

PHYSIOLOGY

Iron Gets to Milk Five Minutes After Cow Eats

IRON will appear in a cow's milk within five minutes after the animal is fed iron-containing food, Dr. Lowell Erf, research fellow in the Radiation Laboratory of the University of California, found by experiments with radioactive iron.

These experiments upset the former theory that it took a considerable length of time for iron elements of food to be assimilated and taken up by the lactating cells.

This speed of assimilation is credited to rapid enzymic action which was not heretofore suspected. Enzymes are digestive agents that break down foods into their various elements, and thus prepare them for further digestive action and body usage.

Two cows were used in the experiment. Radioactive iron particles from the university's atom-smashing cyclotron were added to the cows' food, and the radioactive iron followed the same course through the animals' bodies that food-iron traveled. Radioactive atoms are continually exploding and emitting radiations which may be traced by a sensitive instrument. Almost immediately after ingestion of the "tagged" iron, it appeared in cows' milk.

Science News Letter, April 26, 1941

MEDICINE

Beefsteak Bottleneck Overcome in Vein Feeding

THE beefsteak bottleneck in the way of efforts at artificial feeding of a full meal through the veins instead of by the mouth has apparently been overcome by a research team at the University of Rochester School of Medicine and Dentistry.

Technical details are reported (*Science*, April 4) by Dr. G. H. Whipple, Nobelist who contributed to the discovery of the liver treatment for pernicious anemia, Dr. S. C. Madden, Dr. L. J. Zeldis, Dr. A. D. Hengerer and Dr. L. L. Miller.

Many patients too sick to take nourishment by mouth could be benefited and many experiments performed, the Rochester scientists point out, if doctors had a way of feeding a complete diet by other than the oral route.

Sugar, salt and water can be given by injections into the veins. About the only way to give the patient the equivalent of a beefsteak, however, has been to inject the proteins from blood plasma. This ma-

terial is being widely used instead of whole blood transfusions for treatment of shock, but the supply for use as a food substitute is relatively limited.

To overcome this bottleneck, various scientists have prepared meat and other digests. The Rochester scientists prepared a digest from commercial casein, which is the chief protein of milk, and papain, a digestive ferment. When dried, this digest is a golden yellow granular material containing 12.5% protein. When made into a solution and given to dogs by injection into a vein, it proved as effective as whole liver fed by mouth in promoting production of proteins in blood plasma.

The scientists conclude their scientific report by stating that the success of the digest in artificial feeding of dogs "holds great promise" in treatment of human patients.

Science News Letter, April 26, 1941

PUBLIC HEALTH

Evacuated Children Benefitting From Country

CHILDREN evacuated from London and other English cities to safe shelter away from bombed areas are gaining in health as a result of their stay in the country, Dr. Martha M. Eliot, assistant chief of the U. S. Children's Bureau, found on her visit to England as a member of the Civil Defense Commission.

No one in England, of course, has had time to make scientific studies of the children's health, but from her observations and from statements made to her, Dr. Eliot believes the health effect of the country life has been good. The English authorities, and Dr. Eliot herself, were also impressed with the broadening effect on the children's mental outlook that the change of surroundings has given them.

The children have stood the psychological effect of bombing much better than grown-ups, Dr. Eliot was told. A small proportion have suffered from anxiety neurosis of a mild type as a result of experiences during air raids. Child guidance authorities are working with government authorities to develop as rapidly as possible a program giving these children proper care so that the neurosis will not be lasting.

Child welfare problems now facing the English are: further improvement in placement of evacuated children in homes suited to each child; plans for reuniting the children with their families after the war.

Science News Letter, April 26, 1941

IN SCIEN

MEDICINE

New Treatment for Burns Undergoing Tests

A NEW and possibly revolutionary method of treating severe burns is undergoing tests at the Johns Hopkins Hospital. News of the work spilled out prematurely, to the regret of the authorities and scientists concerned.

The identity of the healing substance is not yet known. Consequently the new treatment cannot be announced yet and no official announcement of the work has been made. The unofficial report stated that sulfadiazine was used in the new treatment, but the scientists do not know that this is the substance which heals burns.

Further tests which will take at least a month are necessary before a report telling what the new treatment is can be made.

Science News Letter, April 26, 1941

PUBLIC HEALTH

Industrial Uses Now For Cosmetic Creams

COSMETICS have industrial uses now. A vanishing cream can be obtained for protecting against cutting compounds; another ointment protects against certain acids. (*Millburn Co., Detroit.*)

Science News Letter, April 26, 1941

MEDICINE

Polyneuritis Unbenefited By Big Vitamin Doses

INTENSIVE vitamin therapy used on patients suffering from polyneuritis caused by alcoholism does not allow the patient to leave the hospital any sooner than treatment with the routine hospital diet that contains adequate but not excessive vitamins, according to a study of 18 years of experience, Dr. Madelaine R. Brown of Boston City Hospital reported. (*Journal, American Medical Association, April 12.*)

Alcoholics suffering from the painful disease did not seem to be able to utilize more vitamins than are adequate to a healthy person.

Science News Letter, April 26, 1941

CE FIELDS

INVENTION

Angler Can Now Weigh Big One That Gets Away

EVEN the big one that gets away may be weighed by the fisherman for corroboration of his incredible tale, with a built-in scale attached to the fishing rod just forward of the reel, in a new invention patented by Abraham J. Scheckter of Jamaica, N. Y.

