

POPULATION

Many Unmarried Women One of the Evils of War

ONE of the major evils of war, among many, is that it leaves too many unmarried women in the world or, put differently, it wipes out predominantly the young men, under 30, who are recently married or who would normally marry in a short time.

Figures show that in the World War, 72% of the German military deaths, 55% of the French, were of men under 30. This leaves a bad scar on the population itself in the opinion of statistical experts of the Metropolitan Life Insurance Company.

The actual battle losses are matched by losses in future population, little babies never to be born, a diving birth rate. And important also are the social effects of a deficiency of men in the population, and this is believed to have contributed to the great social unrest of the post-War years including the present war.

Science News Letter, March 30, 1940

PUBLIC HEALTH

Rabbit Fever Is Common Among Beaver in Wyoming

BEAVER in Wyoming are seriously affected by tularemia, or rabbit fever, reports Prof. John W. Scott of the University of Wyoming. (*Science*, March 15). Two human cases of tularemia have been traced to handling heavily infected carcasses of beaver that had died of tularemia.

Attention was first called to the situation when parts of a beaver's carcass were sent to Prof. Scott's laboratory by the State Game Warden of Wyoming, to learn the cause of death. One of Prof. Scott's colleagues incautiously handled the infected material without the protection of rubber gloves, and subsequently developed a case of tularemia.

The other human case was of a game warden who was investigating an epidemic of then unknown nature which was killing considerable numbers of beaver in a certain stream valley. He subsequently became sick, diagnosed his illness as the same malady that had killed the beaver, and later learned from blood tests made in a pathological laboratory that he had been correct and that the disease was tularemia.

Two theories are proposed for the spread of tularemia among the beaver. The first takes account of the presence

in the region of rabbits known to be infected. Both rabbits and beaver sometimes feed in the same alfalfa fields, and transfer of the germs may occur there. The other theory is based on recently discovered evidence that tularemia germs may float free in water. Support for this second theory is afforded by the fact that in a given area practically all beaver became infected.

If tularemia becomes widespread and established among beaver the consequences may be serious. Beaver are being encouraged to return to their old haunts all over the country, both as a conservation measure and as an eventual means of rebuilding the once important fur industry. Tularemia could seriously damage the first hope by depopulating beaver colonies, and also make the animals dangerous to handle for fur-trapping purposes.

Science News Letter, March 30, 1940

MATHEMATICS

Trisection of Angle Is Still Impossible

AT THE risk of the wrath of the diehards, it can still be said that two problems proposed by the ancient Greeks—the trisection of any angle and the duplication of a cube—are still unsolved.

For the benefit of all angle trisectors of which the field of amateur mathematics is filled, it must be hurriedly explained that the trisection of an angle and the duplication of a cube cannot be accomplished with only a ruler and compass.

The ruler can be used only for its straightedge and its markings must be disregarded. Use of the ruler's divisions is a form of cheating in this old problem.

There are only three fundamental constructions permitted: (1) Drawing a line segment between two points. (2) Extending a line segment. (3) Drawing a circle with a given point as center and a given line segment as the radius.

The only way new points, lines or line segments can be found, Prof. William Vernon Lovitt points out in his new book, *Elementary Theory of Equation* (Prentice-Hall), is by the intersection of two lines, by the intersection of a line and a circle and by the intersection of two circles.

Colorado College's professor of mathematics shows, in his new book, why it is impossible to solve the trisection problem or solve the duplication of a cube. But the angle trisectors go on and on.

Science News Letter, March 30, 1940

IN SCIEN

PUBLIC HEALTH

Yellow Fever May Invade Southern Part of U. S.

OMINOUS possibility: Yellow fever might invade our southern areas. Dr. J. H. Bauer, in charge of the Rockefeller Foundation's International Health Division Laboratories in a report issued by the U. S. Public Health Service cites recent epidemics of dengue fever, a disease transmitted from one person to another by the same mosquito that transmits yellow fever, *Aedes aegypti*.

Remember that yellow fever has in the past killed thousands, even in cities as far north as Philadelphia.

Optimistic fact: Vaccination is now applied on a large scale in places where there is danger of infection. In 1938, more than 1,000,000 persons were vaccinated in Brazil alone. Quarantine officers of South American airline terminals in Miami, Fla., and Brownsville, Tex., keep a supply of vaccine ready for use. At New York, where the vaccine was first developed in the Rockefeller Foundation's International Health Division Laboratories, and also in Rio de Janeiro, Bogota, London and Paris, vaccination against yellow fever is available to missionaries, commercial employees and government officials stationed where there is danger of infection.

Science News Letter, March 30, 1940

MEDICINE

Tropical Fungus Disease Found in United States

A RARE, highly fatal tropical disease known as systemic histoplasmosis, caused by a parasitic fungus, has been found in the United States. Newest case bringing the total recorded for the country up to seven, is reported (*Science*, March 15) by Drs. J. D. Reid, J. H. Scherer and H. Irving of the Medical College of Virginia.

Symptoms are weakness, emaciation, anemia and a notable falling off in number of white blood corpuscles. Under the microscope, bone marrow preparations are seen to be crowded with enormous numbers of the parasitic fungal cells.

