

MEDICINE

**Aureomycin for
Childbirth Infections**

➤ AUREOMYCIN, the golden-yellow mold drug, can be used as both remedy for and preventive of childbirth infections, such as the dreaded peritonitis and childbed fever, four Johns Hopkins University, Baltimore, obstetricians and medical scientists report to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (June 10).

The four are Drs. Joseph A. Guilbeau, Jr. and Emanuel B. Schoenbach, Miss Isabelle G. Schaub and Miss Doris V. Latham.

They found that in 24 women who had normal, uncomplicated deliveries and no fever afterward, potentially dangerous microorganisms were in the wombs of three-fourths of the women three to four days after the childbirth. By contrast, in 109 women given aureomycin, microorganisms were found in the wombs of only 13 (11.9% or just over one-tenth).

Among 24 women with various childbirth infections, including four infected abortions, all but one had normal temperatures within 48 hours after aureomycin treatment was started, and many had normal temperatures in 18 and 24 hours.

Aureomycin is considered by the Baltimore group an ideal drug for preventing childbirth infections for the following reasons: It can be given by mouth, or if the patient is too nauseated by injection into the veins; it is effective against a wide variety of microorganisms; and it has minimal toxic reactions.

A further advantage is the fact that the drug reaches the unborn baby via the maternal blood stream in high enough concentration to be effective in case the unborn baby has acquired an infection such as intrauterine fetal pneumonia.

Science News Letter, June 17, 1950

NUCLEAR PHYSICS

**Neutral Meson Lives
One Ten-Trillionth Second**

➤ THE life span of the most ephemeral subatomic particle known, the neutral meson, has been clocked at the Radiation Laboratory of the University of California.

The time is one ten-trillionth of a second.

The method for measuring the half-life of the neutral meson was developed by Dr. Herbert York. The mesons were produced by bombarding a suitable target with high-energy protons in a cyclotron. The mesons decay almost immediately into two gamma rays. Each gamma ray consists of a photon or small packet of pure radiant energy.

In passing through a sheet of lead or other heavy material the photon of energy is transformed into two particles, an electron and a positron. Since these particles are charged they can be detected in a Geiger counter.

This process is called pair production, and it can be detected by arranging two Geiger counters in a single circuit so that counts are obtained only when both counters are simultaneously activated. The first counter is set off by the positron at the same time that the second is set off by the electron.

In Dr. York's experiment the counters were arranged so that he was able to locate the source of the gamma ray causing pair production. Since the gamma ray originated in the meson decay, and since the origin and speed of the meson were known, the life of the meson could be calculated by dividing the distance traveled by the speed.

Mesons are particles associated with the forces which hold atomic nuclei together. While in the nuclei, the mesons cannot be observed. Scientists have been able to find them, however, after bombarding atomic nuclei with atomic particles from cyclotrons or other particle accelerators.

Science News Letter, June 17, 1950

INVENTION

**Super-Soft Bread
Stays Fresh Longer**

➤ FROM the chemist's test-tube has come a new, softer loaf of bread. Made by a process just awarded a U. S. patent in Washington, this super-soft bread stays fresh longer, while an ordinary loaf turns stiff, stale and ready for crumbling.

The secret lies in the addition of a tiny amount of a complex organic compound to the ingredients in dough. A long list of such chemicals, various sorts of stearates, having this anti-stiffening effect on bread is given by the inventor, Norman F. Johnston of East Norwalk, Conn.

Why and how bread goes stale has been studied for a century. Definite answers are still not known. Nor, says Mr. Johnston in his patent, does he know exactly how his chemical ingredient slows the rate of staling. But it does. After four days, treated test loaves were only half as stiff and stale as untreated loaves.

Patent rights, for patent 2,509,926, assigned to the R. T. Vanderbilt Co. of New York, have been dedicated to the public.

Science News Letter, June 17, 1950

VETERINARY MEDICINE

**White-Tailed Deer
Spread Cattle Disease**

➤ WHITE-TAILED deer have been spotted as helping to spread a parasitic disease that attacks cattle and sheep.

This will complicate control of the disease, the American Veterinary Medical Association said in Chicago.

