

January 7, 1836.

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

A paper was read, entitled, "Meteorological Journal kept at the Royal Observatory, Cape of Good Hope, from the 1st of June to the 31st of December, 1834." Communicated by Capt. Beaufort, R.N., F.R.S., Hydrographer to the Admiralty.

The observations recorded in this Journal are those of the barometer, and of two thermometers, one in, and the other out of doors; taken at sunrise, noon, sunset, and midnight, in each successive day from the 1st of June, 1834, to the end of the year.

"Some Account of the Volcanic Eruption of Cosiguina in the Bay of Fonseca, commonly called the Coast of Conchagua, on the Western Coast of Central America." By Alexander Caldcleugh, Esq., F.R.S.

The particulars recorded in this narrative are derived partly from a voluminous collection of official reports transmitted from the authorities in various towns to the government of Central America, and partly from the information of intelligent eye-witnesses of the phenomena. The eruption occurred on the 19th of January, 1835, and was preceded by a slight noise, accompanied with a column of smoke issuing from the mountain, and increasing till it took the form of a large and dense cloud, which, when viewed from a distance of ten leagues to the southward, appeared like an immense plume of white feathers, rising with considerable velocity and expanding in every direction. Its colour was, at first, of the most brilliant white; but it gradually became tinged with grey; then passed into yellow; and finally assumed a beautiful crimson hue. In the course of the following days several shocks of an earthquake were felt, the last of which were most terrific. On the morning of the 22nd, the sun had risen in brightness; but a line of intense darkness denoted the presence of the same cloud which had before presented such remarkable appearances, and which, extending with great rapidity, soon obscured the light of day; so that in the course of half an hour the darkness equalled in intensity that of the most clouded night: persons touched without seeing one another; the cattle hurried back to their folds; and the fowls went to roost, as on the approach of night. This atmospheric darkness continued with scarcely any diminution for three days; during the whole of which time there fell a fine impalpable dust, covering the ground at St. Antonio to the depth of two inches and a half, and consisting of three layers of different shades of grey colour: and for ten or twelve succeeding days the sky exhibited a dim and murky light. At Nacaome, to the northward of the volcano, the same degree of darkness was experienced, and the deposit of ashes was from four to five inches in depth, and exhaled a fetid sulphureous odour, which penetrated through every interstice in the buildings. The complete obscurity

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was only occasionally broken by the lightning, which flashed in every direction, while the air was rent with loud and reiterated explosions like the discharges of artillery, which accompanied each eruption of volcanic matter, and conspired to strike the deepest terror, and to spread among the inhabitants a universal panic that the day of judgment was arrived. On the 24th the atmosphere became clearer, and the houses were found covered to the depth of eight inches with ashes, in which many small birds were found suffocated. Deer and other wild animals flew to the town for refuge, and the banks of the neighbouring streams were strewn with dead fish. In Segovia, and as far as eight leagues from the volcano, the showers of black sand were so abundant as to destroy thousands of cattle; and many were subsequently found whose bodies exhibited one mass of scorched flesh.

Within the Bay of Fonseca, and two miles from the volcano, it is stated that two islands, from two to three hundred yards in diameter, were thrown up, probably from the deposit of masses of scorixæ on previously existing shoals.

It was resolved unanimously:—"That the thanks of this Society be given to their Secretary Peter Mark Roget, Doctor of Medicine, for the zeal and ability which he has uniformly displayed, and the many valuable services he has rendered in promoting its objects."

January 14, 1836.

FRANCIS BAILY, Esq., V.P., and Treasurer in the Chair.

Dr. Daubeny's paper entitled, "On the action of Light upon Plants, and of Plants upon the Atmosphere," was resumed and concluded.

The objects of the experimental inquiries of which the author gives an account in this paper were, in the first place, to ascertain the extent of the influence of solar light in causing the leaves of plants to emit oxygen gas, and to decompose carbonic acid, when the plants were either immersed in water, or surrounded by atmospheric air. The plants subjected to the former mode of trial were *Brassica oleracea*, *Salicornia herbacea*, *Fucus digitatus*, *Tussilago hybrida*, *Cochlearia armorica*, *Mentha viridis*, *Rheum rhaponticum*, *Allium ursinum*, and several species of *Gramineæ*. Geraniums were the only plants subjected to experiment while surrounded with atmospheric air. Comparative trials were made of the action on these plants of various kinds of coloured light, transmitted through tinted glass, of which the relative calorific, illuminating, and chemical powers had been previously ascertained; and the results of all the experiments are recorded in tables; but no general conclusion is deduced from them by the author. He next describes a few experiments which he made on beans, with a view to ascertain the influence of light on the secretion of the green matter of the leaves, or rather to deter-