It will be remembered that at the last meeting of the British Association a communication was made by Lord Rayleigh and Professor Ramsay relating to a newly discovered constituent of the atmosphere. Since that time the scientific world has been anxiously waiting for further developments, and now there seems no longer room for any doubt that there does exist in the atmosphere an element hitherto unknown. It cannot be said that its existence was altogether unsuspected, for Cavendish, in 1785, published in "The Transactions of the Royal Society" some account of his experiments on air, in the course of which he appears to have come very near to discovering the element which nevertheless remained in obscurity for another hundred and ten years. He found that by passing a series of electric sparks through the atmosphere, the nitrogen and oxygen composing it could be induced to unite to form a chemical compound, but a small residue of what Cavendish called "phlogisticated air" (*i.e.*, nitrogen), appeared to remain uncombined with oxygen, even when an excess of the latter element was present, and the electric discharge was long continued.

A repetition of Cavendish's experiment by Lord Rayleigh and Professor Ramsay confirmed his result, and moreover, enough of the uncombined residue was collected to enable an examination of its spectrum to be made, and that afforded additional proof that the gas in question was not nitrogen.

Lord Rayleigh was first led to the belief that "atmospheric nitrogen" contained some other gas than nitrogen by the discovery that nitrogen from different chemical sources was lighter than "atmospheric nitrogen." This seemed to prove that the latter was adulterated with some heavier gas.

The new element has been named *argon* (a contraction of the Greek *an ergon*, meaning *without energy*), on account of its extreme inactivity; no compound has been yet formed from it. It is obtained from the air by what we may term a process of exhaustion. Air is first passed over red hot copper which deprives it of oxygen (forming copper oxide in the process); the residue is then dried by passing it over soda lime and phosphorus pentoxide (the former also removing traces of carbon dioxide). What remains now is nitrogen and argon, and the former is absorbed by passing the mixture over magnesium turnings heated to redness (the magnesium being converted to magnesium nitrite). All that remains after this is pure argon, and it is only about one hundredth part of the air originally treated.

Argon is a colourless, invisible gas, about twenty times heavier than hydrogen, or one and a-quarter times heavier than oxygen, and almost one and a-half times heavier than nitrogen.

It has already been stated that no compounds containing it are known, so it is almost needless to add that it cannot support combustion nor animal life.

TETANUS ANTITOXIN.

It is officially announced that this can now be obtained, if for use in the United Kingdom or Colonies, from the British Institute of Preventive Medicine, 101, Great Russell Street, London, W.C. The Institute now possesses a horse immunised against tetanus and is thus able to supply the antitoxin.

Notes on Art.

THE OLD MASTERS AT THE ROYAL ACADEMY.

The Council of the Royal Academy have again adopted the excellent arrangements and distribution of their former Exhibitions. In the first gallery the works of the best known painters of the last century are grouped, and among the examples of Sir Joshua Reynolds, George Romney, Gainsborough and Sir Thomas Lawrence are to be found a few pictures by artists of the early part of the present century. The work of one who, though an "Old Master," seems almost new, is John Philip.

The second gallery presents some unusally fine work of the Dutch School, mainly the contributions of Grosvenor House. The third and fourth galleries are devoted to the great Italian and Flemish Masters, with the exception of one side, where the eighteenth century reigns supreme. To-day we only propose to consider the work of the early English painters shown in the first and third galleries.

Among the seven pictures by George Romney no less than three are of Lady Hamilton. It would be interesting to know how many portraits Romney painted of this extraordinary woman, who from the position of a nurse girl became the wife of an Ambassador and the friend of Nelson. None of these fully exhibit Romney's great delicacy and beauty of colour, which led many to prefer him to either Sir Joshua or to Gainsborough. In No. 24 we see Lady Hamilton neither as a Bacchante or Nymph, but in the commonplace garb of daily life, reading a newspaper. Her face shows little of the charm she must have had during her singular career, a charm which, to do Romney justice, he generally introduced. Another interesting Romney is No. 3, "Miss Kitty Calcraft" which has been much praised for its warm colour, but we prefer No. 15, Mrs. Inchbald, the celebrated writer.

Naturally we turn with great interest to the works of Sir Joshua Reynolds. "Than Sir Joshua," Ruskin says, "there was perhaps hardly ever born a man with more intense and innate gift of insight into nature." Perhaps the most remarkable are Nos. 129 and 131, "Master" and "Miss Crewe." The former is quite an unusual "Sir Joshua," as he has tried, while depicting Master Crewe as King Henry VIII. to secure Italian feeling, and instead of the light colouring of his pictures it is dark, with gleams of red and yellow. "Miss Crewe" is a splendid work; the quaint little figure with her black hood, set in a beautiful landscape. Nos. 127, portraits of Mrs. Crewe and Mrs. Bouverie, the first beautifully drawn, add value to an exhibition that is singularly rich in examples of Reynolds.

Gainsborough is represented by several pictures; the most interesting is undoubtedly "Ladies walking in the Mall, St. James's Park." It is of great value, as the Arcadian scene—with the cows and the dogs and the three women—said to be the daughters of King George III—really take us back to the time at which the picture was painted. What is more, it brings before one the sweet but affected simplicity of the time better than any other picture we can call to mind. It is lent by Sir Algernon W. Neeld, Bart.

previous page next page