

## MEDICINE

## Can Prevent More Polio Breathing Failure Deaths

► DEATHS FROM polio are now largely due to breathing failure and to an increasing extent can be prevented, Dr. John F. Marchand of New York reports in the *Journal of American Medical Association* (Aug. 7).

But to prevent such deaths, communities must prepare in advance, he says.

A local team of doctors, nurses and attendants prepared for the emergency when a polio patient develops paralysis of his breathing muscles can cut the number of early deaths.

For care of such patients, there should also be an easily reached center prepared to admit without delay, day or night, patients with symptoms or signs of bulbar, respiratory (breathing) or shoulder level paralysis.

Enough space must be allowed in an open ward for rocking beds, iron lungs and other bulky equipment, with wide aisles between for working space. Patients with respiratory paralysis should not be in small private hospital rooms or cubicles. These do not give enough working space and make efficient use of equipment and personnel impossible.

Air conditioning can prevent deaths from heat prostration and is particularly needed because polio epidemics in this country come during the hot season.

In the acute stage, iron lungs, or tank respirators as they are known technically, are needed. The cuirass type which fits over the chest is of great value at the convalescent stage, but has not yet been made efficient enough for the emergency stage.

Grown-up and child patients can be cared for in the same open ward. Isolation has become obsolete. "Gown-and-mask rituals" for those caring for acute polio patients interfere with the care and protect no one.

Science News Letter, August 14, 1954

## HORTICULTURE

## Beardtongues Make Unsurpassed Display

► THE WILD flowers known as beardtongues offer "unexcelled" beauty and "unsurpassed" bright colors for the home gardener as well as for tourists who prefer back roads.

Beardtongues in bloom offer a "spectacular" display, yet very few of the plants are ever brought into cultivation.

They belong to the genus botanists know as *Penstemon*. Although penstemons often make masses of brilliant color, they are usually found in colonies widely separated from one another, not all along roadsides like goldenrods or daisies.

*Penstemon*, one of the largest types of showy wild flowers in the world, belongs to the botanical family, *Scrophulariaceae*, shortened to "Scrophs." Snapdragons, foxgloves and skullcaps are found in the same family.

A peculiar feature of the penstemon flower spike is that the flowers open in succession in all the clusters nearly simultaneously. Although the flower colors cover the entire range, they are mostly in the violet-to-blue and the reddish-purple part of the spectrum.

Beardtongues usually grow on a slope, rather than on flat ground. Roadside banks are one of their favorite habitats, but since these banks are usually graded off for big highways, they are most likely to be found on the side roads.

Seed pods of the *Penstemon* have a needle-pointed tip. They look like tiny, shriveled up figs, rather than seeds, Dr. Ralph W. Bennett of Alexandria, Va., reports.

Any species of *Penstemon* that grows wild in the vicinity will do well in a garden in the same locality. Blooming season lasts from May to August, depending on the altitude. The American Penstemon Society has been organized to make these flowers popular garden plants, and a list of those now in cultivation can be obtained from Mrs. E. M. Babb, 213 Lambert St., Portland R. 5, Maine.

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## PUBLIC HEALTH

## Warns of TB Spread From Skid Row Homeless

► A SERIOUS white plague spot exists on the Skid Rows of our cities. The rate of new tuberculosis cases among the homeless men there may be as high as 55 and a half times that of the general population of the city.

Many of these men are very likely to take temporary jobs as cooks, cooks' helpers, dishwashers or other food handling jobs. In such a situation, there is a good chance of their spreading their disease to the general population.

A warning on the situation, with figures from a survey in Minneapolis, is given by Dr. Herbert W. Jones Jr., Miss Jean Roberts and John Brantner of the Salvation Army Men's Social Service Center and the Minneapolis Public Health Department in the *Journal of the American Medical Association* (July 31).

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## CONCHOLOGY

## Snails Attack Drills That Kill Oysters

► OYSTER DRILLS, creatures that do damage to oysters, have themselves a newly-demonstrated enemy, the moon snail.

