

Do You Know?

Penicillin is now used in veterinary medicine.

The melting point of an *organic compound* is used to identify it and determine its degree of purity.

True *pheasants*, now abundant in the United States, are not indigenous to this country but are natives of Asia, especially of India and Indo-China.

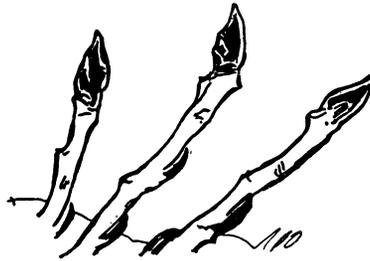
Menhaden is an important fish in the paint industry because its oil is used in the manufacture of insulating varnishes and ship bottom paints.

Starch sponge, used in foods and absorbable surgical dressings, is made by mixing commercial starch in water, heating the mixture to form a paste and then slowly freezing the paste; when thawed it retains its sponge shape.

Synthetic rubber is said to be superior to natural rubber in the printing industry for inking rollers, printing plates, press blankets, and other rubber printing materials because it resists the chemicals in ink.

About half the qualified *psychologists* in the United States are employed normally in colleges and universities; the others are in clinics, penal and mental institutions, hospitals, government, state and other services.

Quick-frozen, precooked, ready-to-serve *complete meals*, in individual cardboard plates that resist water, heat and grease, will soon be available in retail stores; 20 minutes in a hot oven and they are ready for the table.



Dry, But Not Warm

➤ **JUST ABOUT NOW**, or in a couple of weeks more at most, trees and shrubs will be unwrapping their buds and getting ready for another season of green growth. The varnished scales that have enclosed them for months have served their turn and are now discarded; they litter the ground at the base of the trees.

Almost inevitably, some one will liken them to garments that have kept the young leaves and flowers dry and warm all winter long and can now be shed. Warm-blooded egocentrists that we are, we think of plants in human terms.

We would be nearer the facts if we stopped at the halfway point in our nursery metaphor. For bud-coverings keep the buds dry—but not warm. The tight-packed beginnings of leaves and flowers within the closely shingled roofs of scales become zero-cold when the outside air drops to zero. Thanks to the condensed state of the little sap that is in them, resembling syrup or mucilage more than it does water, they do not actually freeze. If the cold should become so intense as to cause the formation of ice crystals in the buds, their delicate tissues would be torn and burst, and they would probably die. But this extreme state of affairs seldom comes to pass.

The real job of the bud scales is to keep outside water out, and inside water in. Wet snow may fall until every twig is "ridged inch-deep with pearl," freezing rain may sheathe all the trees and bushes with ice, but within the tight little houses of the buds the coming spring's leaves and flowers reckon nothing of it. The scales are waterproof so that moisture cannot penetrate; they are tena-

cious against outside pullings and buffetings. Only the pressure of swelling new life within will serve to push them open and finally break them off.

Probably even more important than their function in keeping the buds dry is their opposite task of keeping them from drying out. Although the sap in over-wintering buds is considerably thicker and less watery than the sap in summer leaves, there is a limit to its tolerable concentration. Evaporation can kill buds. And evaporation can go on even in the coldest of winter weather: some of the driest deserts in the world are cold deserts, like the Gobi, and our own Great Basin area. Winter drought can be even crueller than drought in summer, for roots and stems are unable to replace evaporation losses with fresh moisture from the soil. Highly essential, therefore, is the role of the bud coverings in conserving the necessary minimum of water in the unborn leaves and flowers.

Science News Letter, March 9, 1946

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It was even suggested that an abortion might be justified in case of German measles, or rubella as it is technically named, in an expectant mother.

These conclusions are not justified, Dr. Max J. Fox and Dr. Mortimer M. Bortin, of Milwaukee, Wis., state. They base this on investigations of cases of German measles recorded at the Milwaukee health department. Among 22,226 cases reported in 1942, 1943 and 1944, eleven were expectant mothers. One of these subsequently had a stillborn child and one had twins, both normal. The others presumably gave birth to normal babies. One gave birth to a child with congenital cataracts following a normal pregnancy, but when she had German measles while pregnant the baby was normal.

A well-organized survey from other health department records should be conducted, the Milwaukee physicians advise.

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The *drum of the ear* is only about 0.004 inch thick, yet it vibrates millions of times every day with sound waves hitting on it.

Aluminum is being recovered chemically from obsolete airplanes; caustic soda dissolves out the aluminum in the scrap, leaving bolts, nuts and other foreign materials untouched and reducing the alloying metals to a sludge that may be separated out.

by
W. H. GEORGE

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