PHYSIOLOGY

Smoking Found to Increase Carbon Monoxide in Blood

TOBACCO smoking increases the amount of carbon monoxide in the blood of persons living under normal conditions and not exposed to obviously large amounts of the deadly gas, Dr. Alexander O. Gettler and Marjorie R. Mattice of Bellevue and Allied Hospitals and New York Post-Graduate Medical School of Columbia University, have found.

In their report to the American Medical Association they point out that the ideal normal person should have no carbon monoxide in his blood. But the average person under ordinary conditions is exposed so frequently to the colorless killer from automobile exhausts and other places that it is not possible to regard him as being entirely carbon monoxide free, although ordinary tests for toxic amounts of the gas might not show any in his blood.

Dr. Gettler and Miss Mattice consequently used a very delicate test for extremely small amounts of carbon monoxide in blood. The blood is tested because this gas combines with blood hemoglobin, preventing the latter from playing its role of oxygen carrier, with generally fatal results. They tested the blood of persons living in New York City but exposed to minimal amounts of the gas; persons living in the country; and persons who might be exposed to the gas in the course of their work, such as street cleaners and taxi drivers.

As might be expected, the average for the carbon monoxide percentage in the blood was highest for taxi drivers, next highest for street cleaners and lowest for persons living under ideal rural conditions. But even these persons had some of the gas in their blood.

The surprising fact was that tobacco smoking was apparently the most conspicuous factor in determining how much of the blood hemoglobin combined with the gas. The amount to which the individual was exposed seemed secondary.

One of the street cleaners, for example, worked on a street with an elevated railway over it, and fairly dense traffic composed largely of trucks, which produce more carbon monoxide than pleasure cars. He came to the laboratory after work, in his working clothes, having walked only one block from work. But of all the group he had the smallest amount of carbon monoxide in his blood. He does not smoke. In contrast, one of the cleaners who stopped in the morning on his way to work had more than the average for the group. But he had smoked six cigarettes on his way.

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An expedition in southwest Africa has found a shrike that whistles so much like a boy that it is hard to realize the whistler is a bird.

GEOLOGY

Old Shipwreck Gives Clue To Formation of Petroleum

AN ILL WIND that wrecked a fishing boat off Admiralty Island, Alaska, twenty or thirty years ago, may have blown some good to scientists who have been trying to find out how petroleum got into the crust of the earth.

When the boat went down it was loaded with herring. In time it went to pieces, and so did the fish. But recently some samples of the bottom near where the wreck occurred were sent to Washington, D. C., to the U. S. Geological Survey, for analysis of a curious waxy substance they contained.

This proved to be a complex compound of several acids formed by the decomposition of the fat in the fish, combined with calcium and magnesium in the sea water. By heating this stuff for a week at a fairly high temperature, chemists of the Survey obtained a more or less petroleum-like oil.

Dr. R. C. Wells, who reported on the investigation, stressed the fact that the Survey is not trying to find a way to make artificial petroleum, especially with the price of crude oil where it is. What he and his associates want to find out is how the natural petroleum was formed in the earth, and the fate of the lost cargo of herring may supply a clue.

It has long been assumed by geologists that petroleum was formed ages ago from the fats or oils in the bodies of organisms—probably animals and plants much smaller than fish. But petroleum is quite different from organic oils and fats, so that the search for the intermediate stages or connecting links has gone on for many years.

The fact that the fatty acids formed by the decomposition of the herring united into a complex waxy salt with minerals in the sea water suggests that something of the sort may have happened in the earth's ancient seas. The solid stuff, buried in the ooze and silt of the sea bottom, could accumulate there and remain unchanged for ages. Then, when the deeply buried sediments were slowly squeezed and solidified into rock, the pressure and its accompanying heat could have literally fried the oil out of the calcium-magnesium salts again, if not directly into crude oil, then at least into another and closer intermediate stage.

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