

## BOTANY

**"Escaped" Botany Journal To be Published in U. S.**

**C**HRONICA BOTANICA, a European botanical magazine, first of its kind to "escape" from war-swept Europe and transplant itself to American soil, has issued its initial American number at Waltham, Mass. It was first published in the Netherlands as a year book, later as a bimonthly. To keep in step with American tempo, it will be issued here every two weeks.

A particular point is made, in the announcement of the opening of American publication, of the role which botany and botanists will be called upon to play in postwar reconstruction:

"Plant scientists know more than anyone else about our natural resources and raw products. They will have to play a most important part in the reconstruction after this war. It is of fundamental importance that good international relations are kept up and developed among this group of workers as far as the present international circumstances permit."

The editor, Dr. Frans Verdoorn, is a young botanist born in the Netherlands, who has had experience in the tropics as well as in Europe and this country. Master of several languages, he expects to maintain the international character of his journal by publishing articles not only in English but in Spanish, French, German and Italian.

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## MEDICINE

**Viruses Are Enemies Of All Animal Life**

**I**T IS getting to be common knowledge that infantile paralysis, that much-dreaded and often crippling ailment, is caused by a kind of germ called a virus. Most of us, however, are a little hazy as to what a virus actually is. Scientists themselves, although knowing much about the viruses, are still uncertain about their true nature. Viruses seem in some ways to be alive. But some viruses isolated from sick plants turned out to be non-living chemicals, or rather, chemicals having all the properties of viruses have been obtained from plants sick with virus-caused disease. More than one scientist now look on viruses as belonging to a transition stage between the living and the non-living.

Whatever they may be, viruses are enemies of all life. Not only man, but animals and birds, fish, insects, plants and bacteria themselves are destroyed

by these unseen but active enemies.

How the viruses attack, and how scientists for hundreds of years have courageously fought this attack in spite of discouragement and repeated rebuffs is told in a new book, *The Virus, Life's Enemy*, by Kenneth M. Smith.

Among the human diseases caused by viruses are smallpox and yellow fever, infantile paralysis, measles, mumps, chicken pox, epidemic influenza, and trench fever. Against two, perhaps three of these man can now protect himself. Successful vaccination against smallpox was achieved in the eighteenth century by the English physician, Edward Jenner. Within the last 10 years vaccination against yellow fever has been accomplished, and this very year comes an encouraging report of a new vaccine against measles.

Those who are impatient that more has not been accomplished in this war against an unseen and deadly enemy will find the reasons in Dr. Smith's book.

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## FISHERIES

**Worm Forces Oysters To Take It In As Tenant**

**P**EARL-COATED lumps of mud inside oyster shells are cutting down the value of oysters along the South Atlantic coast. These "mud blisters" are caused by a small marine worm, known as *Polydora ciliata*, that sneaks into the oyster's house and becomes an uninvited but permanent tenant, reports G. Rovert Lunz, Jr., of the Charleston Museum. (*Science*, Oct. 4)

When the worm moves in and makes a muddy spot, the oyster responds by covering up the intrusion with nacre, or mother-of-pearl — its usual reaction to invasions or irritations of any kind. The worm lives on in the mud blister, maintaining connection with the outside world through two tunnels opening along the edge of the shell. It does not become a parasite on the oyster, except to the extent of stealing houseroom.

Mud blisters in their shells do not make the oysters inedible, Mr. Lunz states, but they do render them unsightly and thereby unsaleable. Since many beds in southern waters sometimes have as high as 30% of their shells thus disfigured, the worm must obviously be counted a major pest; the more so since it seems to be on the increase.

Mr. Lunz is at present trying to find out why this increase is occurring, and becoming a threat to the oyster industry in the South.

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**IN SCIEN**

## ZOOLOGY

**Animal As Well As Human Life In Hungary May Suffer**

**W**ILDLIFE as well as human life is expected to suffer, as Nazis invade Hungary. Game populations were seriously reduced by the unprecedentedly severe winter last year, so that heavy hunting for meat, plus poaching which will undoubtedly result from peasant distress, will probably imperil the very existence of some species.

Most seriously endangered are Hungary's famous herds of wild boar, which were already in precarious state from the icy decimation of last winter. About half of all the Hungarian pheasants, as well as hundreds of thousands of partridge and hare, also perished during the terrible months of cold and snow. If another severe winter comes, the combination of human hunger and inhuman weather may well prove too much for Hungary's hard-pushed game.

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## PHYSICS

**Protein Molecules Seen With Electron Microscope**

**T**WO kinds of organic molecules have been rendered visible by the electron microscope in Germany, according to information reaching Dr. Stuart Mudd, of the University of Pennsylvania's Medical School department of bacteriology. Dr. Mudd is chairman of the National Research Council's committee on the electron microscope. (See *SNL*, Oct. 12)

The organic substances the molecules of which have been made visible are hemocyanin and edestin. Both are proteins. Hemocyanin or hematocyanin is a blue respiratory pigment in the blood of mollusks and arthropods. Edestin is a pure crystalline protein obtained from oil of castor beans, hemp seed and other seeds.

