

STATISTICS

Girl's Chances to Marry Halved by Age of 30

AN AMERICAN girl's chances of eventually getting married are 90 out of 100 at the age of 15 years. At double that age, her chances are just one-half as good. Up to the age of 22 years, the girls have a better chance of marrying than the boys. After that age, the men's chances are better until the age of 45 years is reached. At that age, the remaining chances of eventual marriage for the confirmed bachelor or spinster are about one in 10.

These figures are from the Metropolitan Life Insurance Company, which points out that the marriage rate in the United States has for many years past been the highest of all the leading nations of the world. In the past two years it has increased materially and suddenly "through circumstances related to the outbreak of the war."

A prolonged war, however, will tend to decrease the chances for eventual marriage, especially for women. The situation will be further aggravated in the event of heavy war casualties with resulting disturbance in the ratio of men to women of marriageable age. This occurred to a very serious degree in some of the warring countries after the last war.

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MEDICINE

Spread of Burning Bush Brings New Sneeze Trouble

MORE sneezes and other trouble for hay fever sufferers this summer are expected by Dr. O. C. Durham, chief botanist of the Abbott Laboratories, North Chicago, Ill.

He warned members of the American Association for the Study of Allergy meeting in Atlantic City to be on guard against new sneeze trouble from the pernicious weed known as Mexican fireweed, burning bush, fireball, firebush, and summer cyprus.

The weed is now rampant in Iowa, Nebraska, and Colorado and is threatening adjacent states. It has been found as far east as Detroit and as far south as St. Louis. For many years small colonies have been found from time to time along the Atlantic coast. It did not come from Mexico, in spite of one of its aliases, but from southern Europe or Asia, Dr. Durham declares. It may have gotten its start as a weed pest by reversion from a cul-

tivated variety commonly used as a decorative plant under the name summer cyprus. Botanical name for the weed is *Kochia scoparia*.

The acreage of the weeds in the newly infested areas so far is more impressive than the output of pollen, but it takes only a small amount of the pollen to cause a great deal of suffering, Dr. Durham reports.

This weed may drive out some of the ragweed which causes so much hay fever suffering, but, says Dr. Durham, even if it "should succeed in replacing as much as half of the acreage of ragweed in the farming area of the Mississippi Valley, the reduction of the ragweed content of the air could probably hardly be noticed by ragweed sufferers.

"An appreciable volume of a new and unrelated air-borne allergen in that area would certainly complicate a difficult situation."

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MEDICINE

Hidebound Skin Ailment Affects Entire Body

SCLERODERMA, the strange hidebound condition of the skin sometimes seen in "the man who turned to stone" of the circus sideshows, is a disease affecting the entire body and not just the skin, Dr. A. Wilbur Duryee and Dr. Irving Leinwand of New York Post-Graduate Medical School, Columbia University, told members of the American Heart Association and the American Therapeutic Society at Atlantic City.

Brain wave records, the first ever taken on such patients, showed abnormal tracings in a high percentage of cases. It is possible these reflect injury or disease of the blood vessels of the brain, although no definite conclusions on this point can be made yet.

The blood vessels, and not the skin, are where the trouble begins, in the opinion of the New York investigators.

The outlook in scleroderma is more serious than is usually believed, they state. No specific treatment has yet been discovered. Thyroid and female sex hormone extracts, vitamins C and B, and mecholyl iontophoresis to increase blood flow to the affected parts of the skin are preferred methods of treatment. All possible factors that could cause inflammation of the arteries or spasm of the blood vessels, such as heavy metals, arsenic, tobacco, ergot and allergens of various kinds and mechanical injury, should be eliminated if possible.

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IN SCIENCE

ENGINEERING

Three More Big Generators Building for Grand Coulee

WORK has started on three more 108,000-kilowatt Westinghouse generators, largest in the world, for the Grand Coulee Dam to power aluminum plants and other war industries in the Pacific Northwest.

Three others of the giant units have been under construction since last August, and three are already installed at the dam.

Each generator, big as a house, is 24 feet high, 45 feet in diameter, and weighs 1,000 tons. Thirty-eight freight cars are required to transport it in pieces to the dam. The largest single piece weighs 75 tons. The 74-foot shaft weighs 153 tons and is transported in three pieces.

Ultimately Grand Coulee will have 18 of these 108,000-kilowatt generators, making it the world's largest power plant.

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STATISTICS

Length of Life in U. S. Doubled in Six Decades

THE AVERAGE length of life in America, at least among wage-earners and their families, has almost doubled during the past 60 years, the Metropolitan Life Insurance Company announces.

Average length of life today, just computed on the basis of mortality among the Company's industrial policy holders in 1941, is 63.42 years. During the period 1879 to 1889 the Company's early records show that the expectation of life for a one-year-old baby was 40 years. But deaths among infants were very much more frequent in those days than now. From other records relating to that time it is known that the expectation of life at birth, or the average length of life, was about 34 years, only a little over half what it is now.

The average industrial policy holder 35 years old today still has as many years of life before him as the baby in the wage-earning family of 1879 to 1889.

