years by female paupers; and, while the buildings themselves are substantial, their possibilities are few in the way of improvement.

These buildings are excellently fitted for use as work-shops, which are much needed in connection with the trades-schools already organized, and those which will be in the near future; and it is hoped that during the ensuing year suitable dormitory facilities will be supplied; when they can be used for that purpose.

The printing-office, which was in operation before the advent of the present commissioner, has been increased in size, and several boys have been added to it. They have now resumed the publication of a paper, which was formerly issued, and it is expected that the value of this to the boys will be largely increased by the publication in it of original work by the boys themselves.

The "Sloyd system" has been introduced, and the result is all that could be expected, not only in the effect on the boys themselves but in the character of the work turned out.

A shoe-shop has been started, and, while it has been run but about two months, the boys are turning out better shoes than those furnished them in the past by Deer Island labor.

A band has been organized, and while the results may not be yet of symphony standard, they are certainly startling at times.

Of these various departments perhaps the most pleasing result is, the interest in them of the boys themselves, and next to that the good common-sense of those immediately in charge. Without these elements success would be at least doubtful; with them, it must be assured; and we find them both developed to a high degree at Rainsford.

One of the greatest steps in advance has been in the diet, where the change has been made from prison fare to one which will compare favorably with many schools of so-called higher standard. With the improvement in diet has come a corresponding one in table manners, and the boys are no longer criminals but self-respecting young men.

While on the subject of Rainsford Island I wish to call your attention to the work which it is proposed to carry on there during the ensuing summer in the care and treatment of infants.

During the past three years Dr. Ernst has almost literally "carried on" a similar institution on that island, using the old hospital buildings loaned him for that purpose by the Commissioners of Public Institutions. At the time this hospital was opened there was no suitable place for the reception of infants under two years, during the summer months in or near the city. Dr. Ernst, almost unaided, demonstrated the necessity and possibilities of such an institution, not only to the public but to the Institutions Department. It is evident that the city should, and can, with small expense, support such an institution, and the Institutions Commissioner has therefore assumed that work and will carry it on in the future. Dr. T. M. Rotch has been urged and has very kindly accepted the "medical directorship," and will have entire medical control.

I feel that the profession, as well as the city, owes Dr. Ernst a debt of gratitude for the good work he has done in this line, as in others. I also feel that it should be expressed in this Society, as it is certainly in the line of medical improvement.

ALMSHOUSES.

The city has at present two almshouses: one, the larger, is located on Long Island, where the large body of paupers are received, together with those needing hospital care; the other in Charlestown, is the old Charlestown Almshouse, and is now utilized for deserving couples and other selected cases.

THE CHARLESTOWN ALMSHOUSE

is an old institution, and was in use long before the annexation of that district. The buildings are substantial, and, while they need many minor changes, are satisfactory as a whole.

It has been proposed several times to close this institution on account of the additional expense of separate maintenance. The necessity for its maintenance is, however, very plain, as, if any definite system of classification is to be carried out, this or a similar institution will be needed, where couples or other deserving people may be kept at a distance from the large mass of paupers, and where on account of their isolation certain restrictions can be removed.

The institution needs to be thoroughly renovated, and it is suggested that a wing, to contain about forty separate rooms be built, where deserving couples may be allowed to room together.

There are now something less than two hundred beds, which are usually filled, it being quite popular, especially with Charlestown people.

(To be continued.)

SOME STATISTICS ON WEIGHT OF INFANTS, SEX AND FETAL HEART-RATE.¹

BY CHARLES W. TOWNSEND, M.D.

STATISTICS of large numbers of cases are often useful to correct erroneous impressions or statistics from small numbers.

Thus the statement is often found in text-books that the fetal heart of girls is more rapid than that of boys. It appears to depend on the statement made in 1859 by Frankenhauser that the average fetal rate in boys was 124, in girls 144; and this he obtained as a result of fifty observations! It is no wonder that predictions of sex based on such a small foundation should be disappointing.²

Taking a thousand cases at full term at the Boston Lying-in Hospital, the average rate of the fetal heart was as follows: 500 male, 140.26; 500 female, 141.83. This difference of one-and-a-half beats is, of course, valueless for prophetic purposes.

Let us hope that Frankenhauser's statement will no longer be copied in the text-books.

The average weight of these 1,000 full-term babies was as follows: 500 male infants, 7 lbs., 8.9 oz.; 500 female infants, 7 lbs., 5.1 oz.

It may be said that the slightly slower heart-rate in the boys depends on the slightly heavier weight of this sex. It is interesting to note, however, that some of the very heavy babies had rapid hearts, and *vice versa*; so that no individual prediction of the weight of the child could be made by the heart-beat. The variations in the rate of the heart-beat at different periods in the labor is also a commonly observed fact.

Of 7,515 deliveries at the Boston Lying-in Hospital

¹ Read before the Obstetrical Society of Boston, February 18, 1896.

