

## MILITARY SCIENCE

**Korean War Tougher Than World War II**

► THE Korean war is tougher than World War II. Men who went through Normandy, Anzio and Pacific battles without breaking but who are casualties of the present fighting told this emphatically to Dr. Karl Bowman, University of California Medical School psychiatrist.

Dr. Bowman, who has just returned from Japan, saw the men in hospitals that he visited for the Surgeon General of the Army.

Patterns of psychiatric cases among American veterans in the Korean war are following those of World War II, Dr. Bowman found. Mostly there are cases of combat fatigue, with few cases of conversion hysteria.

Dr. Bowman said that while figures are not available, one would expect a larger percentage of psychiatric casualties from the earlier stages of battle for following reasons: the soldiers were not adequately trained, seasoned, equipped; the fight was a losing one and seemingly hopeless for men on the ground; the North Koreans were better trained and equipped than anticipated.

The nature of the fighting does not yet permit psychiatric clearing posts near the front line for quick treatment, as in World War II. Casualties are now evacuated to Japan. Dr. Bowman says the Army is doing an excellent job in evacuating and treating patients. During his short stay, one hospital returned 70% of casualties to combat and anticipated the return of a large per cent of the remainder to non-combat duty.

Dr. Bowman says that as the United States moves to the offensive, fewer psychiatric casualties can be expected.

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## BOTANY

**Poinsettias Blossom Just In Time for Christmas**

► THREE government scientists gave the nation's flower-lovers a Christmas present—a way to nudge poinsettias into putting forth their bright red leaves just in time for the holiday season. The secret: keep them in the dark for at least 13 hours a day.

Drs. M. W. Parker, H. A. Borthwick and Laura E. Rappleye of the Agriculture Department's Bureau of Plant Industry described their experiments with poinsettias before the American Society for Horticultural Science in Columbus, Ohio. Blooming of the Christmas plant can be either slowed or speeded up, they said, by varying the ratio of daytime to darkness. This response of plants to different day lengths is known as photoperiodism.

Poinsettias need short days, the research-

ers said. If cuttings are started between Oct. 1 and 10 and kept in total darkness 14 to 16 hours a day, the flowers and scarlet leaves will bloom without fail for Christmas, they said. Less than 13 hours of darkness will slow the blooming greatly. It can be hastened by extending the dark period to 16 hours. But if the dark periods are broken too often, the plant will fail to bloom at all.

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## ENGINEERING

**Carbon Dioxide Generator Mobile, Has High Capacity**

► A MOBILE carbon dioxide generator will produce the fire-fighting gas needed in large quantities for military uses.

The generator has a production capacity of 300 pounds per hour. It can operate at temperature extremes from minus 40 to plus 130 degrees Fahrenheit and is only about half the size of commercial plants of the same capacity.

The first of these units is now undergoing technical tests at the Army Engineer Research and Development Laboratories at Ft. Belvoir, Va. A second will be delivered soon. The gross weight of the mobile generator is 43,000 pounds. It is mounted on pneumatic dual tires for easy moving.

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## MEDICINE

**Streptomycin, Tuberculin, Effect "Miraculous" Cure**

► THE "almost miraculous recovery" of a two-year-old boy, paralyzed and blinded by tuberculous meningitis "for whom all hope of recovery had been abandoned," has been achieved by a combination of one of the new wonder drugs, streptomycin, and an old, abandoned TB remedy, tuberculin.

Details of this treatment, and a warning on how to avoid its dangers, are reported by Drs. Hugh Cairns, Honor V. Smith and R. L. Vollum, of Oxford, England, in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Sept. 9) in Chicago.

The child's sight returned and within less than a year he was "a fat, active, healthy-looking little boy with a head of normal size, a growing vocabulary and what appeared to be normal intelligence."

Equally good results in a second case have encouraged the English doctors to start this treatment in seven others. It is too early to know what the results will be in these.

