

parishes, called *Taluks*, and the rainfall is gauged at the chief town of each *Taluk*. The mean of these is taken as the rainfall for each District. From the average monthly rainfall of each District for the past thirty-nine years I have found the C.G., also for the year 1908, and they are given for comparison:—

District.	No. of Taluks.	Average for 39 years.		1908.	
		Rainfall.	C.G.	Rainfall.	C.G.
1. Bangalore ...	10 ...	30'48 ...	7'93 ...	25'49 ...	6'47 ...
2. Mysore ...	13 ...	27'53 ...	7'74 ...	24'24 ...	6'64 ...
3. Hassan ...	8 ...	37'95 ...	7'62 ...	27'08 ...	6'74 ...
4. Chitaldrug...	9 ...	21'10 ...	7'51 ...	14'03 ...	6'91 ...
5. Tumkur.....	10 ...	25'90 ...	8'01 ...	15'76 ...	7'00 ...
6. Kolar...	11 ...	27'89 ...	8'14 ...	16'00 ...	7'07 ...
7. Shimoga ...	9 ...	66'60 ...	7'34 ...	67'31 ...	7'14 ...
8. Kadur...	7 ...	73'00 ...	7'40 ...	63'74 ...	7'06 ...
Province ...	77 ...	36'79 ...	7'68 ...	29'94 ...	6'91 ...

The Shimoga and Kadur districts each include three stations where the rainfall is enormously greater than at the other stations; yet though the thirty-nine-years' average annual rainfall for six of the Shimoga *Taluk* stations is only 35·78 inches, and for the three stations of great rainfall it is 128·24 inches, I find that the mean position of the C.G. is 7·28 for these three stations, while for the whole nine stations it is 7·34. In the same Shimoga District there are, besides the nine *Taluk* stations, fourteen additional rain-gauge stations, among which are Agumbi, with a mean yearly rainfall of 333·17 inches, Aralagode, with mean of 237·79 inches, and Karur, with mean of 115·79 inches, and I find the C.G. for these is at 7·29, 7·21, and 7·13 respectively.

It is to be noted that the great deficiency of rainfall throughout Mysore Province as a whole for the year 1908 is indicated, not only by the diminished yearly totals, but by the displacements of the C.G. for each District and for the whole Province. This means, of course, that the deficiency was in the "latter rains"—or those for the north-east monsoon—but the important thing is that we have a simple numerical measure, by combining the displacement of the C.G. and the total rainfall defect, of the real rainfall deficiency for the year. Thus while the rainfall average for the whole Province was 18·6 per cent. less than the yearly normal, the deficiency of the *rain-moment*, as we may call it in the language of mechanics, was 26·8 per cent., which agrees better with the agricultural effect.

This has led me to examine Dr. H. R. Mill's "British Rainfall" for 1908, and the results of working out the C.G. for a large number of stations, and for the 1908 mean rainfall of England, Scotland, and Ireland, are interesting. The position of the C.G. for the monthly mean rainfall of 122 stations in England and Wales is 6·54, of 55 stations in Scotland 6·37, of 53 stations in Ireland 6·72, and of 230 stations in the whole British Isles 6·55. For Greenwich, with rainfall 23·78 inches, it is 6·48; for Borrowdale (Cumberland), with rainfall of 127·38 inches, it is 6·54; for Glenquoich (Inverness), with 107·40 inches, it is 6·21; for Kenmare (Co. Kerry), with 70·91 inches, it is 6·59.

From the Journal of the Scottish Meteorological Society for 1908 I find the following results:—

	Year's Rainfall.	C.G.
Means of the eight principal towns of Scotland	33'05 ...	6'54 ...
Means for all Scotland for 1908	37'55 ...	6'48 ...
Means for all Scotland for fifty years (1856-1905)	39'19 ...	6'87 ...
Means for 1908 of eighteen Lighthouses on the Scottish coast	30'74 ...	6'68 ...

It is remarkable that the rainfall should be so small at the Lighthouses, and that the law of rain-distribution throughout the year should agree with that for the land-stations. The smallest rainfall for 1908 was at the Isle of May Lighthouse, where it was only 18·33 inches, with C.G. at 6·90; and the heaviest rainfall was at Ardnurchan Lighthouse, where it was 50·99 inches, with C.G. at 6·63.

This method is readily applicable to the graphic presentation for a series of years either of the C.G. or of the

rain-moment. Thus I have worked out the results for Bangalore from 1867 to 1908, and find that while the average position of the C.G. is 7·81, the positions for 1875 and 1876, the successive droughts of which caused the great Mysore famine, were 6·82 and 6·72, and while the average *rain-moment* is 276, it was for those years only 151 and 117 respectively. I also find that for the two years 1907 and 1908 the C.G. for Bangalore was at 6·77 and 6·08 respectively, and that the *rain-moments* were 214 and 157; which agree with the fact that Mysore narrowly escaped another serious famine quite recently, and give a measure of the margin by which it escaped the disaster caused by the rain deficiency of 1875 and 1876.

It is evident that we might easily graph on the same sheet for a sequence of years (1) the total rainfall; (2) its yearly C.G.; and (3) its *rain-moment* or coefficient. This principle will also give the data for charts of the general distribution of rainfall in a country for any year or series of years. That each station and country has its *rain-constant* which can be expressed numerically seems to be more than a mere theoretical curiosity.

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Lycopodium Spores.

MISS EDITH A. STONEY states (*NATURE*, January 6, vol. lxxxii., p. 279) that with a large aperture microscope objective and oblique illumination, *Lycopodium* spores are seen to be coated with hair-like projections. We believe this appearance to be illusory. Owing to the transparency of the outermost layer of cells, the margin of the spore is quite invisible under certain conditions, giving to the radial cell walls the appearance of hair-like projections.

Photomicrographs of some of these spores reproduced in the *Physikalische Zeitschrift* of February 1, p. 78, show the effect in question in some parts of the field, and evidence the correctness of the explanation given.

JOHN ZELENY.
L. W. MCKEEHAN.

Dr. H. J. Hansen and the Copenhagen Museum of Zoology.

I BEG permission to acknowledge the receipt of the open letter sent me through your Journal of March 10, by the leading zoologists of Great Britain and Ireland, regarding my resignation from the Copenhagen Museum and my zoological investigations. I am deeply conscious of the great honour done me in sending me such an address, and I regret that I am unable to write to all personally; but for that reason I would request them through your columns to accept my most sincere and heartfelt thanks.

H. J. HANSEN.
5te Juni Plads No. 1, Kjöbenhavn, F., March 17.

Title of the Natural History Museum.

WHAT has history, in its present sense, to do with the subject? What have the Muses to do with it? Certainly *Terpsichore* is not included at any of the museums. The N.H.M.(B.M.) is not a museum, but a *Natureum*. Might not a ten-syllable name on the other side of the way be replaced by the *Arteum*? Then *Bloomsbury* might use the name *Historeum*. The address need not include London or England, as no other place uses these terms. For all scientific reference one word would be complete.

W. M. F. P.

The Meaning of Ionisation.

IN his lecture at the Royal Institution on March 11, Dr. Brereton Baker proposed the term *electromerisation* instead of *ionisation* when applied to gases. May I venture to suggest the word "electronisation" as more euphonious, and as indicating the essential difference in the process, viz. the freeing of electrons instead of ions?

W. DEANE BUTCHER.

Holyrood, Ealing, March 18.