

## STATISTICS

**Married Life Grows Longer by Five Years**

► "TILL DEATH do us part" is five years farther away for the average couple getting married today than it was for those marrying 20 years ago, Metropolitan Life Insurance Company statisticians figure.

A groom 25 years old and a bride of the same age, the statisticians find, may expect to live together 37 years on the average, according to mortality conditions in the white population of the United States in 1939-41.

Husbands and wives who are both 40 years old can look forward to 25 years more of married life, on the average.

"Even at age 65, when the husband is ready for retirement, he may expect to share the next eight and one-half years with his wife if she is of the same age," the report states.

The length of married life is affected by any difference in age between husband and wife. The joint expectation of life is appreciably less than that for either of the individual lives. This is in accordance with the principle that the probability of either one of two individuals surviving from one given age to another is greater than the probability of both so surviving.

A white man at age 25, for example has an expectation of life of 43.2 years and a white woman the same age an expectation of 46.7 years. Their joint expectation of life, however, is only 37 years.

*Science News Letter, March 18, 1944*

## MEDICINE

**New Chemical on Trial As Tuberculosis Remedy**

► SOME of you probably have been reading about various chemicals being tried as remedies for tuberculosis. Promizole, a fine white powder with a mild but lingering bitter taste, is the latest of these. Chemically, it is known as a sulfone, as are promin and diasone.

All three of these are extremely effective in experimental tuberculosis in guinea pigs. Promin and diasone, unfortunately, are relatively toxic for humans when given in the size doses necessary to achieve an effect on the disease. Promizole is about twice as effective as promin, or equally effective in half the dose, in guinea pig tubercu-

losis and appears to be much less toxic for humans than the other chemicals that have been effective in the guinea pig disease.

During the past year promizole has been given to 56 patients with no serious toxic effects, even when given daily for as long as four months. Unlike most of the sulfa drugs, to which it is distantly related, it apparently is not capable of producing kidney damage. It can be given by mouth, either in capsules or in water or fruit juice.

Tuberculosis patients and their relatives, however, should not hope for too much from these favorable reports about promizole. The Mayo Foundation scientists, Dr. W. H. Feldman, Dr. H. C. Hinshaw and Dr. F. C. Mann, and Dr. K. H. Pfuetez, of Cannon Falls, Minn., who have been giving it a trial do not know yet whether it will prove to be a chemical cure for tuberculosis.

The healing mechanisms in this disease act slowly, so that results of treatment cannot be noted as rapidly as in an acute infection like pneumonia. The course of tuberculosis is variable and unpredictable, the doctors further point out. This adds to the difficulty of judging the value of a chemical remedy. For the present, therefore, tuberculosis treatment will have to continue along conventional lines with "no hope of immediate prospects for simplified therapy."

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## METALLURGY

**Silver Powder Substance Makes Conductive Coating**

► SILVER POWDER, in a new ceramic type composition for use as a coating on electrically non-conductive materials such as glass and wood, gives the surface high electrical conductivity and low electrical resistance. The new composition is applied by brushing, dipping or spraying, and dries in the air without heat application except in special cases.

The new material, developed by E. I. du Pont de Nemours and Company, will be of value particularly in electrical condensers and other units employed in electric circuits. Several different forms are being made, each designed to meet the varying requirements of different base materials and degrees of adherence and film toughness. All are dull metallic gray in appearance, and are little affected by aging.

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**IN SCIEN**

## STATISTICS

**War Decline in Birth Rate Has Started in U. S.**

► THE WAR'S effect on the nation's birth rate has now reached the point where a decline has set in. The decline will continue for the duration and at least one year after, statisticians of the Metropolitan Life Insurance Company predict.

For the current year they expect births to be 15% below last year's number.

The peak of the wartime spurt in the birth rate came in the winter of 1942-43 when births in 11 large cities of the nation were averaging between 1,100 and 1,200 a day. Since September, 1943, however, births have been less than in the corresponding month of the previous year and by December, 1943, they had fallen 22% below the unusual peak of December, 1942.

*Science News Letter, March 18, 1944*

## MEDICINE

**Seasickness Preventives To Be Ready This Spring**

► AN ANNOUNCEMENT that capsules for prevention of seasickness and other kinds of motion sickness will be generally available to U. S. Army medical officers this spring appears in the *Bulletin* of the U. S. Army Medical Department. (March)

Officially known as Item 12960, Motion Sickness Preventive, U. S. Army, six capsules in a box, the preventive is expected to be useful in amphibious operations and transportation of personnel by sea and possibly also for prevention of air sickness.

At least 50% reduction in occurrence of motion sickness can be achieved, it appears from tests of the preventive that have been made over several months in continental United States and from limited tests under actual field operations.

The ingredients of the preventive are being kept secret, but it contains a sedative. When used in accordance with the directions printed on the box, it has no significant untoward effects. Because of the sedative in it, however, excessive use may cause drowsiness with resulting decrease of physical efficiency.

