

MEDICINE

Disease of Poultry Spreading to Humans

► NEWCASTLE disease, a serious poultry sickness, appears to be spreading to human beings, the American Veterinary Medical Association warned. In human cases, the eyes, nervous system and respiratory tract are affected.

The malady, which was first detected in 1926, is now known wherever chickens are raised. Its principal manifestations in poultry are a high death-rate among young chicks and sharp reduction in laying rate among mature fowl. Vaccines are the principal means of combating it.

Science News Letter, August 13, 1949

OPHTHALMOLOGY

New Lens Blurs Vision But Improves Eyesight

► A LENS that will rest the good eye while putting the laggard eye to the work of seeing was announced by the American Optical Company, Southbridge, Mass.

Working on the principle that some patients afflicted with cross-eyes use only one eye to see with while letting the other lose from disuse its ability to see, scientists devised a slightly pebbled clear glass. This lens will blur the vision in the working eye and so force the poorer eye to perform the task of seeing.

An advantage credited this lens is that it looks much like an ordinary spectacle lens with the eye visible. Previously, treatment in such cases called for eye patches or opaque lenses which attracted attention to the condition and made people reluctant to wear them.

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MEDICINE

Expectant Mothers Warned Of Fungus-Disease Danger

► MOTHERS-TO-BE are faced with a new danger to their lives, warn Drs. Leroy E. Smale and J. W. Birsner of Kern General Hospital, Bakersfield, Calif.

Four women who died and a fifth who is expected to die from a tuberculosis-like disease called coccidioidomycosis are reported by the physicians in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Aug. 6).

This disease is caused by a mold or fungus which usually enters the body through the breathing passages and may start as a "cold". It causes tumors to form on the lungs, skin, viscera, bones and sometimes the meninges. Abscesses may form on the skin, and the pus from these will usually reveal the presence of the disease upon examination.

Because the disease resembles tuberculosis which can be transmitted to the off-

spring by the mother, the physicians tested for this possibility but concluded that as far as can now be determined this fungus-borne condition is not congenital.

The doctors urge that all pregnant women in areas where the disease is prevalent, such as Los Angeles County, have skin tests if they have symptoms in the upper part of the respiratory tract. They recommend the same test for expectant mothers with meningitis.

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PHOTOGRAPHY

Faster Shutter and New Indoor Color Film Devised

► THE fastest shutter of its type in the world and a new type of indoor, color roll film were announced by the Eastman Kodak Company.

Eastman said the new between-the-lens shutter, which will be incorporated in a new model camera, has an accurate top speed of one eight-hundredth of a second, making it the fastest shutter of this type.

Blades in the shutter pivot and rotate through a partial circle inside the shutter housing, opening and closing the aperture in a single stroke, it was explained.

The new film is similar to other Kodacolor film, but it requires no special filters for taking pictures indoors or outdoors at night with flash or flood bulbs. If used in daylight, however, the new Kodacolor film, type A, should be used with a filter, it was explained.

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ASTRONOMY

New Star Spotted in France Was Studied Here

► A "new star" or nova, has been discovered in France and studied in Texas by two visiting French astronomers.

The new discovery and its tale of international cooperation among French astronomers was reported by Dr. Harlow Shapley, director of the Harvard College Observatory.

The star was spotted Aug. 1 at Meudon, France, near Paris, by Charles Bertaud. Word of the find went from France to the European clearinghouse for astronomical information at Copenhagen and then to the North American center at Harvard.

With the information sent from Harvard, Dr. Guido Munch at the McDonald Observatory of the Universities of Texas and Chicago at Fort Davis, Texas, confirmed the discovery. Spectrum studies of the star were then made of the star by two visitors to the Texas observatory, Victor Kourganoff and Mlle. Canavaggia, both from France.

The star was found in the constellation of Scutum, the shield.

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IN SCIENCE

NUCLEAR PHYSICS

New Radiation-Measuring Device May Aid in Research

► A NEW device for measuring radioactivity may replace the Geiger counter in certain phases of atomic research.

The instrument, an alpha scintillation counter, has been developed by Dr. Benedict Cassen, Clifton Reed, Leonard Baurmash and Lawrence Curtis of the Atomic Energy Project on the Los Angeles campus of the University of California.

In low rate counting problems encountered in some health physics and dust study applications, Geiger counters have not been entirely satisfactory, according to atomic researchers. Long runs are necessary to obtain statistically adequate numbers of counts in view of the background caused by cosmic radiation. Frequently Geiger counters become insensitive or give erratic groups of counts in this type of research.

The new type of counter eliminates these obstacles, functioning more efficiently on low rate counting problems. Its greatest utility is in measuring very slight amounts of radioactivity in dust, soil samples, and ashes of biological specimens. The basis of operation is the measurement of alpha particle scintillations by photo-multiplier tubes.

The device is about the size of a table model radio and is entirely automatic once the radioactive sample to be measured is inserted and its mechanism started.

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MEDICINE

Dry Ice for Acne Found Effective

► ACNE pimples can be weeded out and destroyed with little or no scarring of the skin with the use of dry ice, Drs. Carroll S. Wright and E. R. Gross of Philadelphia reported in the ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY (June) published by the American Medical Association.

Each pus sac in the skin is lightly touched with dry ice from three to five seconds, the physicians said. Or if there is a cluster of acne pustules close together, a large piece of ice is applied. Since the pimples are usually elevated the ice leaves the skin between them untouched.

The dry ice makes the pimple blister, then dry and shrink. Little or no scarring was noted by the physicians in over 2,000 acne patients treated by them with dry ice.

