

POPULATION

**Carmel-by-The-Sea, Calif.
Is Most Feminine U. S. City**

➤ **CONTRARY** to popular opinion, Washington is not the most feminine city in the United States.

In big cities, the sex ratio—the number of men in proportion to the number of women—is neither extremely high or extremely low. This is the finding of Dr. Joseph H. Greenberg, of the University of Colorado, who made a study of the size and sex ratio of all United States cities at the time of the 1940 census and who reports his results in the *AMERICAN SOCIOLOGICAL REVIEW*.

The most feminine city is Carmel-by-the-Sea, Calif. And it is the only city in which there are as few as seven men to each 10 women. It is just because it is a small city (less than 5,000 inhabitants) that it is so attractive to women, Dr. Greenberg believes. It would not be so specifically a resort town and artists' colony if it were larger.

It is also size that gives the most male city in the country its extremely high sex ratio. Dannemora, N. Y., has a sex ratio of 577.4 males to each 100 women—a proportion of nearly 58 men to each 10 women. It has this high sex ratio because the prison located there outbalances the population of the city.

Science News Letter, February 19, 1949

PUBLIC HEALTH

**Cancer Now Ranks Second
As Killer of Children**

➤ **CANCER**, including leukemia and Hodgkin's disease, is now the second ranking cause of death among children. At the five- to nine-year-age period it leads all other diseases as a killer, statisticians of the Metropolitan Life Insurance Company in New York report from a study of children insured in the company's industrial department.

Deaths from the four principal communicable diseases of childhood, scarlet fever, diphtheria, whooping cough and measles, are now so few they are becoming a rarity, the company's records show. The big measles year in 1948 brought deaths from this disease above the all-time low, but the 1948 figure of 0.5 per 100,000 for the industrial policyholders is considered "favorable."

In the general population of the United States, cancer, leukemia and Hodgkin's disease now kill well over 2,000 children each year. The death rate among the insured children was 7.1 per 100,000 in the period 1943-47, an increase of about 40% since 1930-34.

The increase was slightly greater for boys than girls, and the cancer death rate among boys is now nearly one third higher than among girls.

Leukemia is the most common type of fatal cancer in children.

"While the figures on cancer in childhood do not make cheerful reading, the situation looks worse than it really is," the statisticians state.

Actually a part of the recorded increase in the mortality, they explain, is "probably spurious," reflecting more accurate diagnosis. An increased proportion of children with cancer are getting medical attention earlier in the disease. An increasing number are surviving five and 10 years after treatment, the statisticians reassure.

They urge parents and teachers to give increasing attention to abnormal signs and symptoms which may mean cancer in children. Unusual mental or emotional behavior, they point out, may give the first clues to brain tumors in children.

Science News Letter, February 19, 1949

TRANSPORTATION

**Motorists Pay Most for
Roads but All Need Them**

➤ **IT COSTS** the average motorist about \$57.00 a year in automobile and gasoline taxes, the American Road Builders' Association was told in Washington by Prof. Ben H. Petty, of Purdue University, LaFayette, Ind. Daily, this is cost of a package of cigarettes.

This assessment is primarily for road building and maintenance, but the entire cost of roads should not necessarily be borne by motorists. Every community is dependent on highways and local streets. Few seem to realize, he said, that the food they eat, the clothing they wear, the fuel they burn, their house itself, all, at some time or other, either as raw material or in the processed state, were transported completely or partially over the highways.

The early attitude of opposition to providing money to build good roads is largely a thing of the past, he stated. The progress in developing highways has been bought with "good roads" campaigns, legislative battles, financial sacrifices, political fights and careful planning. In 1904, as automobiles began to appear on the streets, there were 144 miles of paved roads in the United States outside city limits. By 1948, approximately 50% of the roads were surfaced with one material or another.

While the money available annually for road improvement now is twice as much as was used two decades ago, material and labor costs have greatly increased, and methods which will result in economy are essential. These include careful selection and training of the personnel employed, care in selecting the right kind of equipment for the job, purchasing tested materials, and better organization, administration and supervision. Freedom from politics is essential.

