LXII. On Mr. Bennet's Electrometer

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did not appear to have the slightest effect on its external characters.

It is totally impossible to investigate the quantity of oxygen in ammonia by direct experiments on the amalgam of its base; I shall hereafter proceed to relate some experiments made in order to ascertain it. The whole of our knowledge of the base of ammonia, that problematical and yet in every respect highly interesting substance, consists almost entirely in our being assured of its existence under certain circumstances.

[To be continued.]

LXII. *On Mr. BENNET'S Electrometer.*

By EZ. WALKER, *Esq.*

To Mr. Tilloch.

DEAR SIR,—I DO not remember to have seen any further account of the properties of Mr. Bennet's Electrometer, than what the inventor has given us in the Philosophical Transactions for 1786, which relates mostly to its extreme sensibility, in distinguishing small quantities of electricity. This instrument, however, has other properties, which merit the attention of electricians.

An excited surface being brought near the top of this instrument, but not so near as to produce a spark, the gold-leaves will diverge in the same state of electricity as the excited surface; but as soon as it is removed, the gold-leaves will collapse, and instantly diverge again in a contrary state; and these changes will take place every time that the excited surface is moved to and from the cap of the instrument.

There is no work on electricity with which I am acquainted, that takes notice of these phenomena, nor was it till after I had made many experiments that I could form any thing like an explanation.

But after I found that there is a positive and a negative point, at every interruption of an electric circuit, or that the top plate of the instrument is negative, at the same time that the gold-leaves are positive, the phenomena no longer appeared inexplicable.

Place a slip of leaf-gold, about half an inch long and one-tenth of an inch broad, upon the top of the instrument, and let one end of it be fixed to the plate, with paste, gum-water, or varnish; then, if a glass tube, excited by rubbing it with silk, be brought near the top of the electrometer, the

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the slip of leaf-gold will stand erect, being attracted by the excited tube ; which shows that the top plate is possessed of the resinous or negative electricity ; and the gold leaves within the glass will at the same time diverge with the vitreous or positive electricity, the same as the excited tube.

But as soon as the excited surface is removed, the gold-leaves will collapse and instantly diverge again, and when examined will be found to have received the resinous electricity, the top plate still possessing the same fluid.

Now, as part of the vitreous fluid has been repelled from the cap through the gold-leaves and tin-foil into the earth, the cap must necessarily possess less of the vitreous than its natural share ; and consequently, when the excited tube is removed, the resinous fluid in the cap will attract the vitreous out of the gold-leaves : but this being too small a quantity to restore the equilibrium, the cap will still continue in a negative state, and communicate the negative or resinous fluid to the gold-leaves, which will cause them to diverge a second time ; and as the cap is insulated it will continue electrified for some time after, if the instrument be a large one*.

This experiment also shows, that electricity by induction or position does not vanish as soon as the excited surface is removed, though Professor Robison and other writers on electricity are of a contrary opinion.

I am, dear sir,

Your obedient servant,

Lynn, May 27, 1813.

E. WALKER.

LXIII. *Case of Hydrophobia cured in India by Bleeding.*

By JOHN SHOOLBRED, M.D. *From the Supplement to the Calcutta Government Gazette, June 8, 1812.*

[Concluded from p. 365.]

REMARKS.

ON hearing that a recovery from hydrophobia has been effected in the short space of two hours, by the single remedy of blood-letting, a doubt may probably occur to a person acquainted with the previous history of this formidable malady, and the nearly uniform failure of all attempts hitherto made for its cure ; whether the disease now said to be cured, was in reality a genuine case of hydrophobia,

* The glass of an electrometer for these experiments should not be less than four inches in diameter, and nine or ten inches high.

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