is less obvious, also to the fact that boys engage more freely in physical movements at all ages, and therefore are less liable to the deposit of cutaneous fat. Employment out of school hours may also have some effects. By way of explanation of the lack of nutrition of the leavers, as compared with the entrants, there is the statement of Dr. Stork of Bury St. Edmunds: "It would appear as if it were the rule among our urban industrial classes for the elder children to suffer for the benefit of the younger ones."

Dirt affects the girls much more than the boys. The percentage of verminous heads is still fearfully high in some districts. Wolverhampton reports no less than 83 for the girls; if such be the condition after two years of supervision, what must it have been before this began? In no circumstance is the benefit of school medical inspection more apparent than in this; the children are themselves becoming more sensitive to the presence of this defect, and the *esprit de corps* engendered in the schools by the teaching staffs, as well as among the children themselves, is bearing good fruit.

In vision there is, again, an extra degree of defect in the girls, whether the figures be taken in the towns or the country. It has been asserted by some that this is due to the difference in curriculum, such as the fine needlework of the girls. Whether this be so, or whether there be a real sexual factor, cannot be determined as yet.

(c) Influence of Urban and Rural Conditions.

The returns for this comparison are in the main based on the work of Dr. Fremantle of the County of Herts. It is found that as regards height and weight, nutrition, clothing and footgear, and cleanliness, the town children are at a disadvantage with the country children. The country children suffer more from disorders of the tonsils and adenoids by almost 2 to 1. Visual defects are, however, more frequent amongst the town children, in the proportion of 3 to 2. Reports from all parts show that in districts of good houses the children are clean and well cared for; where the housing leaves much to be desired they are often dirty. Some of the worst of the districts are just on the skirts of the great towns. There the inhabitants are of the shifting type and composed of the worst elements of the population. When the pressure of the sanitary authorities becomes too great for them in one place they flee to another. One reason for the defect of the nutrition of the town children as compared with the country children is the lack of open playing spaces in towns; where these are deficient, and parents do not allow their children to play in the streets, the children suffer from insufficient play and exercise.

Appended to this section there is a study of the incidence of heart disease in children. In London "valvular lesions and other defects of the heart" were reported in 4,336 cases (2.2 per cent.) of the children examined. The incidence rose from 1.5 per cent. among entrants to 3 per cent. among leavers, girls being more frequently attacked than boys.

Tuberculosis in School Children.

The table prepared by the Registrar-General's office shows that the mortality from tuberculosis amongst children and young people continues to decrease. It is highest in towns and urban districts. "In early childhood lymphatic tissue, bones, and joints are more frequently invaded than the lungs, and although infection of the lungs appears to become increasingly common as the child grows older, it comparatively seldom presents a similar picture to the well known pulmonary tuberculosis of adult life. If the disease is early recognized and suitable means are available, the treatment of tuberculosis among children may be undertaken, with an excellent prospect of securing satisfactory results. It is important that the authority responsible for the physical welfare of the school child should recognize the fact that the disease is more amenable to treatment in childhood than in later life, and that a relatively small outlay in money in preventive and medical measures during this period may effect a correspondingly large reduction in sickness and ill-health during early adult life. Money wisely spent on the amelioration of tuberculosis in the child will be more than repaid to the community by the increased economic and industrial value of the grown man or woman." In the matter of prevention stress is laid—on securing fresh air for the children, whether they be tuberculous or not; on

the dangerous effects of malnutrition, whether from insufficient food or from bad food; on the dangers of neglect of throat and nose diseases; on the evil effects of chronic bronchitis. "Keeping the feet dry would go far to diminish the frequency of colds and bronchitis, and so indirectly to prevent the occurrence of tuberculosis."

The growth of what might be called hospital schools is commented upon. Apart from their ultimate results the lessons are welcomed by the hospital staff as they serve to keep the children quiet and occupied, and are enjoyed by the children themselves as a happy alternative to aimless play. Such teaching is of particular value in the surgical cases. Reports are given of the recently recognized residential sanatorium schools for children in various counties, with photographs of the school premises. Similarly new day open-air schools are dealt with.

