

## PSYCHOLOGY

**Women Show Femininity From Moment of Birth**

► WOMEN SHOW their femininity from the moment of birth, a Dutch psychologist, Dr. Frederic J. J. Buytendijk of Utrecht told the Fourteenth International Congress of Psychology meeting in Montreal.

Even as young children, the movements of boys and girls show striking sex differences, Dr. Buytendijk said. You can tell a boy by his brusque, abrupt, energetic, expansive, even aggressive movements.

The movements of a girl are more pliant, more fluent, more harmonious, more wave-like.

From birth, Dr. Buytendijk said, the little boy sees objects as obstacles challenging him to resist and master them. The little girl, in contrast, sees the world and her mother as something to adapt herself to.

Girls learn to dress themselves much more efficiently and earlier than boys, due to a better fine motor coordination and especially a more flexible rotation at the wrist.

The original sex differences are especially obvious in the contrast between "work" and "care," Dr. Buytendijk explained.

"Work," he said, "is always achievement, creation, production of forms that have their basis in the will to rule." This, he implied, is man's part in the world.

"The act of caring takes place in the dynamics of adjustment and in being conscious of values that are not created, but discovered, that one has to protect, to sustain and to improve in a constant cooperation with other beings."

Science News Letter, July 3, 1954

## BIOCHEMISTRY

**Nerve-Stimulating Drug Tells Early Pregnancy**

► A DRUG test for early pregnancy has proved 100% accurate in trials on 77 women at St. Vincent's Hospital, New York, Drs. Thomas E. Lavell, George Knauer Jr. and C. McNeill Winterhalter report in the *New York State Journal of Medicine* (June).

The drug is called Stigmonene Bromide by its manufacturers, Warner-Chilcott Laboratories. Chemically, it is benzpyrinium bromide.

The test is based on ability of the drug to induce menstruation that has been delayed for reasons other than pregnancy or organic disturbances. The drug is a cholinergic agent, acting to stimulate nerves of the parasympathetic system.

Why this should start menstruation in non-pregnant women is not known exactly. It is believed it may act by dilating blood vessels in the uterus. Nervous and emotional factors have long been known to play an important part in menstruation.

In the trials at St. Vincent's Hospital, the Aschheim-Zondek rabbit test, long a standard test for early pregnancy, was also given the women. It proved inaccurate in 14.5% of the cases.

There were no ill effects of the drug on either the women or their unborn children.

Organic pelvic disease, menopause, previous menstrual irregularity or hormonal disorders make the test inconclusive.

Doctors also warn the drug should not be given in the presence of bronchial asthma or mechanical obstruction of the gastrointestinal tract or urinary bladder, and should be given with caution to patients with respiratory difficulties, bradycardia or heart block.

Good results with it have also been reported by Dr. Albert Decker of New York and Drs. E. N. Bookrajian and William Truter of the Jersey City Medical Center.

Science News Letter, July 3, 1954

## ASTRONOMY

**Discover First Solar Photospheric Circulation**

► THE FIRST evidence that the sun's visible surface, or photosphere, has a circulation of its own has been reported to the Royal Astronomical Society in London.

Miss A. B. Hart of Oxford University Observatory said that studies there during the last four years show the sun may have "stable velocity fields" lasting several hours.

Changes in the velocity of the sun's rotation indicate the circulation, and are probably due to velocity fields. The variations were discovered when astronomers at Oxford tried to pin down the exact period of the sun's photospheric rotation at the equator. The measured velocities varied considerably, too much to be accounted for by errors in the measurements.

Statistical analysis showed that "the chance is less than one in a thousand that the solar rotation is constant in the equatorial region," Dr. Hart said.

Astronomers have known for about 50 years that the sun's photosphere took less time to rotate at the solar equator than at either side of it. Previously, however, they have always considered that the equatorial rotation was constant, rather than changing as the Oxford astronomers have now reported in the Royal Astronomical Society's *Observatory* (April).

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## PSYCHOLOGY

**Man Speaks Because He Is Superior, Not Reverse**

► IT IS not his ability to use language that gives man his superiority over the lower animals, Dr. Silvan S. Tomkins of Princeton University told the Fourteenth International Congress of Psychology meeting in Montreal.

