RADIO

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

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

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 ben 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 benzanthracene 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

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*)

western evening sky just above the bright star Fomalhaut. Discovered by Dr. G. F. Dodwell at Adelaide, it was suggested that it might be Tempel comet of 1866, associated with the famous Leonid meteors, but it has not yet been determined whether the newly found comet is this object or a comet hitherto unknown.

Appearing as a diffuse object on photographic plates, the Dodwell comet discovered at Adelaide, Australia, has been located by Prof. George Van Biesbroeck of Yerkes Observatory. The photographic image is of ninth magnitude and shows no tail.

Science News Letter, December 31, 1932

MEDICINE-BACTERIOLOGY

Filtrable Viruses Will Not Thrive on Lifeless Food

FILTRABLE VIRUSES, which cause such diseases as smallpox, yellow fever and rabies, and filtrable bacteria are not the same, Dr. Roscoe R. Hyde of Johns Hopkins School of Hygiene and Public Health emphasized in a discussion of filtrable viruses at the meeting of the American Association for the Advancement of Science.

A filtrable virus is one thing. A bacterium that will ordinarily pass through a filter, or may be made to do so by special methods, such as growing on the "K" medium of Prof. Arthur I. Kendall of Northwestern University, is distinctly another, Dr. Hyde said in effect.

No one has so far been able to make the filtrable viruses grow and multiply on any lifeless medium, as can be done for bacteria, filter-passing or otherwise.

Dr. Hyde does not believe that the organisms which Prof. Kendall has grown on his special media are alternate forms of the disease-causing viruses. Prof. Kendall grew the organisms from cases of measles, influenza and the common cold, all said to be caused by viruses.

"This is not surprising," said Dr. Hyde, "as organisms from these diseases have frequently been cultivated on ordinary media. But it is most unlikely that any of these organisms are the causative agents of the diseases in question."

Challenge to Man

The viruses lay a challenge to man not only for his food, his clothing and his shelter, but for his very life, Dr. Hyde declared. Much of the confusion about them results from the fact that they are known by what they do, rather than by what they are.

"It is commonly stated that the common cold is due to a filtrable virus. The statement may be true but the evidence at present does not warrant this conclusion," Dr. Hyde said, pointing out that the agent causing a common cold will pass through a filter but is not necessarily a virus.

Science News Letter, December 31, 1932

PUBLIC HEALTH

Influenza Outbreak Is Travelling North And East

THE INFLUENZA outbreak is travelling north and east, reports received at the U. S. Public Health Service for the week ending Dec. 17 indicate. The total for the country was 33,823, an increase of more than 6,000 over the previous week's total. The South is chiefly affected, while the New England and New York group of states have not reported any signs of an outbreak yet. Alabama reported the largest number of cases, 7,034.

Only about eight or ten per cent. of the actual number of cases of influenza get reported, health authorities point out. Many patients do not call a physician for a mild case, and many physicians do not report mild cases which appear to be severe attacks of common cold. The disease is running a comparatively mild course with few fatalities in the present outbreak.

Science News Letter, December 31, 1932

ENGINEERING

Six Colors Mix in Water At Base of Capitol

See Front Cover

ONE OF THE MOST spectacular fountain lighting systems places the capitol at Washington in a new setting, when the building is viewed from the direction of the Union Station.

Engineers describe the recently installed system as a fixed color installation. Water in the fountain and terrace plays over a combination of six colors. Considering the size of equipment and electric power consumption, this is one of the largest installations of its kind, according to the Westinghouse Electric and Manufacturing Co., which supplied the photograph.

Science News Letter, December 31, 1932

ETHNOLOGY

Cannibalism Remains Because Old Chiefs Like Human Flesh

CANNIBALISM among the Namba tribes of the New Hebrides will never be wiped out during the lifetime of certain old chiefs who eat human flesh because they like the flavor.

Miss Evelyn Cheesman, leader of an expedition to the New Hebrides, gives this as the statement of Ringapat, King of the Big Nambas dwelling in the small island of Atchin. Miss Cheesman presented her findings before the Royal Geographical Society in London.

The Nambas' idea of eating a corpse is to prevent the murdered man's spirit from walking the earth and causing mischief. They believe that if the body is shared among several people the spirit ceases to exist. Only enemies are thus disposed of. The more feared the man in life, the quicker the feast takes place to put the spirit out of action.

Fear seems to be the sole motive among these cannibals. Respectable members of the tribe are said to despise the cannibals for their depraved tastes. Miss Cheesman reported that there was no indication that a feast was held with the idea of acquiring any of the dead man's qualities such as strength or courage.

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