Science News Letter, February 19, 1949

IN SCIENCE

COMMUNICATIONS

**New Light Teletypewriter
Usable Near Front Lines**

➤ **THE U. S. Army** has a new portable teletypewriter, weighing only 45 pounds, that is suitable for use in advanced military positions and promises a major advance in communications. Because of its lightness, it can be used much closer to front lines than the ordinary machine now widely used.

A teletypewriter is a combination telegraph instrument and a typewriter. Messages typed on the sending machine come out in typed form on the receiver. In fact, the messages can be received on many machines at the same time. Teletypewriters are found in most newspaper offices to receive news items from central distributing agencies.

This new portable teletypewriter, developed by the Army Signal Corps at Fort Monmouth, N. J., is about one-fourth the size and one-fifth the weight of older machines to do the same work. It has 300 fewer parts, but is capable of transmitting and receiving messages 66% faster than existing types. Also, it will operate on both wire and radio circuits.

There are three component parts to a complete field unit. They are the teletypewriter itself, a power unit, and a case of accessories. The three together weigh 116 pounds. All units are waterproof, both to permit flotation in amphibious activities, and to provide protection from weather. In the development of this apparatus, the Signal Corps was aided by a research and development contract with Kleinschmidt Laboratories, Inc., Highland Park, Ill.

Science News Letter, February 19, 1949

ENGINEERING

**Zirconium Hailed As New
Metal For Atomic Piles**

➤ **THE METAL** for building atomic energy piles of the future may be zirconium. This is forecast in the fifth semiannual report of the Atomic Energy Commission.

Engineers have not taken the metal seriously heretofore, on account of difficulty in handling it. But it is known to be among the few substances suitable for atomic pile building. So scientists are trying to get around the difficulties.

They have recently done this with titanium, and succeeded in extracting a corrosion-resistant metal of unusual strength. Zirconium would be expected to have similar qualities, since it is titanium's closest chemical relative.

Science News Letter, February 19, 1949

CI FIELDS

PUBLIC HEALTH

Record Low Death Rate Is Reported for 1948

➤ A NEW record low death rate, with even accident and chronic heart disease death rates dropping, is proudly announced by the Metropolitan Life Insurance Company in New York. The low death rates were recorded among the company's millions of industrial policyholders in the United States and Canada.

The death rate for the year was 6.5 per 1,000 policyholders, compared with 6.6 in 1947. The year 1948 was the fifth in succession to show improvement in mortality, exclusive of enemy action.

As a result of the improved mortality, the average length of life, or expectation of life at birth, among the company's policyholders was about one-third of a year longer than in 1947.

Sulfa drugs and penicillin can be thanked for the new low 1948 death rates for syphilis, diarrhea and enteritis (intestinal inflammation), appendicitis and diseases of the puerperal (childbirth) state.

Cancer was the only disease of middle and later life to show an increase in the death rate in 1948. This rose from 109.2 to 112.0 per 100,000 of the industrial policyholders.

The decline in the mortality from chronic nephritis (kidney disease), brain hemorrhage, and the chronic heart diseases more than offset the increase in the death rate from the diseases of the coronary (heart) arteries and angina pectoris.

Science News Letter, February 19, 1949

CHEMISTRY

Livestock Wood Molasses To Be Made from Wastes

➤ WOOD molasses, in a 20,000-gallon-per year volume, will soon be in production at Wilson Dam, Ala., under a project in which the U. S. Forest Products Laboratory of Madison, Wis., is cooperating with the Tennessee Valley Authority. The raw material will be wood wastes from forestry and sawmill operations, and cull trees removed to permit better forestry growths.

The Forest Products Laboratory already has a wood molasses pilot plant in operation in Wisconsin. This will be a second pilot plant, both producing a product primarily for cattle feed, to determine the best methods of extraction and the best methods of using the output for livestock feeding and other purposes.

There are plenty of young trees that should be removed in the Tennessee Valley,

and plenty of logging residues and unavoidable wastes of woodworking plants. Former wastes may become an important source of primary income to farmers and foresters with the establishment of mills to use them. The Wisconsin plant has already proved that livestock molasses can be produced economically. Northern and western state agricultural experiment stations have proven its value as feed.

