



### Bloodroot

➤ A GOOD theme for a botanist-poet might be supplied by the bloodroot, that now stars our woods. Such a one might well hail the little white flower as a "modest poppy" that

"Crowds back its carmine blushes to its root

And turns toward all ardors of the sun  
A front demure and white as any nun."

For the bloodroot is really a close cousin of the poppy, and the red that its relative flaunts on its face, this little white spring blossom expresses only in its blood-red sap. It would not be exactly correct, however, to say that the red sap is found in its root, for the thick underground part of the plant is really a rhizome or subterranean stem, from which the true roots, as well as the overground stems, take their rise.

Few wild flowers are more lovely than the bloodroot, *Sanguinaria canadensis*. It grows in rich, shady woods, on rocky hill-sides, in thickets and on waste lands over most of the United States east of the Rocky Mountains. Only fleeting enjoyment, however, comes from its golden-centered, poppy-like blossoms, since the snow-white petals show themselves for just two or three April or May days before departing.

The sap of the subterranean stem is somewhat thick and milky under its red color, which is another point of kinship with the milky-juiced poppy tribe. And as the juice of the poppy contains a poisonous principle used in medicine, so also does the juice of the bloodroot. Under the Latin name, *Sanguinaria*, the dried rhizome used to find a more or less prominent place on druggists' shelves, though it is little used now.

The bloodroot is one of the small number of native American wildflowers that needs little warning against reckless bouquet-gathering, due again to that same thick, red, rather irritating juice. Children picking flowers in the woods sometimes take a handful of its attractive, though short-lived white flowers; but the appearance of their hands and dresses usually causes their alarmed mothers to place further bloodroot gathering under stern injunction.

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### PHYSICS

## New Sun Energy Theory

➤ THE SUN'S raging energy comes mostly from a sort of hydrogen bomb reaction, a crashing of ordinary hydrogen atomic hearts into one another.

Outweighing the famous "carbon cycle" of intricate atomic transmigrations considered heretofore the main process in stoking the sun, the simple reaction of proton upon proton is considered by two physicists reporting to the American Physical Society meeting in Washington, D. C., as the main way stars, including our sun, get their energy.

Dr. Edward Frieman of Brooklyn Polytechnic Institute and Dr. Lloyd Motz of Columbia University applied to this stellar energy problem new complex mathematical calculations as yet unpublished by other investigators.

The protons or ordinary mass one hydrogen nuclei interact with each other to produce a double-weight hydrogen atom and release energy in considerable amount. This takes place at the great heats that are achieved within our sun.

Unless such atomic alchemy does occur, the sun would run down and gradually cease to shine, leaving the earth cold and lifeless.

The famous "carbon cycle" was worked out in pre-A-bomb days by Drs. Hans Bethe, now of Cornell University. It explains the heat of the sun by a cycle of nuclear changes involving carbon, hydrogen, nitrogen and oxygen and leading to the disappearance of hydrogen and the forming of helium. A little matter is turned into energy, as in the atomic bomb.

This still happens but the new work by Drs. Frieman and Motz shows that the conversion of two atoms of hydrogen into deuterium, or double or heavy hydrogen, is likely to give more energy for the sun's use than the "carbon cycle." The energy is

### MEDICINE

## Hormone Controlling Fat Discovered in Pituitary

➤ A NEW hormone which triggers the body's mechanism for mobilizing fat has been discovered. It is produced by the pituitary gland in the head which also produces a growth hormone and ACTH, now famous as an arthritis remedy.

The new hormone is not ACTH, and apparently acts directly instead of through the adrenal glands, which is what ACTH does. But there is a tie-up with the adrenal gland cortex, because the trigger does not work unless there is sufficient cortisone circulating in the blood.

Discovery of this new hormone, which has not yet been identified, was announced by Dr. Louis Levin of Columbia University at the New York Academy of Sciences.

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created from matter in both cases according to the famous Einstein relationship.

While the probable material of the hydrogen bomb now being developed by the Atomic Energy Commission is still highly secret, it is likely that triple-weight hydrogen or tritium would need to be used instead of ordinary hydrogen because here on earth we do not have the very high temperatures of the sun.

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### ZOOLOGY

## Moose, Bull or Cow, Is Reluctant to Charge Human

➤ "A MOOSE of either sex will not molest or attack a human without giving ample warning and sufficient time for retreat."

So says Dennis E. Hess, Park Ranger at Yellowstone National Park, and he expects that his opinion will "no doubt draw fire." Most everyone has heard or read hair-raising tales of encounters with bull moose in the fall, tales of people being pursued, treed and even boldly attacked.

From his own personal observations Ranger Hess concludes that anyone being attacked by a moose must really have asked for it. He tested the reaction of all ages of moose at the salt lick of Thorofare Station in Yellowstone Park.

Reporting in YELLOWSTONE NATURE NOTES (March-April), Ranger Hess notes that none of the moose he encountered ever pressed forward after he retreated, and that ample time to retreat was given for anyone who was not looking for trouble. He also found that the more he lost his identity as a human, the more prestige he would gain. Holding up a sheet, carrying a tub or a saddle, wearing a poncho and chaps, he states, would usually result in their retreat.

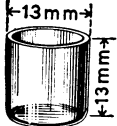
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