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E FIELDS

MEDICINE

Female Sex Hormones Rob Patient of Masculinity

► FEMALE sex hormones which were absorbed through the skin of a man working with them made him lose his masculinity, two physicians reported in the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* (Aug. 6).

The anti-masculine effect followed the patient's assignment as a chemist to a pharmaceutical firm where he extracted and purified these substances from the urine of pregnant women. It was found that his hands were often in contact with alcoholic solutions containing high concentrations of the hormones, according to Drs. Max A. and Joseph W. Goldzieher of St. Clare's Hospital, New York.

Improvement was noted in the patient after he quit his job and was treated with male sex hormones.

The physicians point to this case as an illustration of the harmful effects that may follow if large amounts of these hormones should by accident be absorbed through the skin. They feel it is important for other doctors to keep this possibility in mind.

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PSYCHOLOGY-NUTRITION

If Mother Is Short on B₁ Child May not Learn Fast

► IF A nursing mother's diet lacks thiamine (vitamin B₁) her baby may later be subnormal in ability to learn. If, on the other hand, she eats more thiamine than she needs, the baby may turn out brighter than normal.

This is indicated by tests with infant rats which were kept on a synthetic diet with controlled amounts of thiamine. The nursing "mother" received the experimental diet until the babies were weaned at the age of 21 days. Then the babies were continued on the diet until they were eight weeks old. They then were given a normal diet for a week before their learning ability was tested. This allowed the vitamin-deficient animals to gain weight and strength before the learning began.

One group of 18 animals was given a normal diet for the whole period of the experiment. Seven other groups of 18 animals each were given the synthetic diet containing varying amounts of thiamine from a diet markedly deficient to one greatly in excess. For one of these latter groups the diet was further enriched with the other B vitamins.

The experiment was conducted by Dr. Philip H. O'Neill, of Fordham University, who reports results in the *JOURNAL OF GENETIC PSYCHOLOGY*. A daily allowance of less than three millionths of a gram of thiamine diminished maze learning ability below normal, he found. More than one hundred millionths of a gram a day improved maze performance above normal.

But variations in the thiamine content of the diet between three millionths of a gram and one hundred millionths of a gram did not make much difference in the ability to learn.

When the baby rats received an excess of thiamine, adding large amounts of the other B vitamins to the diet did not improve learning.

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METEOROLOGY

Frozen Raindrops Have Unfrozen Centers

► FROZEN raindrops (no, don't look for them now; next Christmas, maybe!) are hollow spheres of ice, with hearts of liquid water that never freezes, no matter how cold they get.

A physical explanation for this meteorological paradox is offered by a Japanese scientist, Dr. Kotaro Honda. Freezing takes place from the outside inward, he points out. Ice expands as it forms, so that the unfrozen interior of the drop is placed under ever-increasing pressure.

Dr. Honda's calculations indicate that at minus 33 degrees Centigrade (27.4 degrees below zero Fahrenheit) this internal pressure is on the order of 50,000 pounds per square inch.

The same internal-pressure effect keeps part of the water liquid within ice-coated trees, Dr. Honda states. Harmful drying out in extreme freezing weather is thereby prevented.

Dr. Honda summarizes his calculations in a letter to the editor of the British science journal, *NATURE* (July 30).

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CHEMISTRY

Meatier Chickens Foreseen With Synthetic Feed

► CHICKENS need more of one amino acid (a building-block in meat-making) than comes naturally in their vegetable feeds, so they will henceforth receive it from a man-controlled source.

DL-methionine, the lacking but necessary amino acid, will be produced synthetically in quantity by the Dow Chemical Company, it is announced in *CHEMICAL AND ENGINEERING NEWS* (Aug. 1). This is expected to mean meatier chickens produced in less time and at lower cost to the farmer.

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ZOOLOGY

Red Howler Monkey Found To Be Very Conservative

► A RED HOWLER is neither a party-liner nor a red-baiter. He's a tough old conservative . . . monkey.

This non-political finding about the attitude, and abilities, of the South American monkey was reported to the Smithsonian Institution in Washington by Dr. Philip Hershkovitz, who made field studies of the red howler in the jungles of northern Colombia.

Dr. Hershkovitz's description of the monkey sounds like a left wing view of the political conservative. The scientist found the red howler "a comparatively sedentary animal, sluggish in movement, conservative in habits."

The conservative monkey, he explains, is a die-hard who sticks close to his home and old ways. The red howler will starve rather than adapt to new conditions.

This conservatism may be a good thing for human neighbors of the jungles where the monkey lives. The Smithsonian scientist said that the red howler continues to live—or starve—on its usual jungle foods, even when civilization pushes the jungle back. Less conservative near-monkey-relatives of the red howler will loot cultivated fields.

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ORNITHOLOGY

Terns Losing Ground to Gulls at Park Rookery

► A GREAT struggle for existence is going on among the birds at Molly Island, bird rookery in the south end of Yellowstone Lake.

On these two small barren islands, near the southern tip of Yellowstone Lake, some 5,000 white pelicans, cormorants, California gulls, and Caspian terns nest annually. Of this total number of birds observed only 30 terns were counted and they were battling for their life.

The adult Caspian terns were cooperating to save the lives of their young. The young terns were huddled together and the parent birds made a complete circle around them, facing outwards, to watch and drive off the California gulls who were charging frequently and fiercely. When the gulls would approach too closely to this circle, the terns would fly up and savagely attack the gulls. Battles in mid-air ensued.

The outnumbered terns were apparently fighting a losing battle.

Tourists are not permitted to visit Molly Island because of the nesting birds. Once a year the park's chief naturalist and some of his staff visit the islands to check on the birds. On this year's visit 307 birds were banded for the U. S. Fish and Wildlife Service.

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