

▼
R
A
D
I
O
 ▲

The Science Service radio address next week will be on the subject

THE NEW KIND OF MATTER

by
Dr. W. D. Harkins

Professor of Chemistry in the University of Chicago

FRIDAY, JAN. 6
 at 12:45 P. M., Eastern Standard Time

Over Stations of The Columbia Broadcasting System

MEDICINE

New Compound Found to be Cause of Coal Tar Cancer

THE EXACT chemical nature of the substance in coal tar which produces cancer has been discovered. The substance itself has been produced synthetically in the laboratory. This important success, following many years of failure, has just been reported to *Nature*, by Dr. J. W. Cook, I. Hieger and Hewett of the Cancer Hospital Research Institute in London.

One type of cancer, which often afflicts chimney sweeps and workers in the coal tar industries, is due to irritation with coal tar, scientists found some time ago. The same type of cancer occurs in mice that have had coal tar painted on the skin. Now the British investigators have found that the cancer-producing constituent of the coal tar is a previously unknown compound of hydrogen and carbon, 1,2 benzpyrene.

Samples of this compound which they made in the laboratory were as effective as material isolated from pitch in producing cancer of the skin in mice. The rapidity with which this synthetic compound caused skin cancer in mice indicated that it is the most active cancer-producing hydrocarbon known. Ordinarily it takes some time for the coal tar cancers to be produced.

The cancer-producing benzpyrene was isolated by concentrating active fractions of coal tar pitch using a method of fluorescence spectroscopy developed by Mr. Hieger and W. V. Mayneord. The synthetic material was produced from pyrene, a complex hydrocarbon isolated from coal tar, but not to be confused with the popular fire extinguisher which has the trade-name of pyrene and is carbon tetrachloride.

While the identification and synthetic production of this substance responsible for one type of cancer has no immediate bearing on discovery of a cure for the disease, it should be a great aid to cancer research.

In the course of their study, the investigators also isolated from coal tar pitch three other hitherto unrecognized coal tar constituents and identified one of them by synthesis. These are two hydrocarbons composed entirely of benzene rings, namely perylene and 4,5 benzpyrene, and one other compound, 1,2 benzantracene from the chrysene fraction of coal tar. The 4,5 benzpyrene, which is closely related to the cancer-producing substance, was the one synthesized.

Science News Letter, December 31, 1932

GENERAL SCIENCE

Institution Proposed For Central Asian Research

FOR PERMANENT exploration and research in the vast and as yet but little known territory of Central Asia, comprising Mongolia, southern Siberia, Chinese and Russian Turkestan and Tibet, an international research institution should be established, with headquarters preferably in China. This suggestion was put forth before the New York Academy of Sciences by Roy Chapman Andrews, of the American Museum of Natural History, noted for his successes in the Central Asian field.

The idea came to Mr. Andrews during the course of his work in Mongolia. Due to circumstances, he has temporarily abandoned it, he said, but he considered it worth recording in the hope that it might be put into effect at some future time.

"What might be designated as an 'International Institution for Asiatic Research' would be established with its executive center in New York and its field headquarters in Peking," Mr. Andrews said. "As a beginning it would have an endowment of a million gold dollars which I had intended to raise personally. As the work progressed, this endowment could be expected to be materially enlarged, giving an ever increasing income for field research."

Science News Letter, December 31, 1932

ASTRONOMY

Newly Discovered Comet May Be Tempel's of Meteor Fame

THE DISCOVERY of a comet that may prove to be Tempel's comet of 1866, known to be associated with the famous Leonid meteors of November, has been reported by Dr. G. F. Dodwell, director of the Adelaide, Australia, Observatory.

The close approach of Tempel's comet has been predicted and for the past two months astronomers the world over had been searching for it. The theory is that the Leonids are the debris of a part of the comet or one traveling in a similar orbit around the sun.

The comet observed from Adelaide is

in the southern skies and it is visible only through powerful telescopes. The discovery by Dr. Dodwell was made Saturday, Dec. 17, at one o'clock, Greenwich Civil Time, and at that time the comet was in right ascension 23 hours 2 minutes 24 seconds, and declination 28 degrees 43 minutes south.

The Dodwell comet was sighted from Harvard College Observatory by Drs. F. L. Whipple and Leland E. Cunningham, on Dec. 20.

It was then of the eleventh magnitude, visible only through large telescopes, low in the south- (Turn Page)