onto a sheet of paper. There it is traced by Dr. Tilney. For a single brain it may be necessary to make as many as three hundred of these drawings although the whole brain of the immature animal may not be as large as a golf ball.

From colored wax of uniform thickness are cut little pieces exactly to match the drawings, the color corresponding to the particular texture of the brain area. Then these wax slices are assembled to form the complete brain model, exact in every detail and colored to indicate the development of the brain material.

Dr. Tilney now has over one hundred of these models, graphically demonstrating the nature of the brains of six different mammals, including man, at many stages of development from the time when the brain has any structure at all up to maturity.

He now plans to make such a model of the brain of a scientist and inventor who has willed his brain for this research. He expects this study to be of great interest because of the great intelligence of this well-known man and also because of the peculiar fact that the man was tone deaf, that is, he could not distinguish one note from another when he heard music.

Science News Letter, January 19, 1935

MARGIE

PHYSICS

Triple Weight Hydrogen Made From Lithium Atoms

NEW experiments in which triple hydrogen—three times as heavy per atom as the ordinary kind of hydrogen gas—is formed are reported from famous Cavendish Laboratory of Cambridge University.

The new discovery is the work of Prof. James Chadwick and Dr. M. Goldhaber. (*Nature, Jan.* 11).

The triple weight hydrogen was formed in experiments where slow neutrons were passed through paraffin after being liberated by a source consisting of radon gas and the element beryllium. This is a common neutron source used widely throughout the world.

The slow neutrons thus formed were allowed to strike the light element lithium having atomic weight six. The neutrons have an atomic weight of nearly one.

The combination of lithium atoms and neutrons may, by one picture, form an unstable form of lithium of weight seven. This lithium seven explodes violently and forms a helium atom of atomic weight four plus a triple weight hydrogen atom of mass three. Five million electron volts of energy come off in the explosion in addition, reported Prof. Chadwick and Dr. Goldhaber.

The current report on triple weight hydrogen is the fourth announcement about this rare type of isotope which exists in ordinary hydrogen in only about one per 10,000 million.

Lord Rutherford with Drs. M. L. Oliphant and P. Harteck reported work in the spring of 1934 indicating that hydrogen of mass three was formed in atomic reaction experiments.

Drs. M. A. Tuve, L. R. Hafstad and Odd Dahl of the Department of Terrestrial Magnetism of Carnegie Institution of Washington followed shortly with the announcement that triple weight hydrogen existed in a stable condition in ordinary hydrogen.

Prof. Wendell Latimer and Dr. Herbert Young of the University of California, using the magneto-optic method of analysis, detected hydrogen three.

Finally came the work of the group at Princeton University confirming the results reported by Lord Rutherford and by the Carnegie Institution investigators. Working at Princeton were Drs. Gaylord P. Harnwell, Henry D. Smyth, Walker Bleakney, W. Wallace Lozier, P. T. Smith, S. N. VanVoorhis and J. B. H. Kuper.

Science News Letter, January 19, 1935

METEOROLOGY

Atmospheric Stagnation Was Cause of Long Fog

"STALLED air," a persistent stagnation in the atmosphere, with the country largely blanketed with a great warm air mass, was the cause of the fog that grounded airplanes, slowed rail schedules and caused auto wrecks for several days during the second week in January, says C. L. Mitchell of the U. S. Weather Bureau.

A long drift of warmed air from the southwest brought about a condition of general cloudiness and thin rains. This, in itself, is not an abnormal or unusual occurrence in winter, Mr. Mitchell explained. What brought the fog was the apparent inability of this sluggish air mass to move.

The fog came because the heated moist air condensed over the cooler land and water of the Northeast. Such condensation occurs because of the presence of microscopic particles in the air which serve as nuclei. Atoms in the atmosphere from which one electron has been removed so that they become electrical ions are a common type of nuclei. Dust and soot particles from many chimneys also form convenient places at which moisture in the air can condense.

The dense fogs found in industrial cities known as "smoggy" weather—a combination of the words smoke and foggy—occur for this last reason.

Much of the recent fog in the East may have been due to this "smog," for during the winter the air is especially filled with ash and unburned coal particles.

The foggy condition was general over practically the whole of the Appalachian mountain region and the Atlantic seaboard. Fog was reported from as far west as Omaha; but the trans-Appalachian region was not under a continuous shadowy blanket.

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