

## SURGERY

## Powder on Gloves Responsible for Illness

**S**ERIOUS complications and illness may follow operations if talcum powder from the surgeon's gloves gets into the surgical wound. A warning of this danger is given by Dr. Edward J. McCormick and Dr. Thomas L. Ramsey, of Toledo, Ohio. (*Journal, American Medical Association, March 1.*)

They report two cases of postoperative complications in which second operations were required, one of them resulting in the loss of the child-bearing organs in a 21-year-old woman.

In both cases crystals of magnesium silicate, or talc, were found in the inflamed tissues removed at the second operations. It is probable, the Toledo surgeons believe, that many other cases of postoperative complications caused by talcum or by lycopodium powder have gone undiagnosed in the past.

Careful washing of the gloved hands of the surgeon and his assistants, to remove the powder used on the gloves, and care to keep the air of the operating room free of the powder are urged to prevent such complications.

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## PUBLIC HEALTH

## Vaccinating U. S. Troops Against Yellow Fever

**A**MERICAN soldiers stationed in Panama, Puerto Rico and Caribbean bases are now being vaccinated against yellow fever, the dread Yellow Jack that menaced an earlier generation of American soldiers stationed in the same part of the world during the Spanish-American War.

The vaccinations were started about February 15, following an order from the War Department approving the vaccination against yellow fever of all troops now stationed in tropical regions of the Western Hemisphere and all other troops prior to their departure for such regions.

In preparation for this vaccination order, large quantities of the yellow fever vaccine have been made by the U. S. Public Health Service and other medical laboratories in cooperation with the Rockefeller Foundation's International Health Division laboratories, where the vaccine was first developed.

Although Hawaii, according to longitude, is technically in the Western

Hemisphere, the Army yellow fever vaccination order does not apply to troops stationed there, nor, of course, in the Philippines. Yellow fever has never been a menace in those places.

If the Yellow Jack should menace unvaccinated American troops stationed outside the Western Hemisphere, however, they could be swiftly protected by the vaccine, because the yellow fever vaccine fortunately works pretty quickly in conferring immunity against the disease. It is said to be one of the few vaccines that can be used successfully in the face of an epidemic.

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## PHYSIOLOGY

## Bats Hear Sounds Much Higher Than Humans Can

**B**ATS' ears can catch sound waves in the air up to frequencies of 98,000 cycles a second, it is indicated in experiments performed by Robert Galambos in the biological laboratories of Harvard University. (*Science, Feb. 28.*)

This is a shrillness of sound far above the upper limit of perception of the human ear. The highest insect chirps we can hear, and the vanishingly shrill pipe of the peanut vendor's whistle, represent only about 20,000 sound vibrations a second.

Mr. Galambos made his tests by hooking up extremely delicate electrical contacts to the hearing apparatus of 30 bats, and trying various sound and supersonic frequencies until he had reached a point at which no further response was registered on his instruments. Although there is no positive proof that such electrical responses by the ear indicate hearing, experiments on other animals have shown a close correspondence between the limits of such responses and the limits of ability to hear actual sounds.

The experiments now reported by Mr. Galambos are part of a program of investigation of the theory that bats avoid flying into obstacles in the dark by uttering shrill squeaks and catching their reflected echoes. Earlier researches had shown that some of the sounds uttered by bats have frequencies as high as 50,000 cycles a second.

It is possible that bats may be able to hear sounds even shriller than 98,000-cycles-a-second supersonics, for Mr. Galambos remarks, "the 98 kilocycle upper limit represented the limit of the recording apparatus, not of the cochlea."

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# IN SCIEN

## OCEANOGRAPHY

## Iceberg Reports by Mail Urged as Radio Cuts Down

**I**CEBERG season is just beginning in the North Atlantic, and the Hydrographic Office of the U. S. Navy, in charge of the International Ice Patrol, has issued a request that vessels sighting icebergs report their location by mail immediately upon making port. In normal times such reports are sent at once by radio to the Canadian station at Cape Race, Newfoundland; but the statement adds, "It is realized that this year, due to the European hostilities, many vessels are maintaining radio silence." In making the request the Hydrographic Office stipulates that the names and nationalities of reporting vessels are not required.

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## ASTRONOMY

## Startling Color Changes in Star Seen from Ship

**T**HE STAR Sirius, changing in color from red to light green, was the startling sight observed recently from a ship in the tropical Pacific Ocean, west of the Galapagos Islands.

In a report to the Hydrographic Office of the U. S. Navy, the observer, whose name and ship are not revealed, says that he was taking a sight on the star, when he noticed the color changes. Then he looked through binoculars, "and it was found that nearly all the colors of the spectrum were included in its changes." Sirius was then just rising in the east. As it climbed higher the colors faded.

Such an effect is an exaggerated form of the familiar twinkling. As the star's light passes through regions of the air of different temperatures it is bent one way, then another. When the temperature differences are unusually great, the air acts as a prism, and spreads the beam out into an actual spectrum. Because of the movement of the air and also, in this case, of the ship, the observer sees changing parts of this spectrum, and hence the changes of color.