² The subject has been studied since by Dautz, Wilson, Cummings, Devillers, Englehorn and others, and Budin and Chaignot.

the heaviest child was a female weighing twelve pounds. The infants are all weighed carefully, and the actual weight without clothing is obtained. The following table shows the number of heavy children over ten pounds in weight born at the hospital:

	Male.	Female.	
10 to 11 lbs.	46	25	
11 to 12 lbs.	10	5	
12 lbs.	—	1	
	56	31	Total 87

The records of the out-patient department were not considered sufficiently reliable to examine for this purpose. The largest baby, however, in which the record could be trusted weighed exactly thirteen pounds. This child was carefully weighed on scales that had been tested.

I am greatly indebted to Dr. F. P. Denny, who did most of the work in compiling these statistics.

Clinical Department.

IMPERFORATE RECTUM:

THE OPERATIVE TREATMENT, WITH REPORT OF A SUCCESSFUL OPERATION BY EXCISION OF THE COCCYX AND PART OF THE SACRUM.¹

BY F. A. HIGGINS, M.D.

IMPERFORATE rectum is the common name by which the various congenital defects of the anus and rectum, which result in obstruction of the bowels, are designated. The defect is rare if we take into consideration the whole number of births yearly, yet it is of sufficiently frequent occurrence to be seen occasionally by the surgeon and obstetrician.

In a joint collection reported of over 73,000 births at the Lying-in Hospitals of Dublin, Vienna, Paris and Havre there were only seven cases of imperforate rectum, or about one case in 10,000 births. This seems, however, to be much below the usual number, as other places give an average of about one case in 5,000 births.

At the Boston Lying-in Hospital the percentage, as reported by Dr. Townsend in 1892, is very much higher, he having found seven cases among 5,500 births in that hospital; or about one to 800.

In several reports of private cases the percentage is even greater than those figures. Dr. Anger met five instances in 2,000 and Dr. Duncalfe five in 3,000 births. These statistics vary somewhat widely, but taken together they give an average of one case to 3,300 births, and are perhaps as valuable in that respect as most statistics.

The malformations of the rectum and anus are generally attributed either to arrested development or to accidents happening during the development of the parts in early fetal life. It has been suggested also that fetal peritonitis and other peritoneal changes are responsible for these defects; and a certain amount of evidence to this effect has been observed.

A knowledge of the manner of development of the intestinal canal shows the method of production of the deformity in its various forms. In the earliest stages of fetal life the whole alimentary canal consists of a simple sac or bag from which the intestines form as a

small tube. The rectum eventually develops from this tube, and gradually separates in the form of a blind pouch. This pouch advances downwards, and in the normal process finally communicates with the anal depression. An invagination of the skin in the perineum forms the anus, which ascending a short distance meets the rectum.

These processes may become arrested at various stages and positions in the development, and result in any one of the several malformations which are usually found. Briefly these are:

(1) A narrowing of the calibre of the rectum without complete occlusion of the lumen. This narrowing may be of moderate amount and extend for a short distance only, or it may be reduced to a small opening through a considerable space, and produce symptoms of acute obstruction. The prognosis in this variety is generally favorable, and treatment may usually be carried out by gradual dilatation, unless the stricture is too narrow and extends through too great a distance, in which case a more radical operation is demanded.

(2) The rectum itself may be perfectly formed, but the anus is partially or completely wanting. In such a case the occlusion of the anus may be by a membranous diaphragm of greater or less thickness and the anus marked by a mere dimpling of the skin, or the skin may even bulge, when straining takes place from distention and presence of meconium above. Fluctuation also can sometimes be made out in such cases.

(3) In this form also the anus is absent, while the rectum terminates in a blind pouch at a point some distance away. This may be low down in the pelvic cavity, or it may end high up in the pelvis. There may be present in such cases a distinct fibrous cord of some size, to indicate the place for the rectum, and extending from its terminus to the skin; on the other hand, there may be nothing to show its proper place, the space being merely filled with cellular tissue.

(4) The anus is normal in appearance, but ends in a short cul-de-sac just inside the external opening, while the rectum also ends in a blind pouch at a point more or less distant above. This class of cases includes as well that form in which the partition between the two is composed of only a thin membranous septum, through which it is sometimes possible to successfully introduce a trocar and safely dilate the opening thus made. Such a case may be deceptive, however, in that the distance between the rectal and anal pouches is greater than appears to the finger, owing to the fact that the distended rectum above overhangs and crowds down upon the smaller part below. In such an instance instead of going directly through, the trocar may penetrate the rectum by way of the peritoneal cavity and result in peritonitis and death.

There are other rare forms of rectal malformation in which the rectum is wholly absent, or in which it discharges through a fistulous opening into the vagina, bladder or urethra; or externally in the perineal or sacral region. The first form is amenable only to colotomy, while the operation described here is believed to be of utility for relief of the latter. Yet whatever operation is done, is usually one of expediency and performed at a later date and under more favorable circumstances than in those cases where there is no exit whatever to the rectum.

¹ Read, by invitation, before the Obstetrical Society of Boston, February 18, 1896.