

MEDICINE

Ruptures Repaired With Tantalum Wire Gauze

► SUCCESSFUL use of tantalum gauze for repair of ventral hernias, or ruptures, was announced by Dr. Amos R. Koontz of the Johns Hopkins School of Medicine at the meeting of the Southern Medical Association at Baltimore.

Tantalum has previously been used by surgeons in the form of wire for stitches and in plates or disks to repair skull defects. The supply of the metal in the form of gauze has until recently been very limited and at times it was not procurable at all. It is now available on the open market, Dr. Koontz has been informed.

Dr. Koontz uses the gauze in repair of large hernias where there is not enough of the patient's own tissues to close the defect, and in smaller ones where the surrounding tissues are weak. Most of the cases occur in very fat people. The tissues surrounding the hernia are often weakened by infiltration of fat.

The tantalum gauze is stitched over the hernial defect with tantalum wire stitches. Dr. Koontz first used the material to repair defects in dogs made by removal of six inches of muscle. Examination of the repaired defect several months after the operation showed that in each case it had become completely closed by the metal mesh with tissues growing through the meshes of the gauze in every place.

"A firmer and more thorough-going closure of the defect can scarcely be imagined," Dr. Koontz reported.

Following this experience with dogs, the tantalum gauze was used on five patients. The first operation was performed 17 months ago, the most recent six weeks ago. All have excellent results so far.

Two other surgeons, Dr. C. R. Lam of Detroit and Dr. T. D. Throckmorton of Des Moines, Ia., have told Dr. Koontz that they also had used tantalum gauze in a few cases of hernias.

Science News Letter, December 6, 1947

GENERAL SCIENCE

Science Writing Awards Of \$1,000 Are Announced

► STORIES of blood research have won \$1,000 George Westinghouse Science Writing Awards for George A. Keaney of the New York World-Telegram and Steven M. Spencer, associate editor of

the Saturday Evening Post, the American Association for the Advancement of Science announced.

The second annual award for newspaper science writing was made to Mr. Keaney for his series of articles, "Blood—Still a Mystery of the Ages." The first magazine award went to Mr. Spencer for "New Hope for the Anemic," an article which appeared in the Saturday Evening Post.

Honorable mention in the magazine writing class was given to Drs. Lorus J. and Margery J. Milne of Burlington, Vt., for an article on life in the thin film of "dry water" found on the surface of bodies of water. Their prize-winning article was published in *Natural History*. No honorable mention award was made for newspaper writing.

Science News Letter, December 6, 1947

WILDLIFE

Game Animals Show Abundant Meat Yields

► MEAT no less than sport will be on the mind of every hunter now. Interest therefore attaches to data on the percentages of edible meat, in terms of live weight, obtainable from various game animals presented by Prof. W. J. Hamilton, Jr., of Cornell University. (*Journal of Wildlife Management*, Oct.)

Most precise studies were made on the carcasses of nine deer, brought in from various parts of New York and carefully dressed by skilled workmen. Calculated live weights ranged from 113 to 221 pounds, yielding from 55.7% to 60.6% of edible meat.

Largest animals on the average gave highest percentage yields in meat, Prof. Hamilton states. Number and position of wounds, and care in bleeding immediately after killing, he adds, affect amounts that have to be lost through trimming. Head and neck wounds are least wasteful of meat.

Of smaller mammals, the cottontail rabbit, most abundant of New York's game species, dresses 53.1% edible meat on the average. The snowshoe hare, a considerably larger animal, yields 58.2%. Gray squirrels, small though they are, produce 55% meat on their live-weight basis.

Applying his data to the known kill of game animals in New York during a typical pre-war year, Prof. Hamilton figures that hunters in this one state alone put about 22,270,000 pounds of meat on the table during a hunting season.

Science News Letter, December 6, 1947

IN SCIENCE

AERONAUTICS

First Ram-Jet Helicopter Assigned to Military Use

See Front Cover

► THE latest addition to the United States Air Force's fleet of post-war aircraft is the world's first ram-jet helicopter which weighs only 310 pounds. It is shown on this week's cover of the *SCIENCE NEWS LETTER*.

The simplicity of construction and maintenance makes it an ideal aircraft for some military operations such as short-range observation, communications, artillery spotting and courier service.

The ram-jet helicopter was developed through the cooperation of the Air Force's Air Materiel Command, Wright Field, Dayton, Ohio, and McDonnell Aircraft Corporation, St. Louis, Mo.

Science News Letter, December 6, 1947

CHEMISTRY

New, Tough Paints Made From Sour Milk Acid

► IF YOU were looking for paint and were told you could find it in the milk-can, your first reaction might well be to look about in alarm to see how you had strayed onto a lunatic asylum's farm.

But that would not necessarily be the case. Chemists at the New York meeting of the American Chemical Society learned, from Dr. Paul D. Watson of the U. S. Department of Agriculture, of a whole series of tough, serviceable new paints produced from lactic acid, which is the stuff that makes sour milk sour. The acid, which can be produced in immense quantities from the whey that is a problem byproduct of the cheese industry, is polymerized and made into resins with fatty acids. These resins can be spread as paint-like films.