In the concluding paragraph on this section there is written: "The practice of excluding from school children suffering from early pulmonary tuberculosis is to be deprecated. Such children are seldom, if ever, dangerous to their fellows, and, unless they are considered actually to be capable of spreading infection, they are usually far better in attendance at school, where they spend a part of the day under reasonably good conditions and are subject to discipline, than at home where the conditions are often unsatisfactory. If excluded it is difficult to maintain supervision over their mode of life, unless they are really ill, and they tend either to loaf aimlessly about the house or streets, or they are made to do household drudgery or other unsuitable work."

Stammering.

The returns of a number of counties show that somewhat under 1 per cent. of the children suffer from this functional defect. The younger children suffer more than the elder, boys more than girls. Dr. Young, of Middlesex County, shows that whereas the normal incidence in his district of enlarged tonsils and adenoids was 10 per cent., amongst the stammerers it was as high as 21 per cent. The defect is associated with deficient respiratory effort and a false usage of the larynx. Defects of the oro-nasal mechanism, on the other hand, affect the formation of sounds and articulation. A most excellent chapter is devoted to the treatment of these cases. In many districts special classes have been arranged for small numbers of children, and the results obtained have been very good. All experience shows the primary necessity for obtaining the co-operation of the parent and the home if a satisfactory and lasting result is to be obtained in many cases. A good deal of help can be given by the teachers, more particularly at the early onset of the disease. Steps must be taken, also, to prevent the child being subjected to ridicule at school.

(To be continued.)

THE DEVELOPMENT OF THE PRESSURE FORCEPS

(WEBBER'S—KOEHLER'S—PÉAN'S—WELLS'S).

In Chronological Order from the Original Reports.

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THE disputed question of the development and the developers of the pressure forceps, "Wells's forceps" as it is usually called in this country, has recently been forced upon my attention as I have undertaken the arrangement of the collection of obstetrical and gynaecological instruments in the Museum of the Royal College of Surgeons of England. The following list of original references may be of assistance to those who are interested in the subject. I witnessed, when a student, the incident recorded under the date 1869. Koehler's work, freely quoted below, gives an admirable summary of the history of haemostasis down to the establishment of the pressure forceps. He alone, of all the more or less distinguished men mentioned below, survives, and his colleagues were preparing last summer to celebrate his long services as Professor at the University of Strassburg, when the war put a stop to the intended proceedings. We sincerely trust that events may allow the veteran ovariotomist, whose eighty-seventh birthday fell on January 4th, to enjoy

the postponed celebration after all, for his forceps has proved of the highest value in military as well as in civil surgery.

1853.

Webber, in a letter published in the *Medical Circular*, January 5th, 1859, p. 10, writes about "The antiligator forceps which I, reasoning on the experiments of instinctive nature, invented in 1853 for the purpose of arresting the flow of blood from incised vessels."

Webber, "about 1856 to 1858, made many efforts to introduce into practice in the Metropolitan Hospitals what he called 'antiligator forceps.'" (Spencer Wells's Remarks on Forcippresure, *BRITISH MEDICAL JOURNAL*, i, 1879, p. 926, which include drawings of "four specimens of the different kind of teeth used in the forceps of Mr. Webber," and of Koeberlé's and Péan's forceps.)

1855.

Spencer Wells took out a number of "bulldogs" (Dieffenbach's forceps) to the Crimea. (Loc. cit.)

1858.

Charrière submitted to the Académie de Médecine in May his "pincés à pansement et à pression continue à anneaux avec les points d'arrêt à crémaillère transversale et à clou"; the well-known dressing forceps which suggested to Koeberlé the pressure forceps. (Koeberlé, *De l'hémotase définitive par compression excessive*, 1877, pp. 19 and 25.)

Spencer Wells's first ovariectomy. He used bulldog forceps in all his earlier cases of ovariectomy for stopping any vessel which bled in the abdominal wall divided in the first incision. (Remarks on Forcippresure, *BRITISH MEDICAL JOURNAL*, vol. i, 1879, p. 926.)