The line passes from the reel through a tube in the scale, which is provided with a clutch arrangement to take hold of the line when desired by the angler. Thus, if you can keep your fish hooked long enough to lift it clear of the water you can weigh it—even if it manages to wriggle off the hook an instant afterwards.

Science News Letter, April 26, 1941

ICHTHYOLOGY

TVA Reservoirs Becoming Fishermen's Paradise

"FISHING intensity on the lower TVA reservoirs is similar to that found on several northern lakes," Clarence M. Tarzwell and Lawrence F. Miller, TVA fish specialists, reported before the meeting of the American Society of Ichthyologists and Herpetologists in Gainesville, Fla. They estimated that these great artificial lakes accounted for over 1,100,000 "man days" of fishing in 1940.

The two fisheries men made careful counts of fishermen at their favorite avocation on the four lower TVA reservoirs: Gunter'sville, Wheeler, Wilson and Pickwick, from March to December, 1940. They took into account such factors as day of the week, condition of weather, and fishing modes and sites.

Analysis showed that fishing was most intensive in April, May and June, after which it declined to the season's low in December. At first there was a weekly cycle, but later bad weather was the main thing that kept fishermen at home. Most fishing went on just above and below the dams, and near centers of population; least fishing was observed in the upper reaches of the reservoirs and on the wide waters above the dams.

Bank fishermen predominated along the shores of the reservoirs proper; boat fishermen were most numerous in the tailwaters just below the dams. Wheeler Reservoir, with 6.4 man-days of fishing per acre, was most heavily fished. Second was Wilson, with 4.5 man-days per acre. During the spring months bank fishing was heaviest on Gunter'sville Reservoir.

Science News Letter, April 26, 1941

CHEMISTRY

Priestley Medal Awarded For Tetra-Ethyl Lead

DISCOVERY of the anti-knock properties of tetra-ethyl lead, now used in most of the gasoline sold in the United States, as well as other outstanding achievements in chemical science, has won for Dr. Thomas Midgley, Jr., of Worthington, Ohio, the American Chemical Society's highest honor, the Priestley Medal. This was announced at the Society's 101st meeting in St. Louis. Actual presentation of the medal will take place at the 102d meeting next September in Atlantic City.

Vice-president of the Ethyl Gasoline Corporation, Dr. Midgley is 51 years old, and a graduate of Cornell University. He is also known for his work on refrigerants used in air conditioning.

After the meeting of the Society, held last September in Detroit, Dr. Midgley was stricken with infantile paralysis, but despite this affliction, he took part in the St. Louis meeting, and is still actively directing research.

Science News Letter, April 26, 1941

ZOOLOGY

Ball Python Upsets Zoological Ideas

See Front Cover

BORN, to a female ball python at the Hershey Estates zoo, eleven lively, wriggling infants.

This is a complete upset of a long-held zoological doctrine, still printed in all the books, that all pythons are egg-laying snakes, states Ward Walker, director of the Hershey zoo. Plenty of snakes do bear their young alive, including such common species as water-snakes and garter-snakes, but until now the Old-World pythons had not been known to be anything but egg-layers.

The ball python gets its name from its habit of rolling up into a compact ball when disturbed or frightened. It can then be rolled about rather roughly, but refuses to uncoil. Its native home is West Africa.

Science News Letter, April 26, 1941

ASTRONOMY

Year's First Comet Leaves, But Will Be Back in 2313

PERHAPS you missed seeing the Friend-Reese comet, first of these objects to be discovered in 1941. It is rapidly departing from this part of the solar system, but earth dwellers will have another chance to see it when it comes back.

This will be in the year 2313, according to calculations made by Dr. A. D. Maxwell, of the University of Michigan Observatory. Basing his computations on measurements of the comet's position by Dr. George Van Biesbroeck, of the Yerkes Observatory, on Jan. 19, Feb. 1 and 16 and March 1, he finds that the comet's orbit is definitely an ellipse. It moves around it every 372 years.

The comet was found independently in January by two amateur astronomers, Clarence L. Friend, of Escorido, Calif., and E. J. Reese, of Uniontown, Pa. Even when brightest it was too faint to be seen without a telescope.

Science News Letter, April 26, 1941

ASTROPHYSICS

Connection Between Sun's Rotation and Radiation

STRONG evidence of correlation between the 27-day periodic changes in the heat and light given off by the sun and the appearance of the sun itself has been found by Dr. Charles G. Abbot, secretary of the Smithsonian Institution, in photographic records preserved at Mount Wilson Observatory in California. (*Science*, April 11.)

Studying instrumental records of fluctuations in the sun's radiation obtained by observatories of the Smithsonian Institution, Dr. Abbot came upon five sharply marked periods during 1929 and 1930. "Sight unseen," he prophesied that solar photographs taken on those particular groups of days would show corresponding changes in the appearance of the face of the sun, particularly in the emergence or rapid growth of sunspots.

Accordingly, he wrote to Dr. W. S. Adams, director of the Mount Wilson Observatory, where photographs of the sun are taken every day, asking for pictures taken on dates marked by the fluctuations in his own instrumental records. When the photographs arrived, he reports, he found a hundred per cent correspondence between changes in solar radiation and changes in the appearance of the sun.

Science News Letter, April 26, 1941