A beginning has also been made in Germany toward the elaboration of special techniques of "staining" and of adsorption of metallic sols on protein molecules.

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# CE FIELDS

## PUBLIC HEALTH

### Don't Rush Hardening Up Is Advice of Physicians

**E**PIDEMICS such as those that swept American army camps in 1917-18 can be largely obviated if we "make haste slowly" this time, mobilizing trainees gradually and in small groups and not trying to rush the process of physical hardening. This recommendation is offered editorially by the *Journal of the American Medical Association*, (Oct. 12)

Dr. Hans Zinsser, eminent Harvard bacteriologist who died only a few weeks ago, is cited by the *Journal* as authority for the opinion that the epidemics in the World War camps were due largely to the crowding together of large numbers of young men, some of whom were carriers of respiratory diseases, and to the efforts of the officers to harden their recruits up into real soldiers by too strenuous exercise and too prolonged drill.

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## FORESTRY

### Russian Method of Pruning To Produce 20-Foot Boards

**P**RUNING young pines and other evergreen trees by a new "upside-down" method originated in Russia is expected to produce logs 20 or more feet in length yielding boards without knots. The new pruning method was originated by P. G. Krotkevich of the Kiev Forest Institute, and will be explained for the benefit of English-reading foresters by Benson H. Paul of the U. S. Forest Products Laboratory and S. A. Wilde of the University of Wisconsin, in the *Journal of Forestry*. (October.)

In the conventional pruning method, young trees are permitted to reach a certain height with relatively little attention. Then bottom branches are cut off, leaving a bunched little top to develop to full size as the tree grows. This, however, leaves the bases of the young branches embedded in the heart of the tree, to become knots when the trunk is finally sawed into boards.

In the Krotkevich method, the young

tree is permitted to develop a bushy growth near the ground, until it is about eight years old. After this, its central growth axis, or leader, is prevented from producing any more branches above this ground-hugging bush, simply by pinching off all side buds. The leader thus grows into a long, slender, pole-like sprout, deriving its nourishment from the bushy branches near the ground. Only after it has reached a height that will yield a log 18 or 20 feet long is it permitted to branch out and form a normal top. Growing in this way, it has no branch-bases embedded at the center, and hence will produce wholly knotless lumber.

The American commentators on the method feel that it is worth a trial in this country.

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## ASTRONOMY

### Harvard Eclipse Expedition Only Successful Americans

**S**ATISFACTORY observations of the total eclipse of the sun on Oct. 1 were made by the expedition to Queens-town, South Africa, from the Cruft Laboratory of Harvard University. This is reported in a cablegram received at Cambridge.

Though the party was mainly interested in radio studies, which did not depend on clear weather, it was planned to take photographs also, and, presumably, these were made. Two other American expeditions, to South America, were subjected to cloudy weather during the few minutes that the sun was covered, preventing such photographs.

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## MILITARY SCIENCE

### Door Bell Gives Swedish Their Air Raid Warning

**I**F SWEDEN should become a belligerent, its citizens may receive warning of air raids by a bell ringing in their homes. Such bells, announcing most unwelcome callers, are used in a new system which has been approved by the authorities, and is now being widely installed.

The bells are connected by electrical couplings to the regular lighting mains, but ordinarily do not operate. When, at the central station, the voltage is raised slightly, not enough to damage any equipment, all the bells are made to ring for one minute.

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## PHYSIOLOGY

### Quick Test For Pregnancy Declared 95% Accurate

**T**RIAL of a new 24-hour pregnancy test on 500 Washington women who were expecting blessed events showed that the test is 95% accurate as well as being as quick a test as any now known, Dr. Richard E. Kelso, of George Washington University Medical School, announced to the Medical Society of the District of Columbia.

The test, originated by Dr. Kelso while he was a medical student, is made upon immature rats. These animals are given three injections, about one-quarter of a teaspoon at a time, of the kidney excretion of the woman who thinks she may be going to have a baby. The three injections are made at four-hour intervals. Twelve hours later the doctor can tell by examination of the rat's ovaries whether or not the woman may expect a blessed event nine months later.

The test is similar to the Ascheim-Zondek test for pregnancy which is made on either rabbits or mice, but the new Kelso test gives the verdict more quickly.

Toads, Japanese bitterlings, and the woman herself have been used in other pregnancy tests.

The female bitterling sends out what has been called a flag of motherhood under the influence of a hormone which is present in increased amounts in the blood and kidney excretions of pregnant women. It is this same hormone which causes the changes in the rat's ovaries that form the basis of Dr. Kelso's test, and also of the tests on mice, rabbits or toads.

The toad test, reported from the University of Cape Town, South Africa, is said to take only 18 hours for a verdict.

The hormone itself is injected under the skin of the forearm of the expectant mother in a test devised by Dr. G. C. Gilfillen and Dr. W. K. Gregg of Dayton, Ohio. A red, inflamed spot on the arm gives a verdict of no baby, according to this test.

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## INVENTION

### New Pen Flashlight Lights Around Corners

**A** BEAM-BENDING pen light that sends illumination around corners is now supplied by a radio company as a standard part of the equipment for service men. (*Philco*)

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