Instead, he owes that fact that he can talk to the superiority of his nervous system. In fact, Dr. Tomkins said, a human being can be best understood as an intercommunication system for the reception, transmission, translation and transformation of messages, conscious and unconscious.

Science News Letter, July 3, 1954

**IN SCIENCE**

## STATISTICS

**1954 Baby Births Top 1953 So Far**

► BABY BIRTHS during the first four months of 1954 topped the same period of 1953 by about 30,000, the Public Health Service of the Department of Health, Education, and Welfare has announced.

However, marriages this year have continued to fall, after sinking in 1953 to 9.7 marriages per thousand population, the lowest annual rate since 1933. Compared with the first four months of 1953, marriages in the same period this year dropped by 25,000.

Total registered and unregistered births in 1953, estimated at 3,971,000, broke all previous records. The 1953 rate of 25.1 births per thousand population was one of the highest in many years.

Because of the low birth rates in the '30's, relatively few young people have been reaching marriageable age recently. Also, the wave of marriages beginning in 1946, when an all-time peak of 2,291,000 marriages occurred, sharply reduced the number of single young people in the population.

Much of the increase in 1953 and 1954 births can probably be attributed to a continuing rise in the number of third and fourth children. An increase in the number of first births is not expected, because of falling marriage rates since 1951.

Science News Letter, July 3, 1954

## TECHNOLOGY

**Hearing Aid Radio for Civil Defense Personnel**

► CIVIL DEFENSE authorities may get an earful of instructions in the future through a new vest-pocket radio that resembles a hearing aid.

Now in an experimental stage, the radio is tuned to 1260 kilocycles. This is one of the two channels set aside to carry messages to Civil Defense personnel and to the public in the event of an air attack upon the United States.

Developed by W. F. Chow and J. J. Suran, engineers at General Electric Company, Syracuse, N. Y., the radio is powered by two pen-sized flashlight cells that will work continuously for a month. Modern germanium devices that can perform some of the duties of vacuum tubes are credited with extending the operative life of the batteries.

The loudspeaker is worn like the ordinary hearing-aid earpiece. The radio itself fits snugly in a vest or shirt pocket. The engineers are now trying to perfect their device before having it considered for mass production.

Science News Letter, July 3, 1954

# CE FIELDS

## ENGINEERING

### Power Line Broadcasts Radio to Lick Static

► SWEDISH ELECTRICAL engineers have licked a radio interference problem created by their high-tension power lines. They are converting their lines into huge radio station antennas.

The fight-fire-with-fire plan of attack came after a 230,000-volt power system was upped to 400,000 volts, members attending the American Institute for Electrical Engineers meeting in Los Angeles were told.

B. G. Rathsmann, S. Parding and C. A. Enstrom reported that the higher voltage caused radio static that could not be cut out economically with various shielding techniques. The Swedish State Power Board members said the problem was solved by hooking a 250-watt radio transmitter to the power line and using the lines to rebroadcast the program being drenched with static.

The program had much more power than the static had. Thus persons living near the power line were no longer bothered with "buzzsaws," "typewriters" and "machine guns" in their radios.

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## ENGINEERING

### Liquid Metals for Atomic Power Plants

► ATOMIC POWER plants of the future will run on liquid metals which will supply fuel, control the reaction, and transfer the heat out to where it can be utilized.

This look at the future of atomic power was presented in papers from the Brookhaven National Laboratory given at the International Congress on Nuclear Engineering at the University of Michigan.

Uranium and thorium, the two materials from which atomic energy can be obtained, will be dissolved in other and lighter metals, such as lead, bismuth and tin, or combinations of them.

Thorium, not itself capable of being converted from mass into energy, can be bred into uranium 233, which is itself fissionable. The new kind of atomic power plant would not only utilize uranium for power, but constantly produce the uranium anew from the less valuable thorium.

Studies are being made to work out a method whereby the liquids would clean themselves of the "ashes," or the debris, of the atomic reaction. Because these metals have to be handled at temperatures of about 500 degrees Centigrade, it is necessary to build the power machine out of very unusual materials, such as specially processed graphite or unusual metals like zirconium and beryllium. Work on this is being done

at numerous places throughout the country.

Another possibility is that sodium hydroxide, which is a very costly material when in anhydrous form, can probably also be used as a liquid in which atomic energy materials can be handled in reactors.