A new idea in house-paint pigments was also proposed by F. J. Williams and A. R. Pitrot of the National Lead Company. To get pigments that will keep their color longer and wear out more slowly, they prepare fine particles of silica, to which the monobasic sulfates and silicates of lead are chemically cemented. These present a defiant wearing surface to the weather.

Science News Letter, December 6, 1947

E FIELDS

PSYCHOLOGY

No Fatigue Measured After Six Hours of Reading

► WOULD you be tired if you read for six hours at a stretch? Would you be more tired if you read from a printed book or from projected microfilm?

The surprising answers were reported to the American Philosophical Society meeting in Philadelphia by President Leonard Carmichael, of Tufts College.

There is no measurable fatigue even after two six-hour periods of reading either from a book or from microfilm. And it doesn't make any difference whether the book is dull or interesting.

The conclusion was based on a photographic record 15 miles long showing every blink of the eye, every pause, during the six-hour reading. No sign of fatigue showed up at any time, and neither was there any change in comprehension of the meaning.

The experiment was conducted by President Carmichael and Prof. Walter F. Dearborn with a number of associates. Twenty college and high school students did the reading.

Science News Letter, December 6, 1947

GENERAL SCIENCE

Italian Scientists Lack Funds for Research

► SCIENTIFIC research in Italy which has produced such outstanding figures as Enrico Fermi, Bruno Rossi, Emilio Segre and B. Pontecorvo, to mention but a few physicists alone, is now languishing for lack of material support.

There are impressive new research buildings in the new University City, built prior to the war in Rome. Even those universities which were partly destroyed through military operations, such as those in Turin, Pisa and Bologna, have been rebuilt. But the apparatus for research is lacking.

Some radio instruments have been distributed recently from the surplus stores of the allied forces and they are much appreciated. There is a great shortage of scientific instruments, and the pay of the personnel is so low that they must take outside work to earn enough to live on.

The official salary of a university professor amounts to about \$60 per month, and assistants get only half that sum.

Total expenditure by the Italian government upon research in all fields of science during the last year was only about \$250,000, an entirely insufficient sum. If it were not for the financial help received from time to time from some of the larger industrial concerns such as Fiat, Snia Viscosa and Montecatini, research work in Italian universities might come to a standstill.

Yet, in spite of these conditions, a small number of enthusiasts, working under great hardship, are carrying on with their research in addition to their teaching duties and outside work.

Science News Letter, December 6, 1947

ENTOMOLOGY

Insect Control Measures Would Save Much Grain

► UNCLE SAM could feed Europe's hungry peoples without having to skimp at the home table if he would only get rid of a swarm of unwanted, useless free-lunch grabbers—the grain-eating insects.

Dr. H. L. Haller of the U. S. Bureau of Entomology and Plant Quarantine, speaking before the North Jersey section of the American Chemical Society, declared that full use of modern insect control measures would easily save 100,000,000 bushels of grain. Total insect depredations account for an annual loss of 300,000,000 bushels of grain in storage, worth at least \$600,000,000. Hundred-percent control is hardly expected, but a saving of one-third the usual loss should be practicable, Dr. Haller declared.

Biggest savings can be made on the farm, for at present relatively few farmers take any protective measures against insects while they have their grain in storage, the speaker continued. Spraying wooden storage bins with persistent DDT solution is one thing farmers can easily do, he pointed out. While DDT cannot safely be used for making grain intended for food or stock feed bug-free, seed grain can be thus protected. Fumigation is the proper treatment for edible grain.

Along with protection of stored grain should go determined warfare in the field against such pests as corn borer, earworm, Japanese beetle and other insects.

Science News Letter, December 6, 1947

NUCLEAR PHYSICS

Atom Smasher Parts to Be Sunk Below Ground Level

► DANGEROUS radiation from a new atom-smasher being planned for immediate construction at the University of Washington in Seattle will be shielded against by the earth.

The electro-magnet, vacuum chamber and pumps of the new 200-ton cyclotron will be sunk below ground level. Thus, the earth will do the shielding job which expensive concrete or water-filled containers do in most other cyclotron installations.

The atom-smasher and building will cost an estimated \$375,000. Hearts of helium atoms, called alpha particles, will be accelerated to approximately 40,000,000 electron volts by the cyclotron, while deuterons, hearts of heavy hydrogen atoms, will be accelerated to 20,000,000 electron volts.

Science News Letter, December 6, 1947

ASTRONOMY

Selecting New Location For Naval Observatory

► ASTRONOMERS at the Naval Observatory are concentrating, not on the heavens, but on the earth. Since last May they have been busy selecting a site for the proposed new observatory.

The exact location has not yet been determined, but it will undoubtedly be east of the Blue Ridge Mountains. In fact, it will probably be as near to the Nation's capital as an appropriate location can be found.

It was decided to relocate the Observatory in the East principally because Observatory officials must retain easy access to other scientific agencies in the East and keep in close touch with other Government agencies located here.

The observatory must be moved from its present site because the view of the sun and stars just isn't good enough. Since it was founded over a century ago, the Nation's capital has engulfed it. Smoke and dust from the city mar the view of the heavens. Light and heat from city streets and buildings "upset" observations.

One hundred acres of land, reasonably high and level with a knoll to raise the observatory above ground haze, are urgently needed. A fairly uniform distribution of clear weather and a small daily range in temperature are essential.

Science News Letter, December 6, 1947