Science News Letter, March 30, 1940

CE FIELDS

CONSERVATION

1940 "Duck Stamp" Design Features Favorite Species

See Front Cover

FEDERAL "duck stamps" for 1940 will bear the picture of a pair of black ducks, one of sportsmen's favorite species. As drawn for the U. S. Biological Survey by Francis L. Jaques, the ducks are shown flying down wind over the tops of a clump of wild rice.

The stamps are sold for a dollar apiece, all hunting licenses must bear them. Many stamp collectors also buy them, either singly or in blocks. Funds from the stamp sales are used, along with other moneys, for the purchase and maintenance of waterfowl refuges.

The new design is now in the hands of the engravers, and the stamps will go on sale at all first and second class post-offices on July 1.

Science News Letter, March 30, 1940

ASTRONOMY

Earth Turning on Axis Serves as a Clock

THE EARTH turning on its axis is a clock. It is accurate provided we accept the length of day, the whole 24 hours, as our fundamental unit of time and assuming the day is uniform in length, the same now as it was a hundred or a thousand years ago.

As a matter of fact, the earth is inconstant. Scientists have found that it is not sufficiently constant to be relied upon completely. Britain's astronomer royal, Dr. H. Spencer Jones, has recently gathered evidence on this important problem.

The familiar pendulum clocks, even those of extreme accuracy used to keep the standard time of various countries, are not ideal for a study of the variations and the rate of the earth's rotation. More useful for this purpose is the new type of vibration clock, independent of the attraction of the earth which affects the swing of a pendulum.

In this vibration clock an alternating electric field sets up a vibration in quartz crystal which can be maintained with great accuracy. Being unaffected by the

pull of gravitation, as is a pendulum, the quartz oscillator clock is a better timekeeper than the earth itself.

Scientists hope to learn by checking the quartz oscillator clock against the earth itself, something about the time required for a change in the length of day to occur.

The ultimate hope is to understand the causes within the earth itself that produce changes in gravity which themselves cause earth rotation to vary. From an everyday standpoint, the changes in the length of day are nothing to worry about. For example, about 1918 the length of day changed rather suddenly by about 0.0043 of a second which is a shortening of its length amounting to one part in 20,000,000.

Science News Letter, March 30, 1940

DENTISTRY

See Dentist Regularly Is Summary of Caries Survey

TO FIGHT caries, or tooth decay, keep going to your dentist regularly from early childhood on. That about sums up, for practical purposes, the present status of the caries control situation just reviewed by the American Dental Association.

You may remember reading that this association of dentists was conducting a survey of all the research being done on dental caries, the most prevalent of all diseases. From 195 researchers, or groups of researchers, the association collected summaries of their findings to date. These have just been published in book form, *Dental Caries, Findings and Conclusions on its Causes and Control* for the benefit of dentists and scientists throughout the world.

"Prevention of caries—like prevention of 'the common cold' and cancer—awaits further discovery," declares the editor of this volume.

Neither the causes of caries nor a means of prevention have been established, in spite of years of careful, competent investigation, he concludes. Some of the investigators, however, are optimistic that the prevention of caries can some day be achieved.

"Meanwhile," says the editor, "until until this goal is attainable, the best possible practical dentistry, for all in need of it, will be the dental profession's continued purpose in private and in public health service."

In other words, go to your dentist for early detection and treatment of tooth decay before its ravages cause loss of teeth.

Science News Letter, March 30, 1940

MEDICINE

New Operation for Deafness Is Reported Successful

THE miracle of making the deaf hear has been accomplished, apparently permanently, in 126 out of 150 cases. The means of achieving this operation, a new kind of surgical operation which remodels part of the ear, was announced together with the successful results by Dr. Julius Lempert of New York at a joint meeting of New York and Philadelphia physicians at the Academy of Medicine, New York.

The miracle of restoring hearing to patients deafened by otosclerosis has been announced before. The high hopes aroused by these previous reports have unfortunately dwindled. The feature of such operations is the creation surgically of a new window into the ear to let in sound waves. In otosclerosis, the ear's normal window has become overgrown by bony tissue which interferes with transmission of sound waves. Because of the natural tendency of bone to repair itself after injury, the new window made by previous operations has always closed after a few weeks.

Dr. Lempert's operation is devised to discourage and prevent this tendency of bone to repair itself. The new window is made and the necessary ear-remodeling is done in one operation instead of two or more. The operation is performed through the ear canal instead of through an opening cut behind the ear. This reduces injury to the tissues to a minimum and thus reduces to a minimum also the inflammatory reaction of the tissues. It is this reaction to injury that is likely to result in obliteration of the new window by new bony growth.

The newly-created window, he reported, has remained permanently open in 126 out of 150 cases.

Science News Letter, March 30, 1940

PUBLIC HEALTH

More Children Now Saved Than Died 30 Years Ago

HAPPY reminder the world is a better place, from the University of Illinois College of Medicine:

More Illinois infants and young children are saved from their eight deadliest diseases in a year now than were killed by these diseases in 1910. The eight childhood diseases causing most deaths are diarrhea, pneumonia, diphtheria, tuberculosis, scarlet fever, whooping cough, measles, and meningitis.

Science News Letter, March 30, 1940