

static generator atom-smasher. Out of the two tritons' exploding and combining come one atom of ordinary helium and the dineutron, which lives for a very short time and then becomes two ordinary neutrons. Although a considerable amount of energy is released, this is not believed to be the most likely of the reactions that would be used in the hydrogen or H-bomb.

An unannounced group at the bomb laboratory, represented by Harold M. Agnew, told the American Physical Society in Washington about this discovery.

Tritium is made in atomic piles, competing with plutonium manufacture needed

for fission or A-bombs. It is three times the weight of ordinary hydrogen. It is radioactive and decays when left to itself, half of it disappearing in about 30 years.

The dineutron, now proved to exist, is analogous to double-weight hydrogen or deuterium weighing the same.

A strange new kind of heavy helium, mass five instead of the usual four, has been found in the tritium-tritium reaction by scientists at the Canadian atomic energy laboratories at Chalk River. Helium five decays into ordinary helium and a neutron shortly after formation.

Science News Letter, May 13, 1950

States Technical Conference on Air Pollution.

"I would not have you conclude that city air causes cancer in man," Dr. Scheele said. He reported, however, that a single injection below the skin of these soluble tar particles produced malignant tumors (cancer) in mice.

The substances were collected from the air in streets, homes, offices and schools. Analysis at the Public Health Service's National Cancer Institute "have at least raised serious questions as to the role of community air pollution in the causation of cancer," Dr. Scheele stated.

Science News Letter, May 13, 1950

## ENGINEERING

# Smog Control Advantages

➤ A LESSON for other cities is contained in the accomplishments of Los Angeles during the past few years in lessening the eye-and-throat irritation caused by chemical wastes in atmospheric smog. Salvaging the chemicals, in the industrial plants where made, is producing valuable products.

Some 822 tons of sulfur dioxide formerly entered the Los Angeles atmosphere each day, the American Society of Civil Engineers was told by Gordon P. Larson, director of the Los Angeles County Air Pollution Control District. Sulfur is now being produced in one plant at the rate of 50 tons a day from gases that were formerly burned to produce 100 tons of sulfur dioxide in the atmosphere.

The sulfur dioxide in the Los Angeles overcast condition known as smog is released by refineries, chemical plants and the burning of fuel oil by other industries. Coal is not to blame since not much coal is used in the region. The sulfur chemical quickly oxidizes in the air to form sulfuric acid. It is the acid that is particularly irritating to human eyes and throats.

In the two years since the pollution control drive began, sulfur dioxide pollution

has been much lessened, Mr. Larson indicated. At the beginning of the drive some 100 tons of metallic oxide fumes were being discharged into the air.

Dusts and oil mists add their share to the pollution from rock processing plants, milling, coffee roasting, manufacturing of roofing materials and paint spraying operations, he said. The total number of all sources amounts to many thousands.

Control is by voluntary action on the part of industries, or by court action. Over 300 violators a month are being cited in the drive to eliminate Los Angeles smog, he stated.

Science News Letter, May 13, 1950

## MEDICINE

### Tar in Air May Cause Cancer

➤ A POSSIBLE cause of cancer may be particles of tar which constitute 10% of the dust in ordinary city air, Dr. Leonard A. Scheele, Surgeon General of the U. S. Public Health Service, said at the United

## SCIENCE NEWS LETTER

VOL. 57 MAY 13, 1950 No. 19

50,100 copies of this issue printed  
The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C., North 2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change, please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

Copyright, 1950, by Science Service, Inc. Reproduction of any portion of SCIENCE NEWS LETTER is strictly prohibited. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicate services issued by Science Service. Science Service also publishes CHEMISTRY (monthly) and THINGS of Science (monthly).

Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C. under the act of March 3, 1879. Acceptance for mailing at the special rate of postage provided for by Sec. 34.40, P. L. and R., 1948 Edition, paragraph (d) (act of February 28, 1925; 39 U. S. Code 283), authorized February 28, 1950. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to periodical literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., Pennsylvania 6-5566 and 360 N. Michigan Ave., Chicago. STAGE 4439.

## SCIENCE SERVICE

The Institution for the Popularization of Science organized 1921 as a non-profit corporation.

Board of Trustees—Nominated by the American Association for the Advancement of Science: Edwin G. Conklin, Princeton University; Karl Lark-Horowitz, Purdue University; Kirtley F. Mather, Harvard University. Nominated by the National Academy of Sciences: Harlow Shapley, Harvard College Observatory; R. A. Millikan, California Institute of Technology; L. A. Maynard, Cornell University. Nominated by the National Research Council: Ross G. Harrison, Yale University; Alexander Wetmore, Secretary, Smithsonian Institution; Rene J. Dubos, Rockefeller Institute for Medical Research. Nominated by the Journalistic Profession: A. H. Kirchofer, Buffalo Evening News; Neil H. Swanson, Baltimore Sun Papers; O. W. Riegel, Washington and Lee School of Journalism. Nominated by the E. W. Scripps Estate: H. L. Smithton, E. W. Scripps Trust; Frank R. Ford, Evansville Press; Charles E. Scripps, Scripps Howard Newspapers.

Officers—President: Harlow Shapley; Vice President and chairman of Executive Committee: Alexander Wetmore; Treasurer: O. W. Riegel; Secretary: Watson Davis.

Staff—Director: Watson Davis. Writers: Jane Stafford, A. C. Monahan, Marjorie Van de Water, Ann Ewing, Wadsworth Likely, Margaret Rallings, Sam Matthews. Science Clubs of America: Joseph H. Kraus, Margaret E. Patterson. Photography: Fremont Davis. Sales and Advertising: Hallie Jenkins. Production: Priscilla Howe. In London: J. G. Feinberg.

# Question Box

## MEDICINE

What is the latest treatment method recommended for T. B. patients? p. 294.

What is the mystery disease which is being treated by cortisone? p. 290.

What is the score for ACTH in TB treatment? p. 295.

What method is now being used to detect cancer of the stomach? p. 291.

Photographs: Cover, New York Zoological Society; p. 291, James O. Sneddon, Office of Public Information, University of Washington; p. 293, USAF Air Materiel Command; p. 294, the Texas Company; p. 295, Hamilton Wright; p. 304, Tennessee Eastman Corporation.

## NUCLEAR PHYSICS

What is the dineutron? p. 291.

## PHYSICS

How is present physics lopsided? p. 300.

## PSYCHIATRY

What suggested the use of poisonous drugs for the mentally ill? p. 293.

## PSYCHOLOGY

What are the seven factors in temperament? p. 300.