

that the laity be as well-informed as possible.

"It may be objected that there is much of the greatest importance in modern science that is too difficult to be explained to the general reader . . . but I believe it is not nearly so frequently true as the specialist is apt to think. The most difficult ideas to explain to the layman are often those that are obscure also in the mind of the professional.

"Much of the difficulty comes from terminology. I am well aware of the fact that a technical terminology may save time and avoid inaccuracy: in mathematics, of which I know nothing,

it would seem to be essential and untranslatable. But, at the risk of being numbered with the Philistines, I venture to say that it is often unnecessary hocus-focus. The medical profession, for which I have unbounded veneration, has for a thousand years harbored practitioners who sought to gain prestige among the ignorant by using Greek and Latin terms for phenomena with perfectly good English names. And today the sociologists are building up a terrible jargon, though I have yet to find in their books an idea which is not capable of being explained in standard English."

Science News Letter, February 8, 1936

CHEMISTRY

Chemists Seek Uses For Molasses-Thick Oil

MOLASSES in January has a new and peculiar rival in the form of "viscous oil," a Western petroleum product. Specimens of this oil now being inspected by manufacturers resemble clear, transparent honey, but of so thick and sticky a character that the liquid can scarcely be poured from a bottle. With substantial quantities of the oil available upon demand, petroleum engineers are now speculating on possible uses for a fluid which is so sluggish that it measures, at 100 degrees Fahrenheit, as high as 144,000 on the Saybolt scale of viscosity.

R. A. Halloran, petroleum research chemist of San Francisco, describes the new viscous oil chemically as purely hydrocarbon in composition, with very high flash point. Different degrees of viscosity may readily be attained in manufacture, running all the way from a relatively thin oil, like common intestinal lubricant, to the extremely thick, almost taffy-like higher product. The most viscous oil exhibited has an average molecular weight of 1280, indicating to chemists that a single unit particle of the liquid contains nearly one hundred atoms of carbon. The chemical structure is a matter of dispute among chemists, some thinking that the carbon atoms are bunched in grape-fashion. Others regard them as clumped together in multiple rings.

"These products are manufactured from petroleum," states Mr. Halloran, "but do not occur naturally in the crude. The higher members are very inert and

resistant to oxidation. They form no carbon residue on heating and contain no sulfur or acid compounds of any nature."

The attractive appearance of the viscous oil, while suggestive of hot biscuits and pancakes, is quite deceptive. Not only is the oil tasteless and odorless, but it is totally indigestible. Perhaps its most promising application will be in the role just opposite to that of a lubricant—a medium which will retard motion instead of assisting it.

Science News Letter, February 8, 1936



THE EARTH IS AN ONION

ENGINEERING

Storm Windows Save Fifth Of Coal in Test House

FUEL savings of one ton of coal out of every five burned have been obtained by the use of storm doors and windows on the research home maintained by the University of Illinois, according to the report presented to the meeting of the American Society of Heating and Ventilating Engineer. Prof. A. P. Kratz and S. Konzo, research associate, of the Engineering Experiment Station, made the announcement.

Using a coal-fired furnace with a forced-air heating system, the house was maintained at a temperature of 71 degrees Fahrenheit by thermostat control.

It took from 100 to 260 pounds of coal each day to maintain the 71 degrees in outside temperatures from 40 to zero degrees Fahrenheit if the storm windows were not in place. With storm windows, the same outside conditions required only from 80 to 200 pounds of coal daily. Thus 20 pounds of coal were saved on 40-degree days and 60 pounds on zero days.

"The results indicate that a saving of 20 per cent. in the seasonal fuel consumption could be reasonably attributed to the installation of storm doors and windows," concluded the scientists.

Other results include:

1. Storm sashes practically eliminate the entrance of soot.
2. Higher relative humidity can be maintained indoors before condensation appears on the glass.
3. Storm windows reduce the draft of cold air down the windows and thus increase the temperature of air near the floor.

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GEOPHYSICS

Model Shows Layered Interior of Earth

THE earth is not simply a round lump of stone, uniform from core to circumference, as the more enlightened among the ancients thought it. Neither is it a thin-crust ball of liquid fire, as more recent notions would have it. It is a series of concentric shells, laid onion-fashion over a solid core that seems to be made of nickel-iron.

This doctrine, largely the product of studies of earthquake waves that have passed through the earth, is given concrete illustration in the built-up sectioned globe shown at the recent meeting of the American Association for the Advance-