

Oldest Maya Ruin

The recent discovery of a Maya ruin dating back to the fourth century A. D. is the outstanding contribution to Maya archaeology made in the past five years. This is the conclusion of Dr. Sylvanus G. Morley, archaeologist of the Carnegie Institution of Washington.

Dr. Morley, who was in charge of the expeditions, stated that the new Maya ruin was once the ceremonial center of the great ruined city of Cobá, in Yucatan. This religious area consisted of a huge terrace spread over four acres, in which were three buildings and a number of mounds. The place is called Macanxoc, meaning in Maya, "It cannot be read."

"The remarkable feature of Macanxoc," Dr. Morley declared, "consists in the fact that there are eight large hieroglyphic monuments there recording dates from 354 to 413 A. D. These indicate that the Peninsula of Yucatan was discovered fully a century, or a century and a half, earlier than any previous accounts have indicated."

Further explorations in the region of Coba may be expected to reveal other important cities of ancient America and shed a flood of light upon the early history of Yucatan, the speaker predicted.

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PHYSICS

Measure Magnetism of Atom

The United States is forging ahead in the field of atomic physics where the brilliant theories of the Germans and Scandinavians have long held more or less undisputed sway. Experiments recently completed at Urbana, Ill., by Drs. J. B. Taylor and T. E. Phipps in the department of physical chemistry at the University of Illinois have produced results which throw a new angle on the quantum theory advanced by Dr. Neils Bohr, of Copenhagen, Nobel prize winner in physics, and that proposed by Drs. Max Born and W. Heisenberg of Goettengen.

Exponents of the German school have developed a theory that is based on a non-magnetic atom but the American scientists have found that the hydrogen atom is magnetic and have made a direct experimental determination of the degree of magnetism it possesses. They found that it was equal within the limits of experimental error, to one Bohr magneton, or unit of magnetic moment based on the Bohr quantum theory.

The atoms of the alkali elements such as sodium and potassium are known to behave as tiny magnets and since hydrogen is the simplest of all the chemical elements, knowledge of the degree of magnetism possessed by its atom is of great importance. All of the accepted theories of the continental school account for the spectrum of hydrogen accurately, in consequence of which a test of the nature of the hydrogen atom is of great scientific interest.

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MEDICINE—CHEMISTRY

The Menace of CO

Gas attacks, colorless, odorless, deadly, occurring in these days of peace and industry are worrying those who care for the health of the nation.

CO, the chemical symbol for deadly carbon monoxide gas, is partaking a new significance, allied to the conventional skull and crossbones.

Carbon monoxide, the product of incomplete combustion, occurs in most dangerous concentration in garages and service stations, around blast furnaces, near gas fired appliances and wherever gas is burned or internal combustion engines are run. Dr. May R. Mayers of the Bureau of Industrial Hygiene of the New York State Department of Labor reported to the American Public Health Association that over three-fourths of the public garages inspected in New York City showed the presence of some carbon monoxide in their air, while over half of them had concentrations of over one tenth of one percent, the danger limit. Nearly three-fourths of the workers gave definite evidence of CO in the blood while some showed symptoms of being poisoned. Steam laundry workers at gas heated ironing machines were found to be affected and there is hardly any industrial activity in which carbon monoxide is not encountered in some concentration.

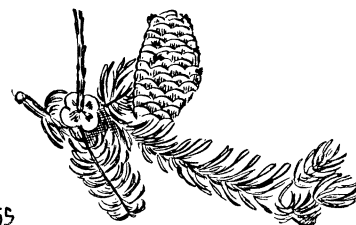
Lead poisoning, long an outstanding industrial menace, is now said to be second to the carbon monoxide danger. This gas is peculiarly insidious in its action since it may prove suddenly fatal even in minute concentrations without necessarily giving warning of its presence to those exposed. Dizziness, headaches, drowsiness, smarting of the eyes characterize its early symptoms but blindness, paralysis, and even insanity may follow exposure to the gas. A program of investigation to be followed by attempts at education and control, is planned for New York and elsewhere.

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NATURE RAMBLINGS

By FRANK THONE



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Big and Little Evergreens

Now that the broad-leaved trees are stripped of their foliage, and stand under close-reefed bare poles against the storms of the winter, the evergreens again claim our attention. Among our native conifers probably none can compete with the fir, or balsam, for stateliness of form, for green thickness of foliage or for handsome symmetry of its cones.

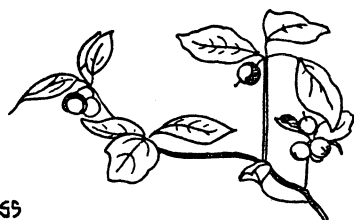
Firs are to be distinguished from their nearest relatives, the spruces, partly by the character of their needles and partly by their cones. Spruce needles are square and stiff, and each one stands on a kind of little nib or stalk that projects from the twig. You get a decided pricking and scratching if you rub your hand through a spray of spruce. But the needles of the fir are flatter and softer and more flexible, so that the general effect is less "porcupine." Moreover, they sit right on the twig, and have no basal stipes.

The cones of the fir are absolutely characteristic. They stand up erect, like thick brown candles, instead of hanging point-down. They are large, and their scales lie close, giving a smooth, even outline. Frequently the cones are beaded all over with the sticky resinous, odorous gum that gives the tree one of its names. And when at last they ripen they do not drop off entirely, but each scale comes loose (or is more frequently torn loose by the squirrels), leaving the central stalk or axis standing up empty and alone on the stem.

Winter does not necessarily mean an end of botanizing. Down on the forest floor, partly sheltered from the freezing and drying winds, there grows a whole flora of little hardy shrubs that keep their green leaves the winter through, and frequently render themselves even more attractive with bright berries.

Well to the fore among these brave plants is the wintergreen. It

(Just turn the page)



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belongs, as do many of the other members of this snow-time garden, to the same family as the much-praised European heather and the homelier American huckleberry. At first sight it would appear to be a tiny woody shrub a few inches high, but if you will brush aside the light snow and the dead leaves under it you will find that many of these little shrubs are attached to a long, rambling underground stem. The wintergreen is really a vine, therefore, though it sprawls on the ground instead of climbing a tree.

The pungent, aromatic oil in the leaves of the wintergreen has long been a favorite flavoring substance for candies, chewing-gum and other sweetmeats, as well as for disguising the taste of disagreeable medicine. Most of the wintergreen flavor on the market at present, however, is a synthetic product of the chemical factories. It is a compound of wood alcohol and salicylic acid, known technically as methyl salicylate.

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Some spiders catch tadpoles.

Ice is regarded as a luxury in Cuba.

The mackerel has great muscular development.

Tobacco smoke is effective in destroying hibernating mosquitoes.

The fan bearer of an Egyptian pharaoh ranked as a high official.

Nickel, cobalt, and tungsten are used in making heat resisting alloys.

The lion's mane and ruff serve to protect its neck when it is attacked by enemies.

An oil suitable for lubricating airplane motors can be obtained from grape seed.

Many oils used in perfumery and flavors have antiseptic qualities from 10 to 20 times as strong as carbolic acid.

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