(2) Instances in which any one of the above peculiarities has appeared in the broods of different parents. In replying to this question, it will be hardly worth while to record the sudden appearance of either albinism or melanism, as both are well known to be of frequent occurrence.

Note.—The question is *not* asked now, whether such peculiarities, or "sports," may be accounted for by atavism or other hypothetical cause.

(3) Instances in which any of these peculiarly characterised individuals have transmitted their peculiarities, hereditarily, to one or more generations. Especial mention should be made, whether the peculiarity was in any case transmitted in all its original intensity, and numerical data would be particularly acceptable, that showed the frequency of its transmission (*a*) in an undiluted form, (*b*) in one that was more or less diluted, and (*c*) of its non-transmission in any perceptible degree.[1]

It is impossible to explain to a general meeting the precise way in which the desired facts would be utilised. An explanation that would be sufficiently brief for the purpose could not be rendered intelligible except to those few who are already familiar with the evidence, and the technical treatment of it by which the law of Regression is established, and with the consequences and requirements of that law. Regressiveness and stability are contrasted conditions, and neither of them can be fully understood apart from the other.

I may as well take this opportunity of appending a list of my various memoirs on these subjects. They appeared from time to time in various forms as the inquiry progressed and as suitable openings occurred for writing or speaking. The more important of these are Nos. 1, 3, part of 6, 7, and 8 in the following list. Nos. 1 to 5 refer to regression only.

LIST OF MEMOIRS, BY MR. F. GALTON, ON REGRESSION AND ORGANIC STABILITY.

(1) Typical Laws of Heredity. *Journal* of the Royal Institution, 1877. (This was the first statement of the law of Regression, as founded on a series of experiments with sweet peas.)

(2) Presidential Address, Anthropological Section of the British Association, 1885. (Here the law of Regression was confirmed by anthropological observations.)

(3) Regression towards Mediocrity in Family Stature. *Journal* of the Anthropological Institute, 1885. (A revised and illustrated reprint of No. 2.)

(4) Family Likeness in Stature. *Proc. Roy. Soc.*, 1886.

(5) Family Likeness in Eye Colour. *Proc. Roy. Soc.*, 1886.

(6) Natural Inheritance. (Macmillan and Co., 1889.) (This volume summarises the results of previous work.)

(7) Patterns in Thumb and Finger Marks . . . and the Resemblance of their Classes to Ordinary Genera. *Phil. Trans. Roy. Soc.*, 1891.

(8) Discontinuity in Evolution. *Mind*, 1894. (An article on Mr. Bateson's work.)

A NEW DETERMINATION OF THE OHM.

A FRESH determination of the value of the ohm in absolute measure has been made by F. Himstedt (*Wiedemann's Annalen*, liv. p. 305). The method employed is that which the author had used in a previous determination, and consists of passing through a galvanometer all the make or break currents induced in a secondary coil when the current in a long primary helix is interrupted a known number of times per second. A known fraction of the primary current is then passed through the same galvanometer. The primary helix in these experiments consists of a single layer of uncovered copper wire, wound, by means of a screw-cutting lathe, in a regular spiral on a glass cylinder. The turns of wire are held in their place, and the insulation improved, by being coated with shellac. As the mean of a number of determinations, the author obtains the value 106·28 cm. as the length of the column of mercury at 0° C., having a cross section of one square millimetre, which has the resistance of 10^9 C.G.S. units. In connection with the above-described experiments, the author has been led to measure some coefficients of self-induction, using for this purpose a modification of the Rayleigh-Maxwell method. The great difficulty in measuring a coefficient of self-induction by this method is that, in order to get a throw of sufficient magnitude to be accurately measured, it is necessary to employ a somewhat strong current. The result is that the temperature of the coil, the self-induction of which is being measured, rises rapidly, and thus the balance of the Wheatstone's bridge for steady currents is upset. Herr Himstedt gets over this difficulty by using the commutator, which he employs in his determination of the ohm, to break the battery circuit a known number of times per second, and to cut the galvanometer out of circuit while either the make or break is taking place. In this way a steady deflection is obtained of sufficient magnitude to be readily measured, even when the current employed is between 0·001 and 0·002 amperes. The above method only differs from that employed by Profs. Ayrton and Perry in their secohm-meter, in that the author takes two separate readings, one with the bridge balanced for steady currents, the other when the commutator is working, instead of bringing the galvanometer deflector to zero by upsetting the steady current balance.

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THE SMITHSONIAN INSTITUTION REPORT FOR 1894.

MR. S. P. LANGLEY'S report of the operations of the Smithsonian Institution for the year ending June 30, 1894, has just reached this country, and it furnishes interesting reading on a number of points relating to the U.S. National Museum, the Bureau of Ethnology, the Bureau of International Exchanges, the National Zoological Park, and the Astrophysical Observatory.

The total permanent funds of the Institution are now 911,000 dollars, and interest at the rate of 6 per cent. per annum is allowed upon this by the Treasury, the interest alone being used in carrying out the aims of the Institution. The total receipts during the fiscal year covered by the Report amounted to 69,967 dollars, and the entire expenditure, including a sum of eight thousand dollars added to the permanent fund, was 67,461 dollars. The Institution also disbursed the Treasury grants of 14,500 dollars for International Exchanges; 40,000 dollars for North American Ethnology; 154,000 dollars for the U.S. National Museum; 50,000 dollars for the National Zoological Park; and 9000 dollars for the Astro-Physical Observatory.

It appears to be an essential portion of the original scheme of the government of the Institution that its secretary should be expected to advance knowledge, whether in letters or in science, by personal research; but the increasing demands of time for labours of administration has greatly limited the possibility of doing this. Mr. Langley has, however, found time to continue his researches upon the solar spectrum (see NATURE, November 1, 1894). This work, carried on in the Astro-Physical Observatory, is certainly of more than common importance. His investigations upon aerodynamics have also been continued intermittently. They are not complete, but they appear to point to conclusions of general and unusual interest.

A widespread interest seems to have been awakened in the Hodgkins competition, with reference to investigations appertaining to the nature and properties of atmospheric air. A letter printed in NATURE of June 21, 1894, announced that the time within which papers might be submitted was extended to the end of last year. The Report informs us that, up to June 30, 1894, 250 memoirs, printed and manuscript, had been received in connection with the competition, representing correspondents in the United States, Mexico, England, Scotland, Norway, Denmark, Russia (including Finland), France, Belgium, Germany, Austria-Hungary, Servia, Italy, and British India.

A few grants have been made from the Hodgkins Fund, in aid of certain important researches. In this connection we notice that Prof. E. W. Morley's work on the determinations of the density of oxygen and hydrogen, aided by special apparatus provided by the Institution, is approaching completion.

The investigations undertaken by Dr. J. S. Billings and Dr. S. Weir Mitchell into the nature of the peculiar substances of organic origin contained in the air expired by human beings, has been continued under a grant from the Hodgkins Fund, and also the researches by Dr. O. Lummer and Dr. E. Pringsheim, of Berlin University, on the determination of an exact measure of the cooling of gases while expanding, with a view to revising the value of that most important constant which is technically termed the "gamma" function.

Mr. Langley refers again to the unsatisfactory condition of the National Museum. The collections have increased so