

CHEMISTRY

Find Cancer-Causing Chemical By Rebuilding Molecules

A NEW cancer-causing chemical, discovered by experiments with chemical architecture, was reported by Prof. Louis F. Fieser of Harvard University to the American Association for the Advancement of Science.

Associated with Prof. Fieser in this research were his wife, Mary Fieser, and E. B. Hershberg, A. M. Seligman and, formerly, M. S. Newman. Animal studies with this and other compounds were conducted by Dr. M. J. Shear of the U. S. Public Health Service.

Discovery of the new compound simplifies the problem of cancer research of this type and makes it easier to determine the mechanism of cancer production by chemicals of the hydrocarbon group, Prof. Fieser explained.

The new compound was discovered

in the course of attempts to find what features in the structure of another chemical compound, methylcholanthrene, made the latter the most powerful cancer-causing hydrocarbon known. The new compound is also a hydrocarbon, which means it is made up exclusively of hydrogen and carbon. But the new compound, while sharing the remarkable cancer-causing power of methylcholanthrene, is far simpler in its chemical architecture.

Results of this research detract somewhat from the theory that some forms of cancer result from the formation of methylcholanthrene in the body, Prof. Fieser pointed out. He added, however, that his research group is not yet prepared to say that this theory is excluded.

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son, would be simulated by an idealized cylinder 35 kilometers (21.7 miles) in length and 11 kilometers (6.8 miles) in diameter. Its mass is 10,000,000,000,000,000,000 grams, or about 100,000,000,000,000 tons. Thus it has only about 1/10,000,000 the mass of the earth. Its light is slightly redder than sunlight.

The observing period of 1937-38 will be a favorable one, stated Mr. Watson, and it is hoped that more accurate observations will clear up additional mysteries about the tiny object.

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PSYCHOLOGY

Study Attitudes Toward Communism and Fascism

THE effect in America of the war-crises of European nations against "communism" will be assayed scientifically in science's latest drive to put psychology to work.

A person-to-person survey is planned by Dr. Delos D. Wickens, University of North Carolina psychologist, to determine changes in attitude toward two social and economic ideologies—fascism and communism.

The inquiry is part of a nation-wide program under which scientists of the United States are banding together for a united front against problems now confronting society in the present world crisis.

Involvement of the United States in a future world war may depend upon how the attitudes of individual Americans are now changing toward these two isms, Dr. I. Krechevsky, of the University of Chicago, emphasized, in making announcement of the new research program. Dr. Wickens' survey is authorized by the newly organized Society for the Psychological Study of Social Issues. Dr. Krechevsky is secretary of this organization and spokesman for its scientist-members.

Nations in Europe now seem to be lining up according to their attitudes toward the fascist-dictator type of government of which Germany with its Hitler and Italy with its Mussolini are outstanding examples, or toward the communist type, of which Russia is the recognized symbol. The possibility of a war in which fascist nations will lead a crusade against communism is obvious, Dr. Krechevsky indicated.

Groups selected as representative samples of the general public opinion of the nation will be tested at intervals under Dr. Wickens' direction to find out

ASTRONOMY

Three More Chemical Elements Identified in the Sun

THREE new chemical elements—osmium, iridium and thulium—have been added to the positively identified elements found in the sun during 1936, declared Dr. Charlotte E. Moore of Princeton Observatory before the meeting of the American Astronomical Society.

Out of the 92 chemical elements of the earth, 61 are surely present in the sun; three are doubtfully present; on two there are insufficient solar data, on seven insufficient laboratory data, and 19 are absent.

Method of identifying the solar elements, explained Dr. Moore, is to obtain spectrographic plates from the sun's light and then try to duplicate those characteristic spectral lines by experiments in the laboratories.

During the last year, she said, Dr. Walter Albertson of Massachusetts Institute of Technology thus identified osmium and iridium. Dr. W. F. Meggers, noted scientist of the National Bureau of Standards in Washington, obtained the spectrum of the rare earth thulium in his laboratory and thus aided in its solar identification.

Strangely absent, so far, are identifications of the gas neon and the rare-earth caesium in the solar spectrum. Both have long been identified in the laboratory.

Physical Nature of Eros

The physical nature of the earth's neighbor in space—the tiny asteroid Eros whose diameter is probably only about 15 miles—was described by Fletcher Watson of Harvard Observatory.

Travelling in a very much flattened elliptical path, Eros can come as near as 13,840,000 miles to the earth on some occasions. Thus, although it is very small, it has been most accurately observed since its discovery in 1898.

Back in 1901 the brightness of Eros was reported to show a change of one and a half magnitudes in the short time of five and one quarter hours, explained Mr. Watson. At other times its variation has sometimes been small, sometimes large and sometimes zero. Its perplexing changes have intrigued astronomers.

The motion of Eros, said Mr. Wat-