

bits of brewers' bread came through the sieve and floated around on top of the beer. For this reason the ancient inhabitants of Mesopotamia invented the practice we still have, of drinking through a straw. They used bent pieces of hollow reed, about three feet long, which they stuck through the unpalatable stuff on top into the clear fluid beneath, and sucked with great relish.

Beer-drinking seems to have been a social exercise in Babylonia, for the inscriptions invariably show at least two of these drinking-reeds in every beer jug. And if people are shown in the act of drinking, almost always there are two of them on opposite sides of the jug, pulling away like Turks at a hookah. Evidently the man with the best pumping apparatus got the bigger share of the beer.

In Egypt tubes were used to some extent, but beer-drinking was more refined. There the beer was drawn off through tubes, but attendants took care of that part, siphoning it out of the storage jars into a large serving vessel. From this it was poured into rather shallow pottery goblets.

The addition of bitter herbs and aromatics of various kinds, corresponding to the modern use of hops, was known to the ancients. The Babylonians sometimes spiced their beer with cinnamon, which doesn't sound at all like a bad idea. Among the things used by the Egyptians was mandragora, a bitter root still listed in our pharmacopeias. This contains a strong narcotic principle, so that it is quite possible that Pharaoh's subjects got an extra kick out of the beer "spiked" with this drug.

**Warnings Against Demon Beer**

The effects of looking too long on the beer when it is brown were not unknown to the ancients. Babylonian records tell of "walking unsteadily, and seeing several things where there is but one."

One classic Egyptian homily, addressed to a young student, is positively lyric in its alarm:

"They tell me you have forsaken your books  
You have given yourself over to pleasure  
You go from party to party  
Beer-smell every evening  
Beer is causing people to avoid you."

The younger generation has evidently been going to the dogs for at least five thousand years.

Egyptians interpreted their foreign-derived word "heket" to mean "captivity of the heart," conceiving beer to contain a demon which seized the drinker's heart if he swallowed too much. They had many charms to be uttered before drinking, to keep this "demon beer" in check.

Egyptian tomb-inscriptions set forth pious wishes for welfare in the world to the west of the desert. Funeral bills of fare, though they gave the king rich feasts and provided the poor man with no more than bread and beans, democratically allowed both plenty of beer.

The usual formula calls for "a thousand of bread, a thousand beers." This is invariable in the earliest inscriptions. Later, when Egyptians traveled more and imported foreign goods, there were additions of wine, of cool water from the sources of the Nile, and sometimes the bereaved survivors also added a prayer for milk.

But the two things they never forgot were bread and beer.

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Science News Letter, June 13, 1931

PSYCHOLOGY

**Students Influenced by What "Everybody Thinks"**

ONE out of three adults will change his opinion on controversial social or ethical matters to what he learns that other people think. But students in high school and college are even more suggestible. More than half of each of these groups were influenced by the group opinion.

These figures were obtained by C. H. Marple, working with Dr. Norman C. Meier at the University of Iowa and reported by them to the Midwestern Psychological Association. They asked 900 persons to express their opinions independently on the various topics, which included matters of general, social, economic, and ethical interest. Three groups were represented, including 300 high school seniors, 300 college seniors, and 300 representative adults.

After a lapse of one month, the same questions were given again. For 300, representing all three groups, the questions were in their original printed form. For another 300, the questions

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were marked to show what was the consensus of opinion of 900 persons. For the third group of 300, the questions were marked to show the opinion of experts or authorities.

The opinion of experts was not nearly so influential as that of the group of 900. The changes of opinion among those who saw the expert opinions amounted to 51 per cent. for the high school students, 45 per cent. for the college students, and 34 per cent. for the adults. The shifting under the influence of group opinion was 64 per cent. for the high school students, 55 per cent. for the college people and 40 per cent. for adults. The shifting when the papers were not marked was very small in comparison, ranging from less than 14 per cent. for adults to about 17 per cent. for the high school seniors.

*Science News Letter, June 13, 1931*

## ARCHAEOLOGY

## Prehistoric Iroquois Camp Explored by Scientists

**A** SITE near Syracuse, N. Y., where prehistoric Iroquois Indians once held camp has been explored by Prof. Thorne Deuel, of Syracuse University, it has just been announced.

