

Council are happy to state, that the Government has not at all relaxed its zeal for the Cape Observatory. An assistant, Mr. Meadows, was despatched to aid Mr. Fallows, shortly before his decease : since that time, Mr. Thomas Henderson (a gentleman known to you all, as one of the most active and enlightened cultivators of astronomy in this country, and one to whom this Society has, upon many occasions, thankfully acknowledged its obligations) has been appointed his Majesty's Astronomer at the Cape. That this gentleman, treading in his predecessor's path, and with better health, and under better auspices, may reap the rich harvest which Mr. Fallows could only commence, is the confident wish and hope of those by whom his merit, zeal, and modesty, are appreciated.

Capt. Foster was well known to every scientific man in this country, for his active services in the expedition under Capt. Parry to the North Pole, and for his ardent zeal and great attention to accuracy in every thing which he undertook for the promotion of science. These and other excellent qualities which he possessed, led to his more immediate promotion in the Navy, gained him the reward of the Copley Medal from the Royal Society, and pointed him out as a fit and proper person to conduct a scientific expedition, at that time contemplated by the Government, towards the South ; and he was soon after appointed to the command of the *Chanticleer* for that purpose.

The principal object of this expedition was to swing the pendulum near the equator, and also at various places in the southern hemisphere. With this view he was furnished by Government with two of Kater's invariable pendulums, No. 10 and No. 11 ; and also by this Society with two convertible pendulums of a new construction, one of Iron and the other of Copper, as described in No. 13 of the Monthly Notices, and alluded to in the Eighth Report. Capt. Foster however did not live to bring home the fruits of his own industry and zeal ; for he was unfortunately drowned, near the close of his voyage, whilst descending the river *Chagres* in a canoe, towards his ship then lying at anchor.

Capt. Foster has left behind him a vast mass of important information connected with the objects of his voyage. The original copies of his pendulum experiments have been laid before the Council of this Society by the Lords Commissioners of the Admiralty, with a request that they would consider the best mode of obtaining the proper results, with a view to their being made public in the most satisfactory manner. For the attainment of this object Mr. Baily has kindly undertaken to superintend the computations, and to make such further experiments on the pendulums in London, as may be necessary to deduce the required results from the whole series of Capt. Foster's experiments. Already these supplementary experiments are completed ; and the computer has also made great progress in reducing the observations from the elements furnished by Mr. Baily for that purpose : and when the whole is finished, a Report will be drawn up on the subject.

Capt. Foster's journal of his experiments is a model of his great

attention to accuracy and minuteness of detail. Every necessary information is regularly entered in *printed blank forms*, with which he had been previously provided (a method which cannot be too strongly recommended in all similar cases); and there is consequently no difficulty or doubt as to the full meaning and effect of every figure that is introduced. The number of places at which Capt. Foster swung the pendulum (including London and Greenwich) is fourteen; and subjoined is a list of these places, in the order in which they were visited, together with the number of series of experiments made at each place, and the pendulums employed at each station. It should here be, however, stated that the iron and copper convertible pendulums were each furnished with *two* knife-edges (respectively marked A and B); so that, in fact, Capt. Foster might be considered as having *six* independent and invariable pendulums, whose results might be compared with each other. The stations that are marked with an asterisk are those which were visited also by Capt. Sabine, in his voyage of experiment in the years 1822 and 1823.

No.	Stations.	No. 10.	No. 11.	Iron.		Copper.	
				A	B	A	B
1	London	8	7				
2	Greenwich	10	10				
3	Monte Video	25	15				
4	Staten Island	46	26	11	12	16	16
5	South Shetland	23	62	15	16	9	10
6	Cape Horn	22	27				
7	Cape of Good Hope	25	17	28	28	23	23
8	St. Helena	21	24			9	12
9	Ascension Island	39	26	10	9	14	13
10	Fernando de Noronah	21	18				
11	Maranham	19	16			16	12
12	Para.....	18	22	12	13	14	14
13	Trinidad	20	17	9	9	12	12
14	Porto Bello.....	21	15				
Total number of series		318	302	85	87	113	112

The whole number of series therefore was 1017; and as each series consisted (on an average) of 10 coincidences, the total number of coincidences taken by Capt. Foster was upwards of ten thousand: thus forming a mass of observations made in various parts of the globe never before attempted by any individual, and which must have its due weight in all investigations relative to this