selves foaled before 1870 and who therefore were, or would have been, at least 25 years old at the date of the last *Year Book* in my possession, which is for 1896. This is practically a sufficient allowance, giving say 5 years to the foals in which to make their record, and 20 years as the limit of the breeding age of either parent. My selection from list (1) contained 716 sires, and that from list (2) contained 494 dams. Reducing to percentages, the distinguished offspring (standard performers) to 100 sires and to 100 dams from these lists respectively, are tabulated below, disregarding decimals. Thus out of each

Distribution of the Parents of Standard Performers.

	Number of standard performers produced by a single parent, sire or dam.											Total parents.
	1	2	3	4	5	6 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 and above	
Sires ...	46	17	10	7	3	9	4	1	1	1	1	100
Dams ...	50	35	10	3	1	1	—	—	—	—	—	100

100 selected sires, we see that 46 produce only one standard performer, 17 produce two, 10 produce three, 7 produce four, and 5 produce three. Thus far the distribution of prepotency is not particularly abnormal, and we might have guessed that there would be about 3 cases more, none of which would contain more than from seven to eight standard performers, but the facts are surprisingly otherwise. Although the frequency of the successively larger families decreases with fair regularity, the rate of their diminution is far too slow to be compatible with the normal law of frequency. Instead of the expected 3 cases, each containing six, seven or eight standard performers, we find 17 cases of far higher contents. Thus in the list of 716 sires, the number of distinguished offspring are,—60 to *Blue Bull*, 71 to *Strathmore*, 83 to *George Wilkes*, 92 to *Happy Medium* and 154 to *Electioneer*. Making full allowance for the tendency of breeders to send the best mares to the best horses, the prepotency of the sires just named is enormous, that of *Electioneer* superlatively so. The same results are indicated by the produce of the dams, though the figures are less striking owing to the relative fewness of their offspring. A sire produces some 30 foals annually, a dam only one, while the period of production is presumably longer for the sire than for the dam. Consequently out of the list of 494 dams, the three mares *Emeline* (*sic*), *Minnehaha* and *Green Mountain Maid*, who produced respectively 7, 8 and 9 standard performers, seem as phenomenal as the five horses mentioned above. Again, prepotency is as we should have expected, heritable in a marked degree; thus all of the above five sires except *Blue Bull* are sons of "*Hambletonian* 10," and one of the three mares, *Green Mountain Maid*, was dam of *Electioneer*.

My conclusion is that high prepotency does not arise through normal variation, but must rank as a highly heritable sport, or aberrant variation; in other words its causes must partly be of a different order, or else of a highly different intensity, to those concerned in producing the normal variations of the race. In a sport, the position of maximum stability seems to be slightly changed. I have frequently insisted that these sports or "aberrances" (if I may coin the word) are probably notable factors in the evolution of races. Certainly the successive improvements of breeds of domestic animals generally, as in those of horses in particular, usually make fresh starts from decided sports or aberrances, and are by no means always developed slowly through the accumulation of minute and favourable variations during a long succession of generations.

FRANCIS GALTON.

Zoology as a Higher Study.

THE following, necessarily condensed, comments on Prof. Ray Lankester's criticisms may be permitted.

(1) Prof. Lankester's views on the citation of authorities in text-books have been published before. To the best of my belief "authoritative public opinion," if it had expression, would favour the side of common sense in this matter. A text-book, adapted to the needs of the elementary student, in which the "historical method of exposition" should be followed, and each discoverer awarded his due meed of recognition, is an impossibility, within reasonable limits of size and cost. Our reasons for omitting all references to authorities really were those given in the preface, which I invite Prof. Lankester to re-peruse, not those which he ungenerously ascribes to us.

(2) Where the names of the original authors of figures have not been quoted, and the proximate source from which the block was borrowed or the figure copied has alone been given, the name of the original author is, in most instances, a matter of no consequence whatever. In a very few cases the omission is regrettable.

(3) The main responsibility for the "most astonishing" of the errors which Prof. Ray Lankester has noticed in the text-book, viz. the statement that ossification occurs in the skeleton of Elasmobranchs, rests with me, and not with the two sons of W. Kitchen Parker. The most astonishing thing to the initiated onlooker will doubtless be Prof. Lankester's evident confidence that this is an error.

(4) The "error" with regard to the nephrostome of Lumbricus is Prof. Lankester's. If he will read over that part of the "Text-book" as it would be read by a student, taking the description of *Nereis* as the foundation, he will understand what I mean. "Corresponding segment" is not "same segment."

(5) The criticism of the statement regarding cœlome and hæmocœle in Peripatus would have lost all its apparent cogency had Prof. Lankester quoted only three lines more (see "Text-book," vol. i. p. 561).

WILLIAM A. HASWELL.

The Nature and Habits of Pliny's Solpuga.

I READ with much interest Mr. Pocock's article on "Solpuga" (NATURE, vol. lvii. p. 618). It may be worthy of note that a species of Galeodes is met not infrequently in Southern California, and is one of the few Arthropodous animals that is bold enough to attack and devour the honey-bee. It enters the hive and seizes the bee, worker as well as drone, and soon makes away with it. Were these Arachnoids as abundant as the Robber-flies (Asilidæ), they would be nearly as serious enemies of the bee-keepers of Southern California as are those insects. They are not, however, sufficiently numerous to do any serious mischief, and so are not feared or dreaded.

A. J. COOK.

Claremont, Cal., May 12.

The Weather of this Summer.

IN your notice of Symons's *Met. Mag.* this week, I seem to be credited with (discredited by?) the announcement that this summer will probably be wet. May I point out that it is one thing to announce this, and another to say that in the five years ending with the next sunspot minimum year (say 1901, or thereabouts), there will probably be more wet summers than dry? Further, the two rules cited in the notice are based on data extending from 1816, not merely from 1841.

July 8. ALEX. B. MACDOWALL.

THE NATURAL HISTORY MUSEUM.

THE following memorial has been addressed to the Trustees of the British Museum :—

Sir, My Lords, and Gentlemen,—We, the undersigned, being persons interested in the science of Natural History, venture to address to you the following observations suggested by the retirement of Sir W. H. Flower from the post of Director of the Natural History Museum (British Museum).

It is, in our opinion, of great importance to the welfare of Natural History that the principal official in charge of the national collections relating to this subject should not be subordinate in authority to any other officer of the Museum. The Natural History Collections are in a part of London remote from the National Library and the other departments of the British Museum; the supervision of these collections and the direction of the large staff entrusted with the care of them are sufficient to tax the whole energies of any one entrusted with those duties. For the purpose of facilitating this task and avoiding possible friction, it seems to us necessary that the Directors should meet the Trustees and represent them before Her Majesty's Treasury as the responsible head of a department, and not as a subordinate.

A position such as we have described was held, to the great satisfaction of the scientific world, by Sir William Flower, who succeeded Sir Richard Owen; to abolish it now would involve a great change of policy. We believe that the existing system has given satisfaction to the staff of the Museum and to