

too small to produce any effects but those of magnetism, and also muscular contractions in the limbs of frogs. The animal electricity of the torpedo produces most of the effects of voltaic electricity, excepting the evolution of heat and light. The general conclusion deduced by the author from these researches is, that electricity, whatever be its source, is perfectly identical in its nature.

In the concluding chapter of the present paper, the author endeavours to establish some relation by measure between common and voltaic electricity. He shows, by experiment, that whenever the same *absolute quantity* of electricity, whatever be its *intensity*, passes through the galvanometer, the deflecting force exerted upon the magnetic needle is invariably the same. Hence this deflecting force may be taken as the measure of the absolute quantity of transmitted electricity; a principle which establishes the value of the galvanometer as an instrument of measurement in all cases of electricity in motion. The power of chemical decomposition he finds to be also directly as the quantity of transmitted electricity.

January 24, 1833.

The Rev. WILLIAM BUCKLAND, D.D., Vice-President, in the Chair.

A paper was read, entitled, "Magnetical Experiments, made principally in the South of Europe and Asia Minor, during the years 1827 and 1832." By the Rev. George Fisher, M.A. F.R.S.

This paper is divided into five sections. The first gives an account of a series of experiments made with a view to determine the relative intensities of the forces soliciting a horizontal magnetic needle, and also the forces in the direction of the dipping needle, at London, Lisbon, and Gibraltar; premising a minute description of the apparatus employed, and a circumstantial statement of the methods used for conducting the investigation.

The second section gives the details and results of similar experiments made at London, Malta, Syracuse, Catania, Messina, Naples, Baia, Constantinople, Egina, and Athens; and also on the plain of Troy, and at Vourla in Asia Minor.

The third section contains an account of experiments on the diurnal variation in the intensity of the magnetic force soliciting a horizontal needle in the island of Malta.

In the fourth section, experiments are related on the diurnal variation of the magnetic needle suspended horizontally at Malta.

The fifth section is occupied by an account of the results of similar experiments made on the bases and edges of the craters of Vesuvius and Ætna; and also on Gibraltar rock, and the neutral ground below: from which it appears, that the forces soliciting both the horizontal needle and that in the position of the dip, were considerably greater on the elevated than on the lower situations.

From the whole of the observations made in different parts of the Mediterranean, and contained in this paper, it appears that great

irregularity exists in the numerical results ; but whether these arise from irregularities in the distribution of the terrestrial magnetism, or from any active agency of a volcanic nature, or other cause, the author does not venture to decide.

January 31, 1833.

JOHN WILLIAM LUBBOCK, Esq. M.A., V.P. and Treasurer,
in the Chair.

A paper was read, entitled, "An experimental Inquiry into the Treatment of Tic Douloureux." By W. R. Whatton, Esq. F.S.A. M.R.C.S. Communicated by P. M. Roget, M.D. Sec. R.S.

The author, after giving a brief account of the history of neuralgia facialis, and of the opinions that have been entertained of its nature, states the results of his trials of morphia applied to the skin, when denuded of cuticle by the previous application of a blister. The form he usually employs is that of a cerate, composed of eight grains of the acetate of morphia, finely powdered, to an ounce of simple ointment or lard, one dram of which is applied every eight hours. After a few weeks the proportion of the acetate is doubled, and occasionally, in very severe cases, a cerate, containing twenty or twenty-four grains in the ounce, was used. He relates a number of cases in which this treatment was perfectly successful in curing the disease, even when it had been of long standing, and had resisted every other mode of treatment.

February 7, 1833.

WILLIAM GEORGE MATON, M.D., Vice-President, in the Chair.

The Very Rev. George Chandler, D.D., Dean of Chichester ; Woronzow Greig, Esq. M.A. ; and the Rev. Frederick Nolan, LL.D. ; were elected Fellows of the Society.

A paper was read, entitled, "On the relation which subsists between the Nervous and Muscular Systems in the more perfect Animals, and the nature of the Influence by which it is maintained." By A. P. W. Philip, M.D., F.R.S. L. & E.

The author, after referring to his former papers which have at different times been read to the Royal Society, and published in their Transactions, is led to view the brain and spinal marrow as the only active parts of the nervous system ; the nerves, whether belonging to the class of cerebral or ganglionic, together with their plexuses and ganglions, serving only as the means of conveying and combining the various parts of the former organs, and therefore being passive with reference to their functions. This view of the subject is directly opposed to that which has been adopted by many physiologists, who consider these ganglions as the sources, and not the mere vehicles, of nervous influence. In order to determine this point, the author made the following experiment on an animal that had been pithed