

cupboards, they are little more assorted than the plants which constitute a haystack. A considerable part, if not the whole, of the 7,000 specimens of plants from the expeditions of Hooker and Thomson, which cannot have been received less than fifteen years ago, were, quite lately, still unmounted and unincorporated. Again, merely to quote instances which have come unsought within my own observation, the plants collected in Nepal half a century since by Wallich, and as I learn from a distinguished Indian botanist, in a district which has never since been botanically explored, were recently, and perhaps are still, amongst the unarranged collections. These altogether, I should judge, roughly form in bulk about one-sixth of the whole herbarium. The arranged portion is estimated to possess 77,400 species of flowering plants, contained in 306 cabinets with 8 shelves; the Kew Herbarium, on the other hand, possesses 105,000 to 110,000 species in 450 cabinets, on an average of 16 shelves. As I have ascertained that the shelves are in each case about the same width apart, and about equally filled, these figures give roughly three times as many shelves to the Kew Herbarium, and somewhat less than half as many more species.

There can be no doubt, therefore, that the British Museum Herbarium might be materially developed, especially when it is remembered that Mr. Bentham's herbarium, when presented to Kew, contained between 60,000 and 70,000 species, and that this was formed in less than forty years by a single individual. The examination of the unarranged collections in the British Museum would, no doubt, yield a large number of duplicates, and these should be exchanged with foreign herbaria. If this were done—and there is no reason why the appliances of Kew should not be utilised for the purpose—it would be easy, without interfering with the independent action of either establishment, to bring about for the future a mutual interchange of specimens. Nor is there any reason why, when needful, the type specimens of the older botanists should not be lent to Kew from the other Herbarium, considering that both are Government property.

The development of the botanical collections in the rooms open to the public at the British Museum into something more useful, educationally, would probably be achieved by the officers, if they possessed more space. In this case it would be very desirable to transfer to them the collections belonging to vegetable palæontology in the Geological department. At present the nucleus of a collection of fossil plants bequeathed to the Botanical department by Robert Brown is being gradually developed, so that there are now actually two distinct collections, both having the same object, and existing independently of one another, and in charge of different officers, in the same building.

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### THE RAINFALL AND TEMPERATURE OF NORTH-WESTERN EUROPE

THE Scottish Meteorological Society have just received letters from their observers in Iceland and Faroe, together with the regular observations made by them for the Society to the end of November last, which are of interest in connection with the unprecedentedly wet and changeable season we have had in Scotland and elsewhere.

The rainfall in Iceland this year to the end of October has been 4.84 inches under the average of the ten months, the deficiency occurring chiefly in January, February, July, September, and October. In Faroe the deficiency has, to the end of November, amounted to 11.00 inches, the dry months being February, 4.50 inches under the average; July, 1.09 inch; August, 2.97 inches, and November, 4.17 inches. In Scotland, February was everywhere a wet month, except in the northern and western islands and in Clydesdale; and September, October,

and November were very wet months,—all these months being characterised by a small rainfall in the north.

The mean temperature at Stykkisholm, in the north-west of Iceland, was 33.7 in January, or 6.8 above the average, being the highest mean temperature recorded in January since 1846, except that of 1862, which was 1.0 higher; 52.7 in July, and 51.6 in August, being respectively 3.6 and 3.4 above the average of these months, and the highest that has occurred since July 1847 and August 1846. And as June was 0.6 and September 1.0 above the average, the past summer has been one of the finest experienced in Iceland for many years. The temperature in April was 3.5, in May 1.4, and in October 1.0 under the average. On the other hand, the temperature of Faroe closely agreed with that of Scotland during the year, viz., above the average in January, February, March, April, June, July, and November, and under the average during the other months, especially September.

At Melstadt, on the north coast of Iceland, the summer was very fine, but in the beginning of October the weather broke, and on the 13th the temperature fell to 3.0 or 29.0 below freezing. At Reykjavik, the summer was also fine, but the autumn was remarkable for north and north-east gales, frequent auroras, low sea temperature, and large amount of ozone. Along with the unusual manifestation of these phenomena, inflammatory diseases were prevalent, especially bronchitis, catarrh, croup, and diphtheria.

The temperature of the sea presented certain very interesting anomalies during the year. In the earlier months it was, equally with the temperature of the air, above the average of former years in Iceland, Faroe, and Scotland. But at Stykkisholm it was 2.7 in May, and 4.2 in June below the average, it being at the same time from half a degree to a degree above the average in Faroe and Scotland. On the other hand, the sea was, at Stykkisholm, 2.8 in August, and 2.6 in September above the average, whereas at Sandwick, Orkney, it was 1.2 and 1.1 below it in the same months. In Faroe the temperature of the sea was above the average every month of the year (except October, when it was 0.3 below it), amounting during the eleven months to an average excess of 1.1.

The following are the differences from the averages of the sea temperatures at Stykkisholm from March to October, 1872:—

March	+ 1.5	July	+ 1.3
April	— 0.1	August	+ 2.8
May	— 2.7	September	+ 2.6
June	— 4.2	October	+ 0.4

In May the mean temperature of the sea was 36.7, and in August 53.1. So great an increase as 17.6 has not been previously observed in these months.

It is also a noteworthy circumstance that the means of the nine months' barometric pressure, from February to October, at Stykkisholm, have been in every case above the average, amounting to an average monthly excess of 0.118 inch. In Norway also, from February to August, to which the observations have reached us, the means were every month above the average, amounting at Vardoe (lat. 70° 20') to a mean monthly excess of 0.260 inch; Christiansund, 0.129 inch; Christiania, 0.151 inch; and Maudal, near the Naze, 0.084 inch. On the other hand, barometric pressure was every month from February to October, below the average; at Paris, and in Guernsey, the mean monthly deficiency being respectively 0.074 and 0.090 inch. At Greenwich, the mean deficiency for the last nine months was 0.083 inch; Glasgow, 0.091 inch; Edinburgh, 0.088 inch; Aberdeen, 0.072 inch; Culloden, near Inverness, 0.34 inch; and at Stornoway, the station nearest to Iceland, only 0.006 inch. This high barometer in Iceland and Norway has had an important bearing on the unprecedentedly wet weather, and the accompanying low barometer we have had south of that region.

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