Do You Know?

California claims 270 species and subspecies of native *rodents.*

Lard is now used to coat frozen meat to prevent its drying in storage.

There are over 70 non-food industrial uses for *sugar;* sugar is used even in welding.

Nylon outlasts natural pig bristle three to one, resists solvents, is not attacked by rats, mice or moths.

Tobacco was once used by native Indians in Middle America as a medicine and also as incense in their religious ceremonies.

The federal government maintains 99 *fish hatcheries,* producing each year between six and seven billion fish to stock American waters.

A *camera* that takes pictures in one-millionth of a second is used in studying what happens in the instantaneous flash when a high explosive detonates.

Fluorochemistry, a new term, embraces the theory and use of fluorescence, phosphorescence and radiation; it concerns itself with the emission of light, both visible and invisible.

The *electronic heating* process can be used to dehydrate compressed foods without case-hardening or burning the product; the time required is but one-tenth of ordinary oven dehydration.

The *horse family* is supposed to have evolved in North America and migrated via Alaska to Asia 3,000,000 years ago; there the true horse developed, back-tracked to America 1,000,000 years ago and became extinct in past ages.

When war suspended amateur *radio* activities in 1941 and put "ham" stations off the air, there were some 60,000 amateur operators of both sexes and all ages in the United States; 25,000 of them are now in war service.

Periodical *mackerel* scarcity off the northeast American coast is due to unusual winds that create currents which take the baby mackerel out to sea, or to unexplained shortages of the microscopic surface animals and plants eaten by them.

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rubber as often as every other day. The rubber is of an excellent grade, but 4,000 to 5,000 stems would probably have to be cut to get a pound of the latex.

Goldenrod, which brightens hills and fields almost everywhere in the fall, showed the most promise of rubber content in tests conducted by the late Thomas A. Edison of species native to the United States. Here it is the leaf of the plant which contains the rubber. Up to the present time, however, it has not been practical to produce rubber of a quality acceptable to the American market. The tensile strength and resistance to abrasion are far below that of Hevea rubber.

The Allies urgently need rubber for war and civilian uses. Large factories located at strategic points within the United States are turning out vast quantities of synthetic rubber to help meet that need. But natural rubber alone can perform specific duties and enables synthetic rubbers to satisfactorily perform a number of additional tasks.

The amount we can obtain from plants grown within the states is infinitesimal in contrast with the supply of natural rubber we received before the war, but in an emergency every little bit helps.

If you would like to have seeds of the guayule and kok-saghyz plants and be able to grow some of your own, you can secure the Rubber Plants Unit of THINGS of Science, a kit prepared by Science Service, by sending 50 cents to SCIENCE NEWS LETTER, 1719 N. St., N.W., Washington 6, D. C., and asking for unit No. 42.

Science News Letter, May 20, 1944

MINERALOGY

Huge U.S. Diamond

➤ THE FINDING of the largest diamond ever unearthed in the eastern United States was announced at the annual meeting of the Virginia Academy of Science in Richmond, Va., by Dr. Roy J. Holden, head of the geology department of the Virginia Polytechnic Institute. It was found at Peterstown, West Virginia, by William P. Jones of that town, and has been named the Punch Jones diamond. Dr. Holden presented a technical description of the stone based on his laboratory studies.

This diamond, a third larger than the largest ever found in eastern United States and the second largest ever found anywhere in America, weighs 34.46 carats, or 6.892 grams, he reported. It is hard enough so that a corner of the crystal readily scratches sapphire and a crystal face of carborundum. Its high refractive power is indicated by the brilliance and distribution of light transmitted by it.

In form the crystal is a hexoctahedron with all 48 faces present. The faces are not bright and shining but have a rather dull luster somewhat like ground glass.

No other diamonds have ever been found in the immediate vicinity of Peterstown. This small West Virginia Appalachian mountain town is close to the Virginia line, about 25 miles from Blacksburg, the site of the Polytechnic Institute, where this crystal was studied.

The theory advanced by Dr. Holden is that this diamond was brought to the discovery site many years ago by river wash from metamorphic rock formations well above the place where it was discovered.

The precious stone was actually found more than 12 years ago. Its value, however, was not recognized. It was carefully preserved merely because of its unusual appearance.

The finding was accidental. Young Jones, one of a family of 16 children, all boys, was pitching horseshoes with his father in a vacant lot owned by the family. The diamond was unearthed in one of the cavities gouged out by the horseshoes. It was sent to the college for examination about a year ago. Its existence has been a secret until now.

The widespread distribution of diamonds in the Appalachian region has not been fully explained, Dr. Holden stated. They have been found in an area 600 miles long and 200 miles wide, extending into eight states. They have been found in 26 localities, most of them in North Carolina and Georgia.

