

the female chestnut flower, for example, divides in its upper portion into six waxen tapers that spread out like fingers. Three of these tiny "hands," in an attitude of supplication, are shown in Prof. Rogers's book—a not inappropriate suggestion, considering how a fungus plague has all but wiped the chestnut out.

#### Beauty in Clusters

Sometimes the best effect of the little flowers is obtained, after all, when they are in their natural clusters. A striking example of that is the picture of the flower of the button-bush. Each flower of this water-loving shrub is a tiny trumpet with a long column (part of the pistil) sticking out. United at a single point by their lower ends, they form a compact shining ball with rays protruding on all sides, like a jeweler's conventional model of the sun. The compact round head these flowers form has been recognized in the botanical name of the bush: *Cephalanthus*, which is Greek for "head-flower."

Sometimes again, a flower that is beautiful in the bunch is also beautiful when taken out and enlarged separately. Prof. Rogers has demonstrated this well with his top-view enlargement of a single flower of the mountain laurel. This picture brings in a third element, mathematics, to join already companioned art and botany, for it is a vivid demonstration of what might be termed the "decimal perfection" of this blossom.

#### Finds the Value

And so Prof. Rogers goes, from picture to picture, from flower to flower. In his work, one must find the value and bring it out, as the skilled Chinese jade-carver or the Italian maker of cameos can project imagination into patterned stone, to bring out patterns that are not obvious to the hasty passing eye. But he does it. With deft fingers, keen dissecting scalpel, and proper lenses for his camera he does it, and the result is beauty.

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A device has been invented to prevent ice from forming in the carburetor of an airplane engine.

A sociologist reports that women are less affected in morale by going on relief than men are.

#### AGRICULTURE-CHEMISTRY

## Vast Power from Atoms Hopeless for Industrial Uses

WITH GRADUAL depletion of oil reserve, man will have to depend more and more upon solar energy stored in coal and organic products of the soil plus water power, Dr. Robert A. Millikan, of California Institute of Technology, told 250 western states scientists, research workers and agricultural and industrial leaders at the Farm Chemurgic Council's Western Conference at Fresno, Calif.

Dr. Millikan predicted increased efficiency in the utilization of energy derived from coal and from farm products as experience and scientific research point the way. Deriving vast power from breaking up the atom was placed by Dr. Millikan in the laboratory category and not in the field of industrial practice.

The symposium of scientific progress in Pacific Coast industries using mainly products of farms and orchards revealed that science, in practically all instances, has led the way to economies in manufacture and profits. Wastes are being converted into staple products widely distributed throughout the nation, and this, in many instances, represents the difference between loss and profit.

Concentration in volume of surplus farm products is essential to successful operation of an alcohol industry, Louis S. Wetmore of Libby, McNeill and Libby, San Francisco, said. Sugar beets, potatoes and other starch commodities must be delivered in quantities to assure at least 65 per cent operation of plant capacity throughout the year. The remaining 35 per cent might well come from surplus or cull fruits in the West.

Doubts as to the practicability of obtaining alcohol from cull fruits and vegetables were expressed by Charles S. Ash, chief chemist of California Packing Corporation, San Francisco, who said that water content up to 85 per cent is a serious obstacle in processing.

Emory E. Smith, pioneer San Francisco consulting engineer, reviewed the beginnings of many of Pacific Coast's leading industries which have been developed into profitable enterprises through scientific research. Among these he cited oil refining, conversion of wastes from citrus, peaches, raisins and lumber into widely distributed

products, gassing of green oranges to give them a golden glow, removal of a gum from ramie grass which previously had prevented its use in textile manufacture, feasibility of growing cork oaks in this region, and production of perfumes and pyrethrum.

Charles S. Knight, industrial director of California State Chamber of Commerce, San Francisco, commended the Farm Chemurgic Council movement for bringing together industry and agriculture which, he said, should be studied in a survey wherein industries would indicate how they could be aided by specific research.

#### Tung Plantings

Fifteen thousand acres in Texas and Louisiana are being planted to tung trees this year under carefully controlled advance studies, as a result of the Farm Chemurgic movement, Victor H. Schoffelmayer, Agricultural Editor of the *Dallas News*, reported to the conference. Other thousands of acres will be devoted to new plantings of soybeans in the Texas areas, Mr. Schoffelmayer said.

The tung plantings are being restricted to areas where necessarily acid soil conditions prevail, where temperature and water table situations correspond to those required for successful growth of the trees. A tung oil conference was held at Beaumont last October.

Mr. Schoffelmayer also reported that Texas cotton oil interests, in a recent meeting in Clarksville, gave assurance that they would pay farmers several dollars a ton premium for soybeans as over cottonseed.

"Texas cotton oil mill operators, in order to keep their mills running," Mr. Schoffelmayer said, "have had to import from India, Russia, Manchuria, Argentina and other countries thousands of tons of soybean and other competing oilseeds. Texas can and will supply these raw materials. The cotton oil industry is anxious to utilize the merits of the soybean as a new source of raw material."

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Nine flies out of ten found in or near dwellings are common house-flies.