In the camp refuse, the expedition found decorated sherds of Iroquois pottery, including some which human portraits on them. The excavators also unearthed heavy polished celts or tomahawk heads, and a fragment of a square-rimmed stone pipe which may have figured in council meetings of the tribe. Some of the small, finely chipped flint points which were used on the ends of projectiles were other discoveries, as well as hammerstones, bone awls and a considerable quantity of charred corn.

The line where the palisade of the camp stood can be traced by the charred points of the stakes, still in place, Prof. Deuel found. The interior of the wood is rotted. The charred exterior indicates that the Indians may have used this method of preserving the wood.

The site appears to have been inhabited by Iroquois of a late period, but still uninfluenced by European contacts, the expedition reported.

*Science News Letter, June 13, 1931*

While ordinarily regarded as a childhood disease, diphtheria sometimes attacks middle-aged and old persons with fatal results.

## CHEMISTRY

## Delicate Cellulose Destroyed By Wood Pulping Methods

**T**HERE ARE many losses of fiber in the processes of pulping and paper-making that are hard to locate and control. By chemical test it is known that 60 per cent. of the weight of wood is potential pulp fiber; yet the actual paper as it is reeled off the machine often weighs 40 per cent. or less of the original wood weight.

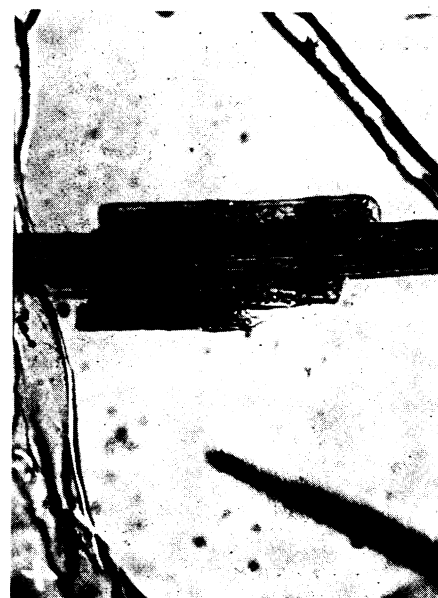
This means that at all American mills in a year the cellulose equivalent of some 1,000,000 cords of wood goes floating into the sewers as fibrous waste. Where and how the losses occur has been broadly indicated by chemical studies supplemented recently by microscopical investigations at the U. S. Forest Products Laboratory, Madison, Wis.

Among the paper-making parts of wood are some very stable and chemically resistant cellulose and some other cellulose-like substances that are easily hydrolyzed or broken down into sugar during the cooking process through which all the material must pass. This is the greatest single cause of loss, averaging about 50 per cent. of the weight of the wood. The remainder of the loss is due in large part to the waste of cellulose from the medullary rays of the tree, according to a report of microscopical studies made by G. J. Ritter, F. A. Simmonds, and P. R. Eastwood, of the Forest Products Laboratory.

The medullary ray is that part of the wood which, in oak particularly, shows up as smooth, light-colored flakes on quarter-sawed surfaces. Though not conspicuous in most woods, the medullary structure makes up from 7 to 11 per cent. of the volume of the trunk in softwoods and from 15 to 22 per cent. of the volume of the trunk in hardwoods.

It is this large bulk of medullary ray cellulose which the microscope has shown to be particularly susceptible to disintegration in pulping and paper-making. By examining samples before and after each step it was found that losses of the material occur at virtually every stage of the chemical and mechanical processes the fiber must go through.

In the opinion of Dr. Ritter, there are also losses of longitudinal fiber, but it is of minor importance compared to the



### USUALLY A TOTAL LOSS

*A microscopic photograph of the ray cells of spruce magnified 100 diameters. The rays, which make up from seven to eleven per cent. of the volume of wood, are usually a total loss in chemical pulping processes.*

ray-cell loss. In general, he believes, our present-day methods of wood pulping are too severe for the more delicate wood components, and that great potentialities of saving await the development of a milder chemistry and processing.

*Science News Letter, June 13, 1931*

## ENGINEERING

## Moving Trains Weighed By New Giant Scales

**S**CALES weighing up to 400 tons, strong enough to withstand the passage of a locomotive over them, are now being used on railroads, according to a report submitted to the National Conference on Weights and Measures by A. Bousfield, chief engineer of E. and T. Fairbanks and Company.

The Pennsylvania and New York Central railroads each own scales with 75-foot sections suitable for weighing, while in motion, the longest and heaviest cars now used by the railroads.

*Science News Letter, June 13, 1931*