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ARGON.

THE plain facts concerning argon are these: For some time past Lord Rayleigh has been engaged on refined work involving the weighing of various gases. Last year he found that the nitrogen obtained from the air is a little heavier than that made from definite chemical compounds. This led him to further experiments and, at the same time, Professor W. Ramsay, of University College, London, also undertook experiments with the object of explaining, if possible, the discrepancy. The general method of work consisted in passing air, first through substances that have the power to remove those constituents that are present in small quantities, such as water vapor, carbonic-acid gas, etc., then through a heated tube containing copper. The oxygen of the air unites with the heated copper, and what has hitherto been regarded as nitrogen remains uncombined. This 'atmospheric nitrogen' was subsequently treated in three different ways for the purpose of removing the nitrogen from it.

(1) It was drawn through clay pipes in the hope that, if the gas is a mixture, one of the constituents would pass through the porous material more easily than the other, and at least a partial separation be thus effected. While something was accomplished in this way, the experiment was on the whole unsatisfactory.

(2) The 'atmospheric nitrogen' was mixed with oxygen in a vessel containing caustic alkali, and electric sparks were passed through the mixture. Under these circumstances the oxygen united with nitrogen and formed a compound which is soluble in alkali. After no further absorption of nitrogen could be effected by sparking, any unchanged oxygen present was removed, and there was then found a residue