

The committee also recommends a unification of the entire levee system of the lower river, with established standards of construction and height, and a better coordinated system of administration. In the past, each community has tended to regard its own flood protection as its private problem; so much so, that we have frequently had to witness the scandalous spectacle of American citizens dynamiting the levees that protected the property of other American citizens, to relieve the river's pressure on their own front.

Such a too-rugged individualism, more suggestive of the doings of Ur and Kish and Lagash on the Tigris and Euphrates thousands of years ago than of what we would like to believe of our America of today, will become forgotten legend if the persuasions of the Mississippi Valley Committee are listened to:

"Life in the Mississippi Valley of the future need not be poverty-stricken or precarious. The forces making for health and well-being, once they are controlled, are greater than those which make for disaster. The quality of life in the Valley can be enormously improved. It need not go the way of the valley of the Nile, the valleys of the Tigris and Euphrates, where sands have drifted into old irrigation ditches and the sites of opulent gardens, or the stripped valleys of China. We have knowledge that the older civilizations lacked. If we synthesize that knowledge to make our plans, if we put a common purpose above local jealousies and conflicts of interest, the future is in our own hands."

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BOTANY

Cannas, Flowers in U. S., Starch Source in Hawaii

CANNAS may be just flowers in the continental United States, but in Hawaii they are a possible source of commercial starch, according to President David Livingston Crawford of the University of Hawaii.

Their thick, tuberous roots, rich in starch, grow abundantly and to extraordinary size in average sugarcane land. Sugar mill machinery needs to be modified but little to extract their starch. Canna starch has been found advantageous for use in putting a smooth finish on paper.

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The earlier a cross-eyed child receives glasses, surgical treatment, or eye-training, under competent medical guidance, the greater the hope of correcting the defect.



Lignin

WHAT is one man's meat may, under another guise, be the same man's poison.

Chemistry, and the great family of industries it has mothered, are notoriously indebted to coal: dyes, perfumes, solvents, explosives, a whole worldful of things come from coal.

Coal exists because woody plants, millions of years ago, contained the same stuff that makes their remote descendants woody today: lignin. Lignin, a chemical second cousin to starch and cellulose, is a hard, tough, refractory stuff, exceedingly difficult to digest; even bacteria, molds and other organisms of decay cannot do much with it, and leave the lignin remains of a log in the soil long after they have used up the softer cellulose. That is why the remains of Coal-Age plants persisted long enough to become buried in their own accumulated masses, and eventually to turn into coal.

But that same refractory indigestibility of lignin is the despair of the chemist today. It forces wood-using chemical factories to throw away just half of every stick they grind up for cellulose, and it produces a bulky, troublesome waste that is in everybody's way.

At the meeting of the American Chem-

ical Society in San Francisco, Prof. Walter M. Fuchs of the New Jersey Agricultural Experiment Station told what chemistry can do with lignin today—which isn't much—and how soon the science runs into a blank wall—which is very soon indeed.

"For each ton of cellulose produced, one ton of solid waste substances is obtained, and hundreds of thousands of tons of this material are available each year," he said. "The discharge of these liquors in the rivers endangers the fish and does not contribute to the beauty and amenity of the country.

"Inventors have tried to produce adhesive, tanning and plastic materials starting with these waste liquors. Lignin may also be utilized in the repair and construction of roads; but in general, utilization of lignin and lignin-containing waste liquors is still an open problem.

If anything in the chemical world cries aloud for liberally supported research and lots of it, that thing is lignin.

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CHEMISTRY

Pigment Differences Make Paints Incompatible

HIDDEN conflicts between "antagonistic" paints cause the failure of many exterior paint jobs through premature cracking, scaling, and peeling.

In fact, many paints, like people, are mutually incompatible and have an antipathy to each other, chemists of the Department of Agriculture's Forest Products Laboratory discovered recently. This is due mostly to differences of the pigments.

When a house or building exposed to the weather is coated with a paint with an antipathy to the previous paint job, there is likely to be early trouble. For example, if a formerly brown or green building is painted white without removing the old paint, peeling will be the probable result.

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