

cells, like those which are unicellular, generally are incapable of development without impregnation. But no one can deny the name of true eggs to the ova of Butterflies, &c.; and we cannot therefore class as "false eggs" those which arise from more than one cell. Perhaps it would be better to distinguish the two classes as "compound," and "simple" or unicellular. The names we may adopt are, however, of less importance than the establishment of the fact that throughout the Annulosa there are two sorts of eggs, which are of an essentially different structure, and cannot therefore, strictly speaking, be regarded as homologous with one another.

*February 28, 1861.*

Major-General Sabine, R.A., Treasurer and Vice-President,  
in the Chair.

The following communications were read.

- I. "Tables of the Weights of the Human Body and the Internal Organs in the Sane and Insane of both Sexes at various Ages." By ROBERT BOYD, M.D., F.R.C.P., Physician to the County Somerset Lunatic Asylum. Communicated by Dr. SHARPEY, Sec. R.S. Received February 7, 1861.

(Abstract.)

These Tables have been compiled from notes of 2086 examinations made at St. Marylebone Infirmary between 1839 and 1847, and of 528 examinations in cases of insanity made at the Somerset Lunatic Asylum, between 1848 and the end of December 1860, comprehending, in all, a period of twenty-one years. The Tables are submitted with the hope that they may aid in forming a standard of the weight of the human organs at different stages of life from early infancy to old age. The cases are distributed under eighteen periods of life, and the Tables show the height and weight of the body, and the weight of the encephalon and its several parts, the right and left lung, the heart and all the abdominal organs; giving the maximum, minimum and average in each period. In the second series of cases, namely those from the lunatic asylum, the measurement of the head, and the weight of the spinal cord are also stated.

The assigned causes of death are given in the margin, also the deviations in weight of the lungs, heart and liver, occasioned by disease.

The following general results may be deduced from the first series of cases, namely, those occurring among the Poor of the Parish of Marylebone.

With few exceptions the body and internal organs arrived at their full size in both sexes between twenty and thirty years. In children especially, the body was attenuated from disease: for example, one scrofulous female child, aged three years, weighed only  $8\frac{1}{4}$  lbs., and the numbers about that age were insufficient to counterbalance the effect of such cases on the mean result, and form a standard of comparison for children of the same age under more favourable circumstances. The average weight of the males was greatest at from 70 to 80 years, which is to be accounted for by the large proportion cut off at earlier periods by pulmonary phthisis. The mean weight of the male brain was, at all periods, above that of the female, which was the probable cause of the large number of still-born male infants as compared with females, 51 to 32, and the necessity of resorting to craniotomy in five instances of the former only. The highest average weight of the brain in both sexes was from 14 to 20 years; the next highest was in the males from 30 to 40, and in the females from 20 to 30 years; but it will be observed that the cases were much fewer in number in these than in other later periods. The weight of the lungs was so much, and so frequently increased by disease, that healthy lungs were exceptions: it therefore appeared advisable to introduce in the margin their weights in various states, also the weights of the heart and liver, which were subject to great variations. The "Thymus gland," an organ which disappears with infancy, was so large in the foetus in fourteen cases, that it appeared to have formed a fatal impediment to respiration. The abdominal organs were generally heavier in the male than in the female; the spleen in both was subject to considerable variations in size, and the mean weight of the left kidney was generally found greater than that of the right.

The general results obtained from a review of the second series of cases are stated by the author as follows:—

The average height of the adult male varied from 67·8 to 65

inches, of the female from 63·2 to 61·6 inches; while the mean weight of the former varied from 112·12 to 91·5 lbs., and of the latter from 95·2 to 76·9 lbs., showing a preponderance of the insane male of 6 lbs., and of the insane female of 8 lbs., as compared with the sane adults dying at the same period of life.

The average weight of the right cerebral hemisphere varied in the males from 20·89 oz. to 18·97 oz., and in the females from 19·21 oz. to 17·20 oz.; the left varied in the males from 21·05 oz. to 18·62 oz., and from 19·51 oz. to 17·39 oz. in the females. It is a singular fact, confirmed by the examination of nearly 200 cases at St. Marylebone, in which the hemispheres were weighed separately, that almost invariably the average weight of the left exceeded that of the right by at least the eighth of an ounce. In the *Med. Chir. Trans.* vol. xxxix., several cases of inequalities of the cerebral hemispheres which came under my notice are given. The average weight of the cerebellum varied in the males from 5·42 oz. to 5·06 oz., and from 5 to 4·74 oz. in the females; that of the pons Varolii and medulla in the male from 1·15 oz. to 1·02 oz., and from 1·05 oz. to ·95 oz. in the females; and that of the encephalon in males from 48·17 oz. to 43·87 oz., and in females from 44·55 oz. to 40·55 oz.; in the sane, at the same period of life, the average varied in the male from 48·2 oz. to 45·34 oz., and in the female from 43·7 oz. to 39·77 oz.

The general average weight of the lungs is shown in the Table, and the exceptions in the margin. The average weight of the heart did not reach its maximum until an advanced period of life.

In the abdominal organs nothing was observed differing essentially from those in Table No. 1.

## II. "On the Electric Conducting Power of Copper and its Alloys." By A. MATTHIESSEN, Ph.D. Received Feb. 14, 1861. Communicated by Professor W. THOMSON, F.R.S.

The difference in the numerical results obtained by Prof. W. Thomson (*Proceedings of Roy. Soc.* 1859, x. p. 300), and those by Dr. Holzmann and myself (*Phil. Trans.* 1860), on the conducting power of copper and its alloys, made it somewhat necessary to re-investigate the subject, in order to ascertain the cause of these differences. For this purpose Professor Thomson kindly placed at my