Wood molasses, also called wood-sugar molasses, is produced by converting the wood's cellulose and hemicellulose to sugars by treatment with hot dilute acid in a digester, or hydrolyzer. This produces a weak solution of sugar in water. Evaporation removes most of the water until the solution is of molasses consistency, half sugar and half water. For use as cattle feed, the sugar solution usually needs to be neutralized to dispose of the acid.

In this plant, it is proposed to produce partially hydrolyzed products in the digester, which will give a lower yield of sugar but leave a residue that can be made into hardboard and similar materials. This promises a fuller use of the wood wastes, and a greater income. Southern hardwoods are to be used in the process.

Science News Letter, February 19, 1949

GENERAL SCIENCE

New Child Care Book Will Aid 30,000,000 Parents

➤ HELP for some 30,000,000 American parents worried about Junior's marks at school, Sister's fibbing and other similar problems of school age is now available in a new booklet published by the U. S. Children's Bureau in Washington.

Called YOUR CHILD FROM SIX TO TWELVE, it becomes a companion to the Children's Bureau's well known and best-selling INFANT CARE.

Although there are now nearly 16,000,000 children between the ages of six and 12 in the Nation, very little has been written for their parents on their care, Children's Bureau authorities found. So they gathered information on the best practices approved by pediatricians, psychiatrists, educators and other specialists and put it into this book.

"The booklet has no magic formula for the care of children," says Katharine F. Lenroot, chief of the Children's Bureau. "But it does explain why children between 6 and 12 behave the way they do. Why they want to do some things and not others. What their physical and mental limitations are. How their abilities can be best developed as they grow older. Above all, the booklet shows how children at this age need and respond to real understanding and respect."

Single copies of YOUR CHILD FROM SIX TO TWELVE are available to parents without charge from the Children's Bureau, Federal Security Agency, Washington 25, D. C.

Science News Letter, February 19, 1949

AGRICULTURE

American Hybrid Corn May Aid Europe's Food Problem

➤ HYBRID corn from America bids fair to solve a considerable part of Italy's food problem, states Dr. Robert M. Salter of the U. S. Department of Agriculture. Plantings made during the past two seasons in the Po valley, Italy's corn belt, have in some instances boosted the per-acre yield as much as 50%, instead of the 20% to 25% increase obtained in this country. Even a consistent gain of 20% would be a tremendous thing for Europe.

In climate and soil conditions, the Po valley most nearly resembles central Indiana, near the southeastern edge of what is usually considered the great American corn belt. Corn is a mainstay in the diet of the inhabitants of that part of Italy; they eat polenta (cornmeal mush) in preference to the macaroni and spaghetti favored in other parts of the peninsula.

Europe's other great corn-raising area is in the Danube valley, notably in Hungary, Rumania and parts of Yugoslavia. Here conditions resemble those of Iowa and northern Illinois, the heart of the American corn belt. Livestock raising is an important industry in these countries, so that a big boost in the per-acre corn yield, made possible by planting hybrid varieties, would mean much in their national economies.

Corn came early to the Danubian lands. Within 50 years after the discovery of America, it was being grown in the region, under the curious misnomer, "the Turkish grain".

Science News Letter, February 19, 1949

INVENTION

Man-Carried Helicopter Carries Man When Flying

➤ A HELICOPTER which is designed to be strapped on the back of a man and take him on flights in the air has been awarded a patent by the United States government. This aircraft's engine, on a frame, is fastened to the body much as a parachute is attached. The lifting propellers are over his head.

Patent 2,461,347 was granted to Horace T. Pentecost, Renton, Wash., for this device. It is light enough to be easily carried on the shoulders when walking, but it is claimed to be powerful enough to carry him soaring through the sky.

This small helicopter is of the coaxial counter-rotary type. Its engine is an internal combustion, two-stroke, two-cylinder, opposed-piston affair. It is air-cooled. Starting is by means of a rope around its flywheel, as with the familiar outboard motor type. The engine is stopped by a push button. Control of the aircraft in flight is by a "stick" in front of the user's face, which is connected overhead to the mechanism.

Science News Letter, February 19, 1949