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# CE FIELDS

## HORTICULTURE

### New Disease of Carnations Discovered at Spokane

**C**ARNATIONS are being killed by a new disease, caused by an apparently unknown bacterium. The malady made its first appearance in a greenhouse at Spokane, it is reported by Leon K. Jones, of the State College of Washington. (*Phytopathology*.)

Characteristic of the new malady is the production of grayish-green foliage, followed by yellowing and death of the plants, similar to the symptoms commonly associated with the wilt disease. Yellow streaks of frayed tissue in the woody areas, extending 12 to 24 inches up the stems of affected plants, are distinguishing symptoms. The disease is most damaging during warm weather of fall and spring.

W. H. Burkholder, plant pathologist of Cornell University, at Ithaca, New York, is studying the bacterium to determine its exact identity.

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## ANTHROPOLOGY

### Most Human Beings Are A Little "Wopper-Jawed"

**M**OST human beings are a trifle "wopper-jawed." In the majority of individuals, the right side of the lower jaw is slightly longer than the left, states Dr. Ales Hrdlicka of the Smithsonian Institution, who has recently completed a detailed study of more than 5,000 human jaws in the collections of the U. S. National Museum. They range in age from early Egyptians to modern Eskimos.

The difference, reports Dr. Hrdlicka, is slight yet apparently constant. It is slightly greater in women than in men, and is more noticeable among white people than in other races.

Biggest and stoutest lower jaws are those of Eskimos and northern Indians. Dr. Hrdlicka attributes this extraordinary development to the need among these cold-land peoples for eating large quantities of food, much of it uncooked and tough. Weakest jaws, in general,

were found to belong to the white races.

In the course of the studies, many atavisms, or evolutionary throw-backs, were found on lower jawbones of all races. Most of these were detected on the ramus, which is the upturned back angle of the jaw, leading up to the jaw hinge. This is the latest-evolved part of the vertebrate jaw, for lower backboned animals do not have it, and it is poorly developed in the more primitive mammals.

On some jaws in the Museum collection, the border of this angle is semi-circular, as in many of the higher mammals below the level of the primate family. It may protrude backward, as in some of the lemurs, primitive relatives of apes and man. About the point of the angle may occasionally be found modifications of a peculiar bulge known to anthropologists as the "lemurian process."

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## AERONAUTICS

### Italian Plane, "Kangaroo," Carries Smaller Plane

**S**INGLE seat fighting planes as well as bombs, troops, gasoline and other supplies are carried in the largest airplane of the Italian Air Force. Details and pictures of the craft, called the "Kanguru" (kangaroo) are given in *The Aeroplane*, British aviation weekly. (Jan. 31)

The Canguru is a monoplane, made at the Savoia-Marchetti works, has wing span of 97 feet 6 inches, and a length of 73 feet 6 inches. At 8200 feet, it has a top speed of 230 miles per hour, and its range is 2480 miles. Power is from three 950 horsepower Alfa-Romeo engines. *The Aeroplane* writer comments "For its size, the Canguru appears to be underpowered."

Several types of fighting planes have been carried from Italy to Libya in the Canguru. "The wings are removed and stowed beside the fuselage, standing on their leading edges," it is stated. "The tailplane, fin and rudder are similarly accommodated. The undercarriage is detached and stowed beneath the fuselage."

It is believed that the big pieces are inserted into the Canguru through the bomb doors in the bottom of the fuselage. A reinforced girder along the roof of the cabin carries a block and tackle which can be used to lift the heavy parts, with the engine of the fighter attached.

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## ENGINEERING

### New Factory Is Being Built Underneath Huge Box

**D**EVISING a new technique, a \$21,000,000 factory is being built in Detroit—inside a box. Underneath a shell of composition board and tar paper, the Ford Motor Co. is rushing completion of a new factory to produce aircraft engines. Inside the box, said to be the largest in the world, continuous construction, 24 hours a day, regardless of weather or darkness, is going forward.

The box-like shell was constructed around the building about 10 feet from the finished wall line. It was erected as soon as the steel framework was in position. Temperatures inside are supplied by the heat of great charcoal braziers, permitting concrete to be poured in the dead of winter.

The factory will be 1,000 feet long and 300 feet wide. Started in October, it is expected it will be ready for production this month. Erection is proceeding progressively from one end to the other, so that the front end can be occupied before the other end is finished.

The "box shelter" type of construction was developed in Russia to permit construction in any kind of weather, especially during the heavy winters.

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## PALEONTOLOGY

### Wasp Nest From Late Dinosaur Days in Museum

**T**HE FOSSILIZED comb of a wasp nest whose inhabitants might have stung the last of the dinosaurs has been added to the collections of the Smithsonian Institution. It was found in southwestern Utah by Dr. J. B. Reeside, Jr., and Dr. C. E. Dobbin of the U. S. Geological Survey, and has been described (*American Journal of Science*, January) by Dr. Roland W. Brown, also of the Survey. It dates from the late Cretaceous, last phase of the dinosaur age, about 80 million years ago.

Wasps, says Dr. Brown, apparently preceded their relatives, the bees, into the world, and pioneered in the transfer of pollen among flowering plants, which had come into existence not long before. The great development of insects and the high evolution of flowering structures have gone on side by side ever since. It is doubtful if either could have come to pass without the other.

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