British Rainfall, 1896. By G. J. Symons, F.R.S., and H. Sowerby Wallis. Pp. 221. (London: Edward Stanford, 1897.)

MR. SYMONS has now 3219 observers who send him rainfall statistics from different parts of the British Isles. On the average, there is one rainfall station in every 21 square miles in England, one in every 36 square miles in Wales, one in 74 square miles in Scotland, and one in 179 square miles in Ireland. The task of editing the records obtained at all these stations is thus a heavy one, and it becomes heavier every year on account of the increase in the number of observers. Unfortunately, the tendency is for observers to increase in districts already adequately supplied with rainfall stations, and to decrease in districts where stations are badly needed. In Scotland and in Ireland there are areas of several hundred square miles without a single observer, and in the county of Sutherland, which contains over two thousand square miles, there are only six stations, three of which are so close together that they may be regarded as one. It is to be hoped that next year the editors of "British Rainfall" will be able to report that Sutherland is giving more assistance than it does now to a knowledge of the rainfall of the county.

In addition to the usual discussion of the rainfall and meteorological observations of 1896, and general tables of total rainfall, the present volume contains short articles upon the rainfall in the vicinity of Seathwaite—the most rainy part of England—evaporation experiments, the Heberden family and meteorology, and a comparison of German and English rain gauges and of Mr. Sidebottom's snow gauge.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

The late Earthquake in India.

MR. R. D. OLDHAM, Director of the Geological Survey of India, has written to me for particulars of the photographic record of the Calcutta earthquake of June 12, 1897, as shown by the horizontal pendulum of this observatory. As Mr. Oldham is preparing a full report on this earthquake, he has also asked me to let it be known that he would esteem it a favour if copies of all records of its effects, wherever it has left any traces, be sent to him at the "Geological Survey Office, Calcutta." RALPH COPELAND.

Royal Observatory, Edinburgh, August 24.

On Mimicry.

IN a letter on p. 197 of NATURE, which I saw only a few days ago, Mr. Walter F. H. Blandford, referring to my suggestion as to the scarcity of individuals of mimetic species of Lepidoptera, rightly insists, that it has first to be shown that there is correlation between the acquirement of mimetic resemblance and the production of small numbers of specimens, before my suggestion becomes acceptable, and adds, that the advantage which the imago state of Lepidoptera probably derives from the resemblance to an immune model may possibly be counteracted by increased destruction in other stages. Mr. Blandford has apparently not taken into account what I thought to be too well known to need fuller explanation, and hence touched only by stating that "so many mimetic species are scarce, in comparison with the non-mimetic allies," namely, that the number of rare forms amongst mimics is remarkably greater in proportion than the number of rarities among their non-mimetic allies. This excess of scarcity among mimics Mr. Blandford's assumption of increasing destruction in the larval states does not meet, unless we assume, further, that only rare species can become mimetic, or that the excess of rarity among the forms which have become mimetic is due to the acquirement of mimetic resemblance, *i.e.* that there is the kind of correlation which my suggestion (p. 153) requires. In support of the latter alternative—the former does not concern us here—I adduce the following statements, at which I arrived by a comparison of the mimetic and non-mimetic forms of those two groups of Eastern Papilios among which mimicry occurs (Haase's subgenera *Cosmodesmus* and *Papilio*, *s. str.*).

(1) According to a rough estimate the proportion of the number of rare mimetic forms to the number of more common mimetic forms of Eastern Papilios is approximately as 1 : 2, while the proportion of the number of rare non-mimetic forms to the number of more common non-mimetic forms is as 1 : 4; that is to say, the number of rarities is among mimics about twice as large proportionally as among their non-mimetic allies. These numbers are, of course, not quite correct, as our knowledge of the insects in question is far from being complete. I add, incidentally, that the proportion of the rare to the common forms is as 1 : 2 in that group of Eastern Papilios which feed as larvæ on *Aristolochiaceæ*, and partly serve as "models."

(2) The mimetic species which are mimetic only in one sex, or resemble the model only superficially, are generally common.

(3) The mimetic species which are very variable are common, at least commoner than their less variable allies.

(4) The mimetic forms which agree very closely with the model in both sexes are the rarest (*cf.* Haase, "Mimicry," ii. p. 116: Stuttgart, 1893).

These four points are decidedly in favour not only of there being a connection between the acquirement of mimetic resemblance and the scarcity of individuals, but also of the excess of scarcity among the mimics being a consequence of the development of the mimetic characters. It does not seem to me to be far-fetched to say—as others have said before me—that rigorous adjustment of a species in one special direction (by Neo-Darwinian and Neo-Lamarckian factors) tends to lessen the adjustability of the species to changed conditions of life. The factor which has brought about mimetic resemblance is, according to the theory of mimicry, selection; as it was in my letter on p. 153 not my intention to bring forth new facts, but to show that one of the arguments against the theory of mimicry was invalid, I had to accept selection as *the* factor, and accordingly explained the excess of rarity amongst mimetic species by assuming that rigorous one-sided selection makes the species physiologically one-sided, *i.e.* less fit to meet new conditions of life equally well as the non-mimetic, more variable, allied species, the result of which would be proportionally greater scarcity of individuals or even extinction. KARL JORDAN.

Zoological Museum, Tring, August 25.

INTERNATIONAL CONGRESS FOR THE UNIFICATION OF METHODS OF TESTING.

IN 1884 the late Prof. Bauschinger, of Munich, conceived the idea of bringing professional men engaged in testing materials into personal contact, with a view to initiating researches into the physical and chemical behaviour of structural materials. Congresses were held at Munich, Dresden, Berlin, Vienna, and Zürich; and at the last-named Congress it was decided to form a permanent International Association, which now numbers 1200 members; and under its auspices the sixth International Congress was held at Stockholm on August 23, 24 and 25. Prof. Tetmajer, of Zürich, presided, and 452 delegates from all parts of the world were present. One member of each nationality represented was elected an honorary president, the complete list being as follows: Mr. Ast (Austria), Mr. Greiner (Belgium), Prof. Hannover (Denmark), Mr. Peters (Germany), Mr. Bennett Brough (Great Britain), Mr. Baucke (Holland), Mr. Banowitz (Hungary), Mr. Fadda (Italy), Mr. Krag (Norway), Prof. Belelubsky (Russia), Mr. Nyberg (Finland), Mr. Akerman (Sweden), Mr. Schraft (Switzerland), Colonel Mayandia (Spain), and Mr. C. G. Henning (United States).

The list of papers presented comprised an account of the development of the iron, brick and cement industries of Sweden, by Mr. A. Wahlberg; a description of micrometallography considered as a method of testing, by Mr.