The disease is a liver fluke called *Dicrocoelium dendriticum*. Unknown in the United States until about 10 years ago, it has since been found in sheep and cattle.

Science News Letter, June 17, 1950

IN SCIENCE

CHEMISTRY

**Radio Waves Pasteurize
Milk in Split Second**

➤ ELECTRICAL apparatus for pasteurizing milk in a split-second "flash" of radio waves received patent 2,510,796 for the inventor, George H. Brown of Princeton, N.J. Rights on the device are assigned to the Radio Corporation of America.

The usual method of pasteurization is to heat milk to a temperature of 143 degrees Fahrenheit and hold that temperature for 30 minutes to kill bacteria. In the newly-patented device the milk passes in a continuous stream through a high frequency electrical field, which heats the liquid nearly to its boiling point of 212.3 degrees Fahrenheit for a fraction of a second and immediately kills germs. The milk is then cooled quickly by spraying into a vacuum chamber.

Science News Letter, June 17, 1950

CHEMISTRY

**Better Chlorine Compound
To Aid Dairies, Farmers**

➤ A NEW form of chlorine for use as a germicide and disinfectant has been developed in Washington as a powder easily dissolved in water without leaving a toxic residue.

Expected to be of use to dairies, farms, homes and industry, it is inexpensive enough to be used for water purification and sewage decontamination.

Paul M. Gottfried, Washington bacteriologist and chemist, modified and processed an organic compound, called dactin, so that it is immediately dissolved in water to give 1600 parts per million of available chlorine in a slightly acid solution, which promotes its anti-germ qualities.

Dactin chemically is 1,3 dichloro 5,5 dimethylhydantoin, containing 66% available chlorine. The new soluble form is trade-named Antibac-25. The residue from this compound that remains in water, after the chlorine is released, contains non-toxic acetyl urea (dimethylhydantoin), which is similar to the chemical used in some tooth-pastes and chewing gums.

The new material would be used by putting a small amount of it in the water used in dishwashing, cleaning milk handling equipment, bottles, etc. in restaurants, taverns, home and dairies.

Disinfection of land for turkey raising and other uses would also be possible by use of the new chlorine compound, reducing the necessity of moving turkey and other poultry flocks to different areas each year.

Science News Letter, June 17, 1950

CE FIELDS

STATISTICS

Bad Times Drive More Old Men than Young to Suicide

➤ **OLDER** men are more likely to be driven to suicide when times are bad than younger men are, statisticians of the Metropolitan Life Insurance Company in New York find.

Among white men insured in the company's industrial department the percent change in the suicide rate between 1918-1920 and 1930-1932 increased progressively with each advance in age, from 10% at 20-24 years to about 100% in the broad age range 45-74 years.

Since the depression, the reductions in the suicide rate have generally been greatest within the same age group, the rates for 1947-1949 being only about half those for 1930-1932.

Women are much less affected than men by economic swings, the statisticians report. They have much lower suicide rates than men. Since the depression, older women show smaller decreases in suicide rates than younger women, although the suicide rates fell most sharply during this period among older men.

Almost one-third of the white men over 45 who committed suicide during 1947-1949 did it by hanging themselves. Almost as high a proportion used firearms and about one-eighth inhaled poisonous gas. Among the white women, however, hanging and gas each accounted for one-fourth of the suicides and poisons for nearly one-fifth of the total.

While economic difficulties play a large part in the suicides of older people, other factors such as frustration and a feeling of uselessness also play a part.

Science News Letter, June 17, 1950

ORNITHOLOGY

Ivory-Billed Woodpeckers Guarded in Hideout

➤ **TWO** of the rarest birds in North America are under the protective wing of the National Audubon Society.

The birds are ivory-billed woodpeckers. They are the only known members of a family which has been counted as extinct for three years.

The woodpeckers were spotted in Florida in March by an expedition organized by Whitney H. Eastman, Minneapolis business executive and amateur ornithologist. Since then the birds' exact location has been kept a carefully guarded secret. The Audubon Society says not only is the area difficult to reach, but a game warden lives on the

only trail leading into the ivory-bill habitat.

