

Do You Know?

Furfural, known for over a century but used commercially only in the past two decades or so, promises to become a very important raw material in chemical synthesis; it is now extensively used in making nylon.

Some gardeners recommend the application of a complete *fertilizer* to a level lawn while snow is still on the ground; spring thaws will carry the plant food down to the roots to be available when growth starts.

A new *insecticide*, Thiophos 3422 for short, but diethyl nitrophenyl thiophosphate chemically, is claimed to kill a wider range of insects than any chemical now in use including DDT.

Water should not be used to put out a *fire* around electrical equipment until the current has been cut off at the switch.

A giant plant will soon be constructed in Pennsylvania to use coal in making liquid fuels. Pilot plants of the U. S. Bureau of Mines are pointing the way. The coal is first converted into water gas by a process long used to supply manufactured gas for homes in many American cities. From there on, the conversion of this product into liquid hydrocarbonates is similar to that used with natural gas.

The gases are first converted into carbon monoxide and hydrogen by an incomplete combustion or other process.

These, with the help of an iron catalyst in a fluidized state, become the synthetic hydrocarbonates and water.

There is enough oil shale in America to yield over 95,000,000,000 barrels of gasoline if all could be extracted. When this rock is crushed and heated it gives off hydrocarbon vapors and gases much like those of petroleum which then, of course, have to be refined. The process is still costly, but a government pilot plant at Rifle, Colo., promises cheaper products as better methods are developed.

Science News Letter, February 21, 1948



SCA NEWS

National SCA Meeting

All members of Science Clubs of America are invited to attend by tuning in to CBS radio program on Saturday, Feb. 28, for future of science discussion.

► THE first national meeting of Science Clubs of America, with 15,000 clubs in the nation's secondary schools, will be held on Saturday afternoon, Feb. 28, when Science Service's "Adventures in Science" radio program over the nationwide network of the Columbia Broadcasting System will be devoted to this important event.

Originating from the Seventh Annual Science Talent Institute at Washington, being attended by the 40 winners competing for the Westinghouse science scholarships, eminent scientists will discuss "Great Future Problems of Science."

Several hundred thousand SCA members are expected to join the regular radio audience listening to this program directed by Watson Davis and heard over most CBS stations at 3:15 p. m. EST, 2:15 p. m. CST, 1:15 p. m. MST, and 12:15 p. m. PST.

Sponsors and members reading this notice are asked to announce this national SCA meeting to all clubs by circulating notices or posting this article on school bulletin boards.

The meeting will be reported in the SCIENCE NEWS LETTER so that the subject discussed can be considered at individual club meetings later.

SCA Affiliation Without Cost

Any teacher or other adult who is the leader or sponsor of a science club, who has not already done so, should arrange to affiliate with Science Clubs of America. There is no fee for affiliation. As sponsors already affiliated know, the 100-

page SCA Sponsor Handbook, sent free to sponsors, is an essential aid and guide to organizing and conducting a science club. Others may obtain a copy of this book postpaid by sending \$1 to Science Service.

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ECOLOGY

Forest Remnant Reveals Character of Former Woods

► AN idea of what the great American woods were like in pioneer days is offered in a survey of a forest remnant made by Miss Millicent M. Sawyer, 16-year-old student at Wiley High School in Terre Haute, Ind. Although the tract she studied is only about 20 acres in extent, it gives foothold to no less than 37 species of native trees and shrubs.

The forest remnant is a triangular piece of land containing two creek valleys, a ravine and a central ridge, giving a considerable variety of habitat conditions. Although lumbering was carried on there in earlier times, there has been practically no cutting for almost 60 years, so that the forest has had a chance to re-grow.

Apparently the area was never completely cleared, for Miss Sawyer notes the presence of some century-old beeches with trunks 30 inches in diameter. Presence of numbers of sugar maples suggests that the original stand may have been the old Eastern beech-maple climax forest; dominant at present, however,

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is an oak-hickory association, with patches of other mixed hardwoods on the ridge and the creek bottoms. Among the species infrequently found in this region she lists blue ash, pin-oak, catalpa and Kentucky coffee tree, together with the large shrubs, service-berry and wahoo.

