

VITAL STATISTICS

Marriage Statistics Due

AMERICA will have better figures on marriages and divorces as the result of plans being put into effect for 1960 by the National Office of Vital Statistics.

To fill in the gaps due to nine states without marriage central files and 15 states without divorce central files, sample records in those areas will be obtained from local officials who have the records. Then these results will be applied by modern sampling methods to give reliable figures that can be used by social scientists, market analysts, population experts and others.

Many countries have marriage and divorce data more complete than the United States, Dr. Hugh Carter of the Government's National Office admitted to the American Association for the Advancement of Science in Chicago. The new program will allow U.S. marriage and divorce figures to be compared with international records. The needs of hundreds of users of information on family formation and dissolution will be further met by a campaign to extend the registration area to uncovered states.

Soviets Lagging in Computers

Top priority is being given in the U.S.S.R. to the education of scientists to design and use more than two billion rubles of electronic information processing digital computers to be built each year until 1965, John W. Carr, III, of the University of North Carolina Computation Center, reported.

Moscow State University is training more than 200 graduate students, many of whom will be sent to Siberia next year to work with large-scale computers at Novosibirsk.

Nevertheless, the Soviet computers do not compare in size and speed with those announced in the United States. In artificial

intelligence and automatic programming, methods for making machines perform mentally like human beings, the Soviets seem to be lagging behind the West. There is, however, a journal on cybernetics in Russia. The U.S.S.R. is behind the U.S. in data processing, although Mr. Carr warned that there is danger in the present discouragement by mathematical academicians of participation in the area of computers and information machines.

Shock Improves Later Growth

Violent shaking, electric shock and handling of infants when they are very young speed up body development, produce resistance to disease, brain injury and seizures, Dr. Seymour Levine of the Ohio State University, Columbus, told the Association. At least this is true for rats and mice, the animals upon which he experimented.

Decimals Help Children

Children even as young as the first grade have no trouble in understanding and using the decimal system, Mrs. Lore Rasmussen and David A. Page of the University of Illinois Arithmetic Project reported. Mrs. Rasmussen, who is the wife of the principal of Miquon School, Miquon, Pa., has found that children have no difficulty in acquiring a working knowledge and intuitive feel for decimals and the metric system, becoming bilingual in measurement. She suggested that even if centimeters are not used, the inch could be divided in ten parts and decimals used, although the meter is already internationally established.

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Home Ownership Grows

THE 1960 census is expected to show that 62% to 63% of all American families own their own homes.

This estimate from a Census expert represents about an eight percent gain over 1950 when figures showed 55% owned their own homes.

Census experts reported to the American Statistical Association, Washington, that the 1960 Census will be improved in ways to make its figures more revealing as to the social health of the nation.

James H. Rose and Dr. Paul C. Glick said the U. S. probably will gain 1,000,000 more "dwelling units" because of a change in definition. In 1960, a dwelling unit will be one room or more having direct access from the street or a common hall, or having cooking equipment. In 1950, two or more rooms were required by definition. Many of these new dwelling units will be rooms in rooming houses. Also to be tabulated in 1960 will be permanent hotel

residences and staff quarters in institutions.

F. S. Kristoff told the Association that a special effort will be made in the 1960 Census to get an accurate picture of new construction, the conversion of single dwelling units into multiple units, the merging of multiple units into single units, the number of house demolitions a year, how fast existing houses are being improved with new facilities, and how many people are switching from house owners to renters, and vice versa.

Some of these topics have never been accurately measured before. In new construction, for instance, Bureau of Labor Statistics figures showed 1,200,000 houses built in one year, but Census figures indicated 1,600,000 had been built. It has been estimated that 100,000 to 500,000 houses are being demolished each year, and a 1956 National Housing Inventory indicated the figure is probably around 400,000.

Between 1950 and 1956, about 3,000,000

houses were upgraded from substandard condition into standard, but Mr. Kristoff said this could simply mean that some minor improvement had been made, such as the addition of a water heater. There is no substantial house upgrading going on now in slum areas, he told SCIENCE SERVICE, except in certain "strategic" housing areas such as in fashionable areas of New York City, Washington and other large cities.

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ENGINEERING

Dry-Land Ocean Will Test Underwater Cables

A MAN-MADE, dry-land ocean with an environment similar to that found about two miles below the surface of the sea, is being built at Chester, N. J., by Bell Telephone Laboratories engineers.

It will be used to determine whether underwater cables resting on the ocean floor undergo an aging, which accounts for minute changes in electrical characteristics.

If cables do age, the engineers want to know the magnitude of aging, why it takes place and what physical changes in the cable constitute that aging. To help them arrive at these answers, they will subject cables to tests in the simulated ocean for a period of five to ten years.

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FOOD TECHNOLOGY

New Automated Process Extracts More Sucrose

AN AUTOMATED process for extracting sugar from cane enables 96% of the sucrose to be extracted. This is six to eight percent more than is obtained by conventional methods.

Described as the "first significant development in the sugar cane industry in more than a century," the process can reduce capital costs by 25% and extraction costs by more than 10%. It requires no building, and less space, operating personnel and maintenance than a conventional mill.

The process is being made available for commercial application in a program planned by the Chemetron Corporation, Chicago, and the J. G. White Engineering Corporation, New York.

The conventional method of extracting sugar from cane involves the squeezing or crushing of cane to release the juice. In this method as much as 10% of the available sucrose is lost and the resulting juice has a purity seldom greater than 85%.

In the new process, sugar cane pieces are fed continuously into the bottom of a tower. As the cane is automatically moved upward mechanically, water moves downward and sucrose is extracted from the cane by osmosis and dialysis, a process of diffusion.

The extracted solution is cleaner than milled cane of like quality, having a purity one to three percentage points higher.

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