer Institute will keep one and one-half grams of its supply for research and for treatment at the cancer clinic of the U. S. Marine Hospital in Baltimore.

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BIOLOGY

Grain Rust Fungi May Be Able to Capture Nitrogen

RUST FUNGI, among the worst parasitic enemies of wheat and other grains, may possibly give their host plants something in exchange for what they take. Dr. Branquinho d'Oliveira, of the National Agronomic Station, Lisbon, Portugal, reports (*Nature*, Sept. 9), the results of experiments suggesting that rusts can capture and fix nitrogen from the air, as do the bacteria that live in the roots of plants of the pea and clover family.

Dr. d'Oliveira grew wheat seedlings on laboratory media from which all nitrogen had been carefully excluded, so that the customary supply of this vitally necessary element could not be obtained through the roots. Then he inoculated part of the plants with spores of various species of rust.

After a time he analyzed the plants. The infected ones proved to have a slightly but definitely larger nitrogen content than the control plants that had grown up free from rust.

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CHEMISTRY

Survey Use of Wood As Fuel for Motor Vehicles

CANADA has just conducted an extensive survey of wood and charcoal as fuels for motor vehicles. Cheap wood, and the charcoal made from it, has been used in France, Germany and Italy for driving trucks. France has 4,400 such vehicles, Germany and Italy about 2,000 each. England has some but relatively few. While the Italian and French governments have encouraged wood-gas-burning vehicles, the Canadian National Research Council finding is that use of such vehicles in Germany will be restricted by Germany's necessity of importing wood. Italy cannot produce charcoal enough to drive more than 6,000 wood-gas burners.

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BOTANY

Short Radio Waves Reduce Growth of Corn Seedlings

RADIO WAVES, sometimes alleged to have a stimulating effect on plant growth, were proved to produce a directly opposite effect, in experiments performed at the California Institute of Technology by a team consisting of a biologist, Dr. J. van Overbeek, and two physicists, Drs. L. Reed Brantley and G. W. Potapenko.

Corn seedlings, germinated in wet sand, were exposed to strong doses of 2½-meter radio waves for periods of 20 to 30 seconds and then re-planted. Marked stunting of stem growth resulted. Exposures of a minute or over inflicted mortal injury to the tops.

Earlier experiments by Dr. van Overbeek had shown that heating had similar stunting effects, traceable to destruction of auxin, the growth-promoting substance. It was therefore concluded that the short radio waves caused an internal heating of the plant tissues.

Confirmation of this view was obtained when outside application of a growth-promoting substance restored both heated and rayed plants to normal growth in a similar manner.

The experiments are described in *Science*, Nov. 17.

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BIOLOGY

Egg "Germ" And White Differ in Potential

MEASURABLE differences in electrical potential exist between the developing embryo, or "germ-spot," in an egg and the surrounding albumen or "white," it has been demonstrated in experiments by Drs. Alexis L. Romanoff and Casper L. Cottrell at Cornell University. (*Science*, Nov. 17)

Electrodes were touched to the top of the yolk, at varying distances from the embryo, at intervals of 8, 12, 16 and 24 hours after the commencement of incubation. The longer the incubation the greater the potential difference. Fresh eggs showed a difference of not quite a millivolt; after 24 hours the difference had risen to 7.5 millivolts. Fresh infertile eggs showed practically no potential difference.

Measurements were all made after careful removal of the shell. Earlier researches by other workers, using eggs still in the shell, had given somewhat equivocal results.

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