Franklin B. Flower of Rutgers University's oyster research laboratory reports in *Science* (Aug. 6) that more dead drills from Delaware Bay were killed by holes made by the snails than by cannibalistic attacks by their own kind. Previously, cannibalism was considered the oyster drill's worst menace.

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# IN SCIENCE

## OCEANOGRAPHY

## "Cold Fronts" in Ocean Just as in Atmosphere

► THE OCEAN has "cold fronts" just as the air does, and Townsend Cromwell, an oceanographer at the University of California's Scripps Institution of Oceanography, La Jolla, Calif., has discovered from the air one in the Baja California area that is eight miles long.

Although atmospheric fronts are associated with violent air motions, oceanic fronts are centers teeming with plant and animal life, rich hunting grounds for fishermen as well as for predatory fish.

Surface temperatures, salinity and other properties differ sharply on opposite sides of the front. Fishermen have long used these fronts to guide them to fish feeding on plants and animals swarming in the narrow frontal zone, which is marked by lines of kelp and foam.

The front arises when warm and cold water meet and oppose each other just as atmospheric fronts occur where warm and cooler air masses clash. In the ocean, there is a general movement of water downward along the front on both sides.

Mr. Cromwell has also discovered a sharply marked, very long and almost permanent oceanic front near the equator.

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## MEDICINE

## Eye Trouble Forerunner Of Multiple Sclerosis

► EYE TROUBLE will be the forerunner of multiple sclerosis in about half the persons who developed the eye trouble between the ages of 20 and 44 inclusive. The multiple sclerosis will develop within about 15 years after the attack of eye trouble.

The eye trouble is known medically as retrobulbar neuritis. It is an inflammation of that part of the optic nerve which is behind the eyeball. Blind spots, pain and sensitivity to light may be symptoms.

These figures, showing how often in general MS can be expected to develop after an attack of retrobulbar neuritis, come from a study of patients seen at the Mayo Clinic, Rochester, Minn., during the years 1937 to 1942 inclusive. Of 87 patients seen with this eye trouble for which no cause had been found, 28, or slightly under a third, showed signs of MS at a later date. Of the 28, 26 were between the ages of 20 and 40.

The study was made by Drs. Robert G. Taub and C. Wilbur Rucker of the Mayo Foundation.

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# CE FIELDS

## GEOPHYSICS

### Record Set for Good Shortwave Reception

➤ THE LONGEST continuous period of very good shortwave radio reception since the National Bureau of Standards started keeping records in 1941 is the record now being set. Radio experts see no break in the good reception conditions before the end of August.

Over three and one-half months have passed since disturbances in the ionosphere, the earth's radio reflecting roof for transmitting shortwave messages around the world, caused poor radio propagation on April 28.

Operating difficulties and the limited number of frequencies now available for shortwave communications can, however, plague users, forecasters at the National Bureau of Standards have warned.

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## PSYCHOLOGY

### Work Efficiency Cut by Temperature Change

➤ IF YOU think that extremely hot weather cuts down on the efficiency of your work, you are probably right. But you would also fail to do your best if the temperature dropped five degrees below what you are used to working in.

The effect of climate on the performance of physically fit young men has been measured by Dr. R. D. Pepler of the Royal Naval Tropical Research Unit of the University of Malaya, and is reported by him to the Applied Psychology Research Unit of the Medical Research Council, Cambridge, England.

The experiment was conducted in Singapore. The young men taking part are Europeans who had lived in Singapore for at least six months before the experiment. They were dressed comfortably for the test, working stripped to the waist.

Two types of work were included in the experiment. One job was a skilled motor job, that of keeping an instrument lined up on a moving target. The other was a more complex mental task, that of noting similarities and differences in pairs of figures.

The young men in Singapore do their best work at a temperature of 81 degrees Fahrenheit, which is the temperature in which they are used to working in Singapore.

An increase or a decrease of as little as five degrees brings down their efficiency, Dr. Pepler found.