*Science News Letter, March 18, 1944*

# CE FIELDS

## ENGINEERING

### Electric Hoist Invented For Handling Bombs

► AN ELECTRIC hoist, suitable for handling bombs and similar heavy weights aboard giant flying boats and other delicately balanced craft, both air and sea, is the subject of two patents, 2,343,638 and 2,343,640, issued to G. E. Bock and A. J. Brown, respectively, of Chicago. Both patents are assigned to the Whiting Corporation of Harvey, Ill.

In a typical form, a track runs along the length of each wing, carrying a balanced pair of trucks. Suspended beneath each of these is a hoist. The bombs, or other objects to be put overboard, are stowed in the hull. The hoists pick up two of them simultaneously, lift them to wing level and run them out well clear of the hull. Magnetically operated latches make certain that both loads are released at the same instant.

*Science News Letter, March 18, 1944*

## MEDICINE

### Hope That Penicillin May Cure Parrot Fever

► HOPE that penicillin may prove a remedy for psittacosis and the related disease, ornithosis, is held by Dr. F. R. Heilman and Dr. W. E. Herrell, of the Mayo Clinic, on the basis of experiments with mice.

Psittacosis, or parrot fever, became generally known in this country in the winter of 1929-1930 during an outbreak in which almost one-fifth of the patients died. Chickens, doves, many types of finches and pigeons as well as parrots may be infected with the virus of the disease. This has led scientists to adopt the name ornithosis for the sickness in humans when it is not definitely due to association with parrots or lovebirds.

The ornithosis virus may frequently cause atypical pneumonia in man, according to findings by a number of doctors. So far, no remedy, including the sulfa drugs, has proved effective in ornithosis in man or laboratory animals.

In their tests with mice, the Mayo Clinic doctors inoculated 80 animals with the virus of ornithosis. Of 40 that were not given penicillin, 35 died. Of 40 treated with penicillin, only two died.

"The results of these studies," they state, "and the close relationship between the strains of the viruses of ornithosis and psittacosis make it hopeful that penicillin will have a favorable therapeutic effect on these virus infections in man."

The penicillin used in the experiments was provided by the Office of Scientific Research and Development from supplies assigned by the committee on medical research for experimental investigations recommended by a committee of the National Research Council.

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## INVENTION

### Making Polarizing Films Simplified by Invention

► PRODUCTION of polarizing films, which are used in various ways for the control of light and elimination of glare, is simplified and speeded by an invention of Edwin H. Land of Cambridge, Mass., on which he has received patent 2,343,775. Such films are usually prepared by distributing in or on a suitably adhesive transparent film an even mass of microscopic needle-like crystals with their long axes all pointed in the same direction. This converts the film into an effective light filter that permits light to pass only with its wavefronts moving in the same direction.

In the present invention, two methods for getting the crystal axes parallel are provided. They may be extruded in a uni-directional flow, or pulled around as tiny magnets in a sufficiently strong magnetic field.

Rights in the patent are assigned to the Polaroid Corporation.

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## ENGINEERING

### Centrifuge-Like Machine Separates Blood Serum

► SAVING of life as well as its warlike destruction is becoming increasingly mechanized nowadays. In line with progress in this direction is a blood-separating machine on which patent 2,343,694 was obtained by Elisabeth E. Mitchum of Johnson County, Kansas. Essentially it is a centrifuge, resembling the ordinary cream separator. Instead of whirling butterfat globules out of milk, however, it whirls red corpuscles out of animal blood, so that the latter can be used in veterinary preparations.

*Science News Letter, March 18, 1944*

## MEDICINE

### Cartilage Banks Urged For Face Injury Repair

► ESTABLISHMENT of something new in medical banks, cartilage banks, is urged by Lt. Col. Leslie L. Nunn, M.C., A.U.S., in the *Bulletin* of the U. S. Army Medical Department. (March)

Supplies from such banks would be drawn on for grafts needed to repair bony defects of the face, especially of the nose, cheek bone and eye sockets. Human cartilage is considered the most satisfactory material for this purpose, Colonel Nunn points out. Until recently such grafts have been taken from the patient's own ribs, but the procedure is time-consuming, painful, and to a certain extent hazardous.

Colonel Nunn has already established two cartilage banks, one at the Barnes General Hospital, Vancouver Barracks, Wash., and the other at the hospital to which he is now attached.

The cartilage is taken from cadavers of young, healthy persons who have been accidentally killed within the past few hours. Freedom from syphilis and tuberculosis is essential but blood type has no bearing on the case.

The cartilage is removed with precaution against germs and placed in sterile normal salt solution. It can be stored in this in a refrigerator for 48 hours. For final storage, after cleaning and scraping off all muscle and covering membrane, the cartilage pieces are placed in a solution of merthiolate and salt in pint economy-type jars which then are put into the ice box.

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## CHEMISTRY

### Complex Relative of TNT Used To Kill Termites

► A COMPLEX relative of TNT is used to kill termites in the soil, in a chemical patent obtained by Frank H. Kaufert of St. Paul, Minn. However, as employed against termites it is a phase of chemical warfare, rather than a blasting explosive. The substance is known as dichloro-hexanitrotoluene. Dissolved in a suitable petroleum vehicle, it is used for soaking the soil around wooden structures. Termites hate it, and keep their distance. Rights in the patent, No. 2,343,415, are assigned to E. I. du Pont de Nemours & Company.

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