These reactors or atomic power plants of the future are a considerable distance ahead even for such highly developed atomic engines as the one which will drive the atomic submarine, Nautilus. This submarine engine has already run many hours in a test at the Idaho Desert Experimental Station.

Work on liquid metal fuel reactors was done by D. W. Bareis, R. H. Wiswall Jr. and W. E. Winsche of the Brookhaven National Laboratory.

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## OPHTHALMOLOGY

### Blindness Causes Seen Changing in the U. S.

► THE CAUSES of blindness in the United States are changing. Dr. Franklin M. Foote, executive director of the National Society for the Prevention of Blindness, New York, reported at the interim Congress of the Pan-American Association of Ophthalmology meeting in Sao Paulo, Brazil.

Of all infections, or germ diseases, that blind babies and children, German measles in the mother during the first three months of pregnancy now takes the lead. It caused 1.2% of blindness in 2,412 blind children under age seven in 16 states.

By contrast, there has been a 50% decrease in syphilis as a cause of blindness during the last 20 years. It caused 0.3% of the blindness in the group that owed 1.2% of their blindness to German measles in their mothers. Ophthalmia neonatorum, familiarly known as babies' sore eyes, caused 0.4%.

The trend in blindness among children that at first appeared downward during the past 25 years now seems to be increasing.

"The reason for the greater prevalence of blindness among children, despite gains made in controlling blindness from infections and injuries, has been the emergence of the retinopathy of prematurity—retrolental fibroplasia—as a cause of blindness," Dr. Foote declared. "Described first by Terry in 1942, retrolental fibroplasia by 1950 was the cause of 48% of all the blindness among children under seven years of age in 11 states."

The shift in population in the United States to a relatively large proportion over 45 years apparently has brought a great increase in blindness due to cataracts, glaucoma and uveitis.

Dr. Foote declared there is a "pressing need for more intensive education of the public, for professional education, for social and public health activities related to case finding and case follow-up, and for the greater support of fundamental laboratory research and of the clinical application of the newer knowledge derived from studies in the basic sciences."

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## TECHNOLOGY

### Tour United States in Homemade House Trailer

► IF YOU have the urge to pick up and go, to wheel across America on an extended vacation, perhaps you can use an idea for a build-it-yourself trailer worked out by Eugene C. Winslow, associate professor of chemistry at the University of Rhode Island.

Made at a cost of about \$250 for materials, the 1,300-pound trailer consists of three-eighth inch and three-quarter inch marine plywood frames mounted on an old truck axle obtained from a junk yard.

It looks like a house trailer for midgets while being towed along the road. But its top cranks up like the top of a deep box so that a six-foot man can stand erect inside with inches to spare. It will accommodate the professor, his wife and four children.

Bunks are arranged inside in two tiers of three each. Three of them are full length, and three are five feet eight inches long for the smaller children. The bunks also are raised or lowered for sleeping or travel.

Jutting out from the front of the trailer is an area containing an ice box, a three-burner stove that uses bottled fuel, and a water tank. The trailer's door is built on the Dutch principle—that is, it is made in two sections.

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## MEDICINE

### Two New Drugs Give Good Results in TB

► TWO NEW drugs for treatment of tuberculosis were announced at the meeting of the American College of Chest Physicians in San Francisco.

One, called streptoduocin, is made of equal parts of two older anti-TB drugs, streptomycin and dihydrostreptomycin. In trials at the Philadelphia General Hospital, all patients could take it without toxic effects and with typical good results in stopping the disease.

Many of the patients had previously had large doses of streptomycin or dihydrostreptomycin alone, and many had shown signs of damage to the hearing nerve or to the inner ear or both.

The good results with streptoduocin were reported by Drs. Harry Shubin, Charles A. Heiken, Allen Glaskin, Edward Pennes, Sushil Chakravarty and Franklin Rutberg of Philadelphia.

The other new anti-TV drug is Salizid. It is chemically similar to isoniazid. When tried in patients, it seemed as effective as isoniazid. Nerve damage following its use is "unusual," reported Drs. Sol Katz, Georges F. McCormick, Patrick B. Storey, Angel de Leon, Monroe J. Romansky and Edward E. Marshall Jr. of Washington, D. C.

Occasionally, they reported, Salizid was effective in patients who were no longer helped by isoniazid.

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