This is not to be interpreted as an argument against air conditioning, however, Dr. Pepler warns. The young men tested were

"acclimated" to the 81-degree temperature and worked at the higher and lower temperatures only once and for no more than two to three hours. If they were to work in an air conditioned office for any length of time, they would probably become adapted to the new temperature with a resulting change in their efficiency.

Increasing the incentive by encouragement, and by letting the men know just how well they were doing, was found to increase their efficiency. Thus, men working at the most unfavorable temperature but with incentive did as well as those working at the best temperature with less incentive.

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## NEUROLOGY

### Good Memory Decided By Impulses in Brain

➤ THE FREQUENCY of electrical impulses in the brain's memory unit probably determines whether the memory is good or bad.

Dr. Joseph Gengerelli, University of California at Los Angeles psychologist, has found that rats whose brains were electrically stimulated at high frequency remember things better than those stimulated at a low frequency.

The experiments were performed with rats that had tiny radio receiving sets planted in their brains. Stimulation was produced by a remote control unit. Memory device used in the study was the traditional running of a maze by the rats.

Rats stimulated at a high frequency mastered the maze much more readily than those stimulated at one-fourth the frequency rate.

"With additional information and luck," Dr. Gengerelli declared, "we may be able some day to reduce the function of memory to a mathematical formula involving impulse frequencies and durations at certain sites in the brain."

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## BACTERIOLOGY

### Bacteria and Virus Bodies Built Alike

➤ BACTERIA AND the much smaller viruses, although different in size, are somewhat alike in body build, it appears from studies reported by Drs. D. Peters and W. Stoeckenius of the Tropical Institute, Hamburg, Germany, in *Nature* (July 31).

Viruses of the pox family, to which smallpox and fowl pox belong, were treated with the enzymes pepsin and deoxyribonuclease. After this treatment, the proteins of the nucleus-like central body of the virus were decomposed leaving an almost empty membrane.

This virus membrane, the scientists state, resembles in many respects the empty wall of a bacterial cell.

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## ANIMAL NUTRITION

### More Milk When Cows Get Thyroid Hormone

➤ MORE MILK for people in some tropical countries might be gotten by giving cows or other milk producing animals doses of the thyroid gland hormone, thyroxin.

A significant increase of almost five pounds per day in milk produced by a thyroxin-fed buffalo is reported by Dr. M. Maqsood of the Punjab College of Animal Husbandry, Lahore, Pakistan, in *Nature* (June 24).

The average daily milk increase of the cow he treated was not significantly increased.

Daily temperature readings for the animals showed no significant increase, so apparently the thyroxin did not harm them.

Greatest increase in daily milk yield may only be obtained if the treatment is started at an early stage of lactation, Dr. Maqsood thinks. He is continuing his experiments.

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## MEDICINE

### Cancer Threat to Women Increasing

➤ APPARENTLY OBSCURED by the smoke of the latest cigarette and lung cancer news is a report of a cancer danger threatening particularly the older women in our nation.

Deaths from ovarian cancer are mounting and will continue to increase, Dr. Ludwig A. Emge, professor emeritus of Stanford University, Calif., declared at the International Congress on Gynecology and Obstetrics in Geneva, Switzerland.

Cancer is now the number one cause of death among American women 30 to 60 years old, he said. One-fourth of these killing cancers are cancers of the female sex organs.

"Incidence of cancer of the reproductive organs doubles at age 30," he said, "accelerates increasingly to 55 and doubles again at 75. This acceleration will continue as long as the trend is toward greater life expectancy."

Women in the upper age groups, in proportion to their numbers, show progressively higher death rates with increasing longevity.

In the five years from 1946 through 1950, deaths from ovarian cancer have increased 15%. The greater increase has been in women aged 45 to 74. The rate is beginning to drop for women in the 25 to 44 age group. This, Dr. Emge thinks, reflects more effective health education among younger women resulting in earlier discovery of cancer.

Ovarian cancer is notoriously silent in its approach. Symptoms frequently do not appear until too late for cure. For this reason, women past and near the menopause should be examined every six months, Dr. Emge advises.

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