news

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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 experi-
ments 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-
aicd 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
effecte. While something was accom-
plished in this way, the experiment was on
the whole unsatisfactory.

2) The 'atmospheric nitrogen' was mixed
with oxygen in a vessel contain-
ing 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 absorp-
tion of nitrogen could be effected by spark-
ing, any unchanged oxygen present was re-
moved, and there was then found a residue.