

battery; the whole being properly connected with an exceedingly delicate galvanometer. On making the apparatus revolve rapidly, not the slightest deflection of the needle was perceptible. Hence, if so large a surface of hot water be incapable of conducting as much electricity as would agitate the most delicate astatic needle, though the exciting cause was sufficient to make a wire revolve round a magnet, and overcome the resistance of the mercury through which it was dragged, it would require an enormous power of this kind to *decompose* water. The author, therefore, considers it unlikely that electricity induced by magnets will ever supply the place of the voltaic battery in effecting chemical decomposition; and he concludes by observing, that "as no increase of electro-magnetic power is gained by increasing the *decomposing* powers of a battery, and as action and re-action are equal, it appears improbable that we shall ever obtain high decomposing powers by any increase in magneto-electric induction."

A paper was then read, entitled, "Notice of the Remains of the recent Volcano in the Mediterranean." By John Davy, M.D. F.R.S. Assistant Inspector of Army Hospitals.

The author communicates an account given by Captain Swinburne, dated the 24th of August, of a dangerous shoal, in latitude  $37^{\circ} 9' N.$  and longitude  $12^{\circ} 43' E.$ , consisting principally of black sand and stones, with a circular patch of rock, which has been left by the volcano that lately appeared in the Mediterranean. Captain Swinburne furnished the author with two specimens of the air which was seen rising from the site of the volcano, in small silver threads of bubbles. These were found, upon examination by chemical tests, to consist of between 9 and 10 parts of oxygenous to 79 or 80 of azotic gases.

The author adduces arguments in favour of the supposition that this air is disengaged from sea water at the bottom in contact with the loose and probably hot ashes and cinders composing the shoal, rather than that it arises from the extinct volcano. He is also disposed to extend this theory to the explanation of the gases disengaged from hot springs, which are generally found to consist of a mixture of oxygenous and azotic gases, the former being in less proportion than in atmospheric air, in consequence of its abstraction by oxidating processes from the air originally contained in these waters.

The Society then adjourned over the Easter vacation, to meet again on the 18th of April.

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April 18, 1833.

FRANCIS BAILY, Esq., Vice-President, in the Chair.

Thomas Botfield, Esq.; Sir William Burnett, Knt. K.C.H.; Major F. H. Shadwell Clerke, K.H.; Robert Adam Dundas, Esq.; the Rev. Augustus Page Saunders, M.A.; and Thomas Stephens Davies, Esq., were elected Fellows of the Society.

A paper was read, entitled, "On Improvements in the Instruments