Prior to Mr. Eastman's discovery, no ivory-bills had been definitely identified since 1947. Dozens of reports of the rare birds come in to the Audubon Society each year, but all of them result from bird-watchers confusing the ivory-billed variety with the pileated woodpecker, a close cousin in appearance.

The ivory-billed woodpecker once abounded in coastal swamp forests and hardwood forests from North Carolina to Texas and up the Mississippi Valley as far north as Ohio. It was able to survive only in virgin forests where the supply of wood-borers was abundant. When the hardwood forests were cut in the river bottoms where the bird originally lived, the ivory-bill began to go.

The bird is the second largest woodpecker in the world.

Science News Letter, June 17, 1950

BIOLOGY

Cells Continue to Divide Even after Animal Dies

➤ **NOT** until a couple of hours after death do the cells in an animal body stop dividing and actually "die", provided they have begun their dividing, "mitosis" as it is called, before the animal dies.

Experiments on mice by Dr. W. S. Bullough, zoologist at the University of Sheffield, shows that cells can complete their division, once it is started, without blood supply, and the sugar, oxygen and phosphate that are necessary in the beginning of mitosis. The dividing cells can complete their process even in an atmosphere of pure nitrogen, his study of cells from mouse ears has shown. His findings were reported in NATURE (March 25).

Science News Letter, June 17, 1950

ENGINEERING

Flying Presses Supply Maps to Front-Line Troops

➤ **FLYING** presses will be able to supply troops at the front with maps at the rate of 5,000 sheets an hour.

A pilot model of a new light-weight airborne offset lithographic press has been designed at the Army's Engineer Research and Development Laboratories in Fort Belvoir, Va. It is now completing initial tests prior to trials by troop units in the field.

The new press is both smaller and lighter than the "Big Chief" press used in World War II. Length is 72 inches as against 89 inches. It is 13 inches shorter, and 2,400 pounds lighter.

Military maps, charts, line and halftone work in single or multicolor (by successive printings) in hairline register are possible with the new press. The unit will handle various sizes of paper in weights ranging from nine-pound onionskin to six-ply card.

Science News Letter, June 17, 1950

PSYCHOLOGY-SURGERY

Music, As You Like It, With Your Operation

➤ **"WILL** you have Beethoven, Perry Como or Peter and the Wolf with your operation tomorrow?"

If you were a patient at the University of Chicago Clinics you would be asked a question like that by the anesthesiologist the night before your operation.

"Surgical sonatas" are now used at the clinics to soothe patients before and during an operation. The type of music is varied to suit the patient's age and taste as determined beforehand.

When the University's Nathan Goldblatt Memorial Hospital for cancer research opened its doors on June 15 it was the first hospital in the nation to hook up all its operating amphitheaters for recorded music. The music is audible to the patient through light-weight stethoscope-type earphones but inaudible to the surgeon. Previously music with surgery was tried experimentally at other of the clinic hospitals.

Science News Letter, June 17, 1950

VETERINARY MEDICINE

Cornell Sets up Dog Disease Laboratory

➤ **VIRUS** diseases, now the chief unconquered contagious diseases of man, affect also his pets and friends in the dog world. But Fido and Pooch and other canines will soon have a laboratory in Ithaca, N. Y. especially devoted to research on the contagious diseases, especially the virus ones, that afflict them.

The new laboratory, to be known as the Cornell Research Laboratory for Diseases of Dogs, will adjoin the new state-constructed isolation building on Snyder Hill where important studies have recently been started on infectious diseases of poultry and other farm animals. The laboratory is an addition to the Cornell University Veterinary College.

Science News Letter, June 17, 1950

PHYSICS

Clicks of Geiger Counters Canned

➤ **THE** clicks of Geiger-Muller counters can be canned and kept for future study by the busy medical scientist who needs records of radioactive tracer chemicals from more than one location in the body simultaneously.

A method of doing this with commercial wire recorders, such as are connected with telephones to get records of conversations, is reported by Dr. William B. Miller, Jr., of Emory University in Atlanta, in the journal, SCIENCE (June 9).

Science News Letter, June 17, 1950