After Miss Sawyer's parents bought the tract as a site for their home, they had a considerable number of over-mature and defective trees felled and sawed into lumber for building. From now on, however, only limited cutting is planned. Miss Sawyer states:

"In the future, with due regard to its natural inhabitants, we plan to 'farm' the woods. All dead trees will be cut

and left to decay. Most of the over-mature trees will be cut, but a few will be left around the building site for their esthetic value. As the young trees reach maturity, they will be cut for lumber and their tops used for fuel. Crowded, deformed and defective trees will be taken for firewood.

"With the good management which we plan to give the tract, it can be not only a pleasant place to live but also a sound financial investment. It can continue to be representative of the original forest of southwestern Indiana."

Miss Sawyer is one of 40 winners in the nation-wide Seventh Annual Science Talent Search.

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PSYCHOLOGY

Clearer Voice on Phone

➤ THE noise of escaping steam heard in one ear makes it easier to hear conversation over the telephone with the other ear.

You might think that the two noises would mix in your head making the speech unintelligible, or that the "Sh-h-h" noise would drown out what was being said.

But tests conducted at the Harvard University Psycho-Acoustic Laboratory by Dr. James P. Egan, now at the University of Wisconsin, showed that if the noise is kept at a moderate level of loudness it actually makes the speech heard with the other ear seem both louder and more distinct.

Listeners said, "When the noise comes on, it sounds as if the talker raises his voice in order to make himself heard above the noise," or that the speech sounded more "crisp."

Not only does the speech sound louder when the noise first reaches the other ear, but it continues to appear louder even after the noise has been turned off for a while. And the effect does not wear off after repeated exposures to the noise.

Dr. Egan gives two possible explanations of the odd experience. It is possible, he suggests, that the noise in the opposite ear has an effect on the muscles of the middle ear of the telephone ear. This theory fits in with the observation that the apparent loudness of the speech fades slowly back to normal after the noise is turned off.

The other explanation is based on certain observations regarding judg-

ments of loudness. If you hear exactly the same note with both ears, it seems louder than the same sound does with either ear alone. But if the notes or sounds are very different, then the two do not add up to make a louder sound. The extent to which the two sounds add up depends upon the similarity in frequency of the two sounds.

The reason why the "Sh-h-h" noise like escaping steam makes speech sound louder in the other ear might be because there is some similarity between the noise and the voice which, in the case of the tests, was reading Adam Smith's "Wealth of Nations."

Details of the experiments are published in the *Journal of the Acoustical Society of America* (Jan.).

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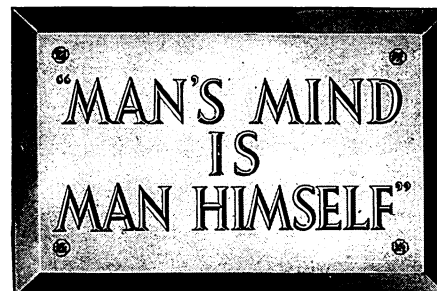
CHEMISTRY

Hair Shampoo Being Made From Sub-Standard Coffee

➤ HAIR SHAMPOO is now being manufactured from sub-standard and other coffee which cannot be used for beverage purposes. Other products developed to utilize coffee that would normally be wasted are scheduled to be introduced later in the year.

The oils, glycerized materials and tannic acid contained in coffee beans form the basic ingredients in the new shampoo produced by Coffette Products, Inc., Brooklyn, N. Y. These natural raw materials, with no alcohol or harsh chemicals added, are said to give the shampoo unique qualities.

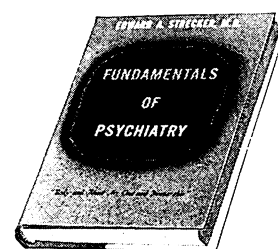
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