Diamonds are found also in California, the North Central states and in Arkansas. The California stones have been found in gold washings. The Arkansas findings are associated with peridotite dikes, and have their origin in that rock. The first Arkansas diamonds were found in 1906.

Since 1906, according to a scientist of the U. S. Bureau of Mines, approximately 50,000 diamonds have been found in Arkansas. Their average weight is a little less than a carat. Among them,

however, is the largest diamond ever discovered in the United States, one which weighed 40.22 carats.

Some American diamonds are of gem quality. Most of them, however, are industrial stones.

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MINERALOGY

Fluorescence Shows Percentage of Molybdenum

➤ GOVERNMENT-dedicated patent is No. 2,346,661, obtained by Ralph S. Cannon, Jr., of Falls Church, Va., and an American-born citizen of Japanese ancestry, Kiguma J. Murata of Washington, D. C., both in the employ of the U. S. Geological Survey. They have discovered that the percentage of the war-vital alloy metal, molybdenum, in certain types of ore can be accurately estimated by means of the fluorescent glow given off when the ore is irradiated with invisible ultraviolet light. They have worked out a table of colors that correspond to the percentages of molybdenum present.

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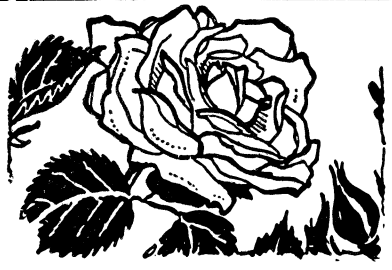
BOTANY

NATURE RAMBLINGS by Frank Thone



Flowers for the Bride

➤ THE BRIDE wears a wreath and carries flowers, not only where our Occidental customs and culture prevail, but in lands and among peoples as alien in their ways as the Orient and the South Sea Islands. Where life is such a perennial struggle for bare subsistence, scarcely above the threshold of actual want, that the people never have a chance to develop much sentiment or esthetic appreciation, the bride may get no flowers. Just about everywhere else on earth she receives her floral dues.

Reasons for this custom (if one needs bother to find reasons) usually grope more or less vaguely after an assumed primitive "fertility cult"—that because flowers precede fruit, crowning the bride with them was expected to aid, in some mystic or magic way, to crown the marriage with the blessing of children.

Traditional use of a wreath of orange blossoms, even in lands where orange trees do not grow and wax ones have to be substituted, would seem to lend some support to this idea. Just how this custom got started might make an interesting subject for a bit of ethnological and historical research, for the whole citrus tribe is alien to our West, and oranges and their kin came to the Mediterranean world after a very long trek from the old citrus homeland in southeastern Asia, presumably via India and Persia. Perhaps the very fact that these were exotic fruits may have lent them added glamor—although so far as that goes the orange flower could win its way on its own merits of beauty and perfume, not to mention the golden glory of the fruit that follow.

But when we look at the bride's bouquet, these ethnological speculations become less plausible. For of all the late spring and early summer flowers at her choice, she is likeliest to carry either roses or lilies. These are flowers native to the Mediterranean lands whence much of our basic culture stems. Undoubtedly brides carried them, wore garlands of them, long before the first orange flowers found their way west. And neither roses nor lilies result in edible fruit. There seems to be no reason for having them at the wedding, except that they are beautiful and fragrant. Which, after all, is reason enough.

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CHEMISTRY

Possible Drug From Peel Of Citrus Fruits Patented

➤ HESPERIDIN, a compound occurring in the white lining of citrus fruit peel, has shown some promise of usefulness as a material for the production of drugs for reducing blood pressure, and also for offsetting the toxic effects of one of the standard agents for the treatment of syphilis. Although these uses are still in the experimental stage, it has seemed worthwhile to Ralph H. Higby of Ontario, Calif., to take out patent 2,348,215 on a process for its manufacture by chemical extraction from crushed citrus fruits.

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METALLURGY

High-Silicon Cast Iron Thermal Expansion Tested

➤ THE LINEAR thermal expansion of two high-silicon cast irons has recently been measured by the National Bureau of Standards. One contained approximately 14% silicon and 3% molybdenum; the other was without appreciable molybdenum. The difference in expansion rates between the two was found to be slight.

These high-silicon metals are unusually resistant to many corrosive chemicals such as hot sulfuric acid, copper sulfate solutions and tin tetrachloride. Accurate information of the thermal expansion of a metal or alloy is essential for its efficient use.

Both those tested were found to have somewhat higher expansion coefficients than electrolytic iron for temperature ranges from 68 to 572 degrees Fahrenheit, and appreciably higher coefficients for higher temperatures.

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