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E FIELDS

MEDICINE

Sulfa Drugs Are Used For One Heart Disease

NEW HOPE for patients with a kind of heart disease hitherto "almost universally fatal" now comes from sulfa drug treatment of the disease, according to a report by Dr. Carter Smith, Dr. H. Cliff Sauls and Dr. Charles F. Stone, of Atlanta, Ga. (*Journal, American Medical Association*, June 6.)

Subacute bacterial endocarditis due to the germ, *Streptococcus viridans*, is the form of heart disease now being conquered by sulfa drug treatment. Before the advent of the sulfa drugs, best recovery rate from this heart trouble was one in 100. Today a combination of sulfa drug treatment with injections into the veins of a typhoid vaccine has raised the recovery rate to 20 in 100 cases. The typhoid vaccine is given to induce fever which is believed to help the sulfa drugs attack the bacteria causing the condition.

Importance of giving the drug early in the disease is stressed by the Atlanta physicians in reporting two more cures by this treatment.

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PHYSIOLOGY

Use Feet as Levers, Not as Pedestals

IN THESE days when all of us will be walking more than ever, it is important to remember that feet are meant to be used as propulsive levers, not as pedestals. If you use your feet only as pedestals to support your body at each step, you will be stiff-gaited, instead of walking with the springy step of youth. Moreover, you will have to throw your leg forward with every step in order to move forward, a procedure which involves a twist of the pelvis with every step and puts a strain on the lower back.

Knees and big toes should be used in walking. Before the forward foot is placed on the ground, the knee of the rear leg should be fully straightened and the front part of this foot including the big toe should give a push to start it on its next step. In the normal stride, the muscles on the inner side of the calf,

knee and thigh are also used to give this springy, forward push. Failure to use these muscles results in the unshapely legs seen on any beach—legs with muscles bulging on the outer side and so flattened from disuse on the inner side as to give a bowlegged appearance.

The knees also should be fully straightened in standing, so that the weight of the body can be transmitted through the bony column of the legs to the heels instead of onto the forefeet. In standing, most of the weight should be borne by the heels.

In walking, on the other hand, most of the weight should be borne on the forward part of the foot. If your heel feels a jar at every step, you are not walking correctly. The person who has lost the spring to his walk and walks on his heels holds himself perpendicular or leans over backward to maintain his balance. The result is "a very great tendency to develop a pot belly," even if the person is thin, Dr. Thomas Hale, Jr., points out in a report to *The Military Surgeon*.

In correct walking, with the weight carried on the forward part of the foot, the person leans slightly forward and must tense his abdominal muscles slightly to keep his balance.

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MICROBIOLOGY

Virus-Stopping Substance Found in Yeast Extract

WAR AMONG the microbes has extended to a new front. Discovery of a substance in yeast that destroys the disease-causing power of a plant-mosaic virus is reported by Dr. William N. Takahashi, University of California plant pathologist. (*Science*, June 5) This goes along with recent discoveries by other workers that certain bacteria can be killed by substances secreted by other bacteria and by molds—except that the virus units are sub-bacterial in size, and may not even be living organisms.

After heating and chemical extraction from a large quantity of yeast, the new virus-stopping substance was added to active virus extracts from sick plants. Subsequent inoculations of the treated virus into leaves of healthy plants failed to produce symptoms of mosaic, while control inoculations of untreated virus were followed by development of mosaic.

Chemical analysis of the new virus-stopper has not been completed, but preliminary work indicates that it may be a polysaccharide, or complex sugar.

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PHYSICS—MEDICINE

Ways for Protecting Radium Recommended by Bureau

METHODS of protecting radium during an air raid so that it will not be scattered by a bomb explosion have been recommended by the National Bureau of Standards.

The rules were drawn up by a committee of doctors, engineers and scientists, appointed by Dr. Lyman J. Briggs, director. They aim at safe storage of the radium with maximum protection and minimum interference with use. The committee advises extra precautions for 500 miles inland.

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MEDICINE

Nervous System Frequently Injured by Sulfa Drugs

A WARNING that the nervous system is frequently injured by the sulfa drugs and a prediction that the safe limit in potency of these may have been reached appear in the *Journal of the American Medical Association* (June 6).

All members of the sulfa drug family have a poisonous effect on the nervous system, the parent substance being the least poisonous and some of the newer sulfa drugs the most poisonous, Dr. Sam C. Little, of the University of Michigan Medical School, reports.

"It is possible," Dr. Little predicts, "that the synthesis of new multipotent derivatives (of the sulfa drugs) will be brought to a standstill by the disappointing discovery that the more toxic these drugs are to bacteria the more toxic they are to the human cell."

Among the conditions reported as due to use of the sulfa drugs are: loss of ability to speak and to write; stammering; toxic psychosis; peripheral neuritis; encephalomyelitis; optic neuritis; transitory myopia; meningeal signs; blindness and convulsions.

The drugs apparently are more likely to injure the nervous system when it has already been diseased.

One case of the serious mental sickness, schizophrenia, appears to have been precipitated by sulfanilamide.

Some of the damaging effects of the sulfa drugs on the mind and nervous system, it was suggested to Dr. Little by Frederic Schreiber, probably depend on the brain's being deprived of oxygen because hemoglobin, which carries oxygen in the blood, attaches itself more readily to the sulfa drugs than to oxygen.

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