The reason the combined treatment was effective seems to be that the streptomycin takes care of the germs while the tuberculin does just what its discoverer in 1890, Robert Koch, claimed it would when he said: "The remedy does not kill the tubercle bacilli but the tuberculous tissue."

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**IN SCIENCE**

## PLANT PATHOLOGY

**Lack of Minerals May Cause Sick Timothy Grass**

► SICK timothy grass may be suffering from a deficiency of minute amounts of certain minerals, Dr. R. D. Williams, British plant physiologist, told the British Association for the Advancement of Science meeting in Birmingham, England.

Iron, copper, manganese and zinc are all needed in one or less parts per million for healthy growth, he stated. When timothy is deficient in iron, manganese and zinc, the plant is wan and weak. Copper-deficient timothy is flushed an unhealthy darker green.

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## MEDICINE

**Coconut Oil Is Quick Energy Source**

► INJECTING specially prepared coconut oil into the blood stream can put fat on underweight normal persons and supply energy to many hospital patients unable to eat all the food they need, Dr. Robert P. Geyer of Harvard School of Public Health told scientists at a University of Rochester Medical School symposium in Rochester, N. Y.

The symposium was on lipids, which is a collective name for dietary fat and its various forms. It was held in honor of Dr. Walter R. Bloor, emeritus professor of biochemistry at the University of Rochester Medical School, whose work in this field has made him internationally known as "the dean of fat metabolism."

The coconut oil vein feeding solution is prepared by passing a mixture of purified coconut oil, sugar solution and emulsifying agents through a machine similar to those used for making homogenized milk. The particles of fat in the resulting emulsion are smaller than bacteria.

Patients with stomach ulcers, certain kinds of cancers and kidney diseases and other patients before and after operations are among those who have been helped by these coconut oil feedings. Because the fat gets directly into the blood stream, difficulties such as lack of appetite, inability to swallow food or to absorb it from the intestine are overcome.

Emulsions containing radioactive fats have been given laboratory animals and traced through the animal's bodies. The fat, these studies showed, was rapidly used by the body for energy. Fat-soluble vitamins can be incorporated in the emulsion when needed.

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# E FIELDS

## WILDLIFE

### Look at Teeth to Tell Age of Fur Seals

► THE AGE of a fur seal can be told from its teeth, with ridges or growth layers around the tooth roots corresponding to the years it has lived.

Because Uncle Sam protects the Alaskan fur seal and his biologists have marked 80,000 young seals with hot-iron brands or numbered metal tags in recent years when the herds come to the Pribilof islands in Bering Sea each summer, Dr. Victor B. Scheffer of the U. S. Fish and Wildlife Service has been able to puzzle out the meaning of the growth ridges in their teeth.

Tooth growth is greatest when the seals are widely spread at sea during winter and spring, but virtually stops in the summer and fall when the animals are at their Pribilof breeding grounds. Males abstain from food and drink during this time, living off their fat, while females nurse their young for four months at the expense of their own growth. This growth cycle is reflected in the teeth, and the layers accurately represent the age of the seal up to four years and occasionally up to seven or eight years.

Biologists have previously been able to estimate the age of fishes by growth lines on scales and some bones. But the rapid growth of fish corresponds to the warmer months of the year, not the colder months as with seals, since fish adopt the temperature of the water in which they live, unlike seals which are mammals.

Dr. Scheffer reported his research to the journal, *SCIENCE* (Sept. 15).

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## WILDLIFE

### Trumpeter Swans Prefer Canada, Alaska to U. S.

► THE U. S. is losing its trumpeter swans, even though the overall North American population of this rare and beautiful bird seems to be booming back from the edge of extinction.

The truth of the matter is, U. S. Fish and Wildlife Service officials report ruefully, the trumpeters seem to be moving to Canada and Alaska.

Only 376 trumpeters showed up this year for the annual swan census at Yellowstone Park and Red Rock Lakes wildlife refuges in Montana. Last year there were 451.

But, say Wildlife Service biologists, more and more trumpeters are reported in Brit-

ish Columbia and southern Alaska. They think the giant birds are moving back to ancient breeding grounds farther north.

Long ago the trumpeters flew in great numbers over all the American Midwest and West, from Missouri to California. But civilization moved in. By 1935, only 73 birds remained in this country. In that year, Red Rock Lakes refuge was established, and the trumpeters got protection by rigid laws.

It is hard to estimate how many birds there are now, one official said. In this country, there may be trumpeters breeding in the few wilderness regions left. As many as 350 have been seen in a single season in Alaska. And in 1948, the Canadian Department of Mines and Resources reported an estimated population of 900 trumpeters in Canada.

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## EDUCATION

### "Pay Attention" Method Discourages New Ideas

► THE teacher who scolds her pupils for being "inattentive," may be maintaining discipline, but she is not preparing a fertile soil for the growth of new ideas.

Actually, there are times when being inattentive is an advantage in preparing the conditions for creative thought, Dr. Edith A. Weisskopf, of Purdue University, told the meeting of the American Psychological Association meeting in State College, Pa.

It is one of the main aims of education, Dr. Weisskopf explained, to encourage the development of creative abilities. Yet it is rare for educators to encourage their pupils to use techniques which are thought to create a fertile soil for the growth of new ideas.

"Among the four stages of the creative process, namely, preparation, incubation, illumination, and verification," said Dr. Weisskopf, "we prepare young people for the first and last stage only."

One reason for the neglect of incubation and illumination, she feels, may be the fact that these two stages appear to be directed more by unconscious forces.

Gifted children can and do master the academic subjects in the elementary and in the secondary school in half the time allotted to these subjects, Dr. Paul Witty, of Northwestern University, a specialist on the education of geniuses, told the same meeting.

Their school work is less satisfactory and challenging to gifted children than to others throughout their high school years, Dr. Witty has found. Speeding them through their grades is the most frequent provision made for talented children, and this usually occurs in the elementary grades. Enrichment of the curriculum takes second place.

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## BIOLOGY

### Protoplasm Seen in Third Dimension for First Time

► THE INTERNAL arrangement of living cells can now be seen, showing life's fundamental protoplasm in three dimensions for the first time. This has been achieved through a new method of drying specimens viewed with the University of Pennsylvania electron microscope.

Dr. Thomas F. Anderson, biophysicist of Pennsylvania's school of medicine, told the International Congress on Electron Microscopy in Paris how a substitution of carbon dioxide under high pressure for the water in biological specimens leaves them unflattened showing details in relief previously unachieved.

The new drying technique can be applied to bacteria, viruses and other materials, opening the way to studying normal and diseased tissues and materials more effectively.

The University of Pennsylvania investigators replaced the water of the materials with a liquid, such as carbon dioxide under high pressure, whose surface tension is very low at ordinary temperatures. Raising the temperature causes the liquid to become a gas which escapes and leaves the delicate portions of the biological specimens uncollapsed. Ordinary drying or freezing and drying flattens the structure of the specimens due to the pull of the surface tension of the water.

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## STATISTICS

### Accidents Fifth Ranking Killer of Women and Girls

► ACCIDENTS kill more women and girls each year than any other cause except cancer and diseases of the heart, blood vessels and kidneys.

Falls account for almost half of the approximately 30,000 accidental deaths of females each year. Most of these, seven out of eight among white women, occur at ages of 65 and over when failing vision and hearing, weakened skeletal muscles and other physical deterioration of age make the person more prone to fall.

Under age 65, motor vehicles are the big cause of death among girls and women, and even in the advanced ages rank second only to falls, Metropolitan Life Insurance Company statisticians in New York report.

Burns and scalds are another important cause of female deaths. Among pre-school girls, scalds caused by falling into or upsetting hot liquids play a large role. At the school ages, burns from playing with matches and clothing catching fire from open flames are the major menaces. After childhood, deaths from burns and scalds reflect the special hazards to which housewives are exposed in kitchen and laundry.

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