"A Haemostatic to supersede Ligatures!" the earliest published account of Webber's antiligator forceps, appeared in the *Medical Circular*, December 29th, 1858, p. 302.

1859.

Letter from Webber appeared in *Medical Circular*, January 5th, p. 10 (see 1853). Holmes Coote witnessed an amputation of the breast by Webber this year or in 1858, and the antiligator forceps proved very satisfactory. (See 1869.)

1862.

Webber's antiligator forceps demonstrated by Sir W. Lawrence in the operating theatre, St. Bartholomew's Hospital. (*Lancet*, vol. ii, 1862, p. 328.)

During an ovariectomy Koeberlé stopped the bleeding of an ovarian artery, lying deep in the abdomen, by means of a Charrière's forceps (see 1858). It came away spontaneously on the sixth day. (*De l'hémotase*, p. 15.)

1863.

Spencer Wells began to increase the size of the "bulldog" forceps, and to attach silver or iron wire to it lest it should be forgotten and left in the abdominal cavity. (Remarks on Forcippresure, *BRITISH MEDICAL JOURNAL*, vol. i, 1879, p. 926.)

1865.

Verneuil cut through the pedicle of a fibroid uterine polypus with scissors; the stump bled freely, and he applied his own polypus forceps, tied the shanks above the handles, and left the instrument in place until the second day. ("De la forcippresure," *Bull. et mém. de la Société de Chirurgie de Paris*, vol. i, 1875, p. 18.) He adopted this practice with success for ten years, publishing his results. The forceps was sometimes left for many days on the vessel.

In December, 1865, Elser, a manufacturer, supplied Koeberlé with the first dozen of the forceps of that surgeon's design, which he called successively "pincés à cliquet, pincés à pression," and lastly, in 1868, "pincés hémostatiques." They were made after the pattern of Charrière's dressing forceps. (See 1858.) (*De l'hémotase*, p. 16.) Koeberlé only used them temporarily, instead of *serres-fortes*, till 1867. (Loc. cit., p. 5.)

1867.

Koeberlé performed an ovariectomy on October 28th; many vessels bled. He applied his forceps (see 1865) freely and found that when he took them off there was no bleeding, so that no ligatures were needed, except for one point on the omentum. The patient recovered. (*Gazette des hôpitaux*, 1868, p. 419.)

1868.

Guérède made for Péan "Un modèle spécial de pince à anneaux et à arrêt" the "Péan's forceps" (with Charrière's lock), well known to surgeons. (Deny et Exchaquet, *De la forcippresure*, p. 16.)

1869.

On December 10th Holmes Coote amputated a breast at St. Bartholomew's Hospital. Webber was present and suggested the use of his antiligator forceps. As Coote had seen the instrument employed ten years before (see 1859) with success, he made use of it on this occasion, with excellent results. (Letter signed "A Pupil," *Medical Times and Gazette*, vol. i, 1870, p. 76.)

1872.

Spencer Wells's pressure forceps, original pattern, with a space between the shanks when closed, first made early this year by Krohne and Sesemann. (Remarks on Forcippresure, *BRITISH MEDICAL JOURNAL*, vol. i, 1879, p. 926.)

1874.

In the "Reports from the Metropolitan Hospitals on the Use of Torsion" in the *BRITISH MEDICAL JOURNAL*, vol. i, 1874.

p. 47, it is stated that "Mr. Spencer Wells (Samaritan Hospital) has introduced a kind of artery torsion forceps which very conveniently replace the old spring artery forceps of Liston and the bulldogs used for the temporary stoppage of bleeding vessels during operations, while they are the most readily applied of any of the varieties of torsion met with in the shops." The instrument is figured in this report.

1879.

Wells, finding that the open space between the shanks in his forceps of 1872, and in Koeberlé's and Péan's instruments of the same type, involved danger of injury to omentum, etc., caused a new pattern to be made by Mr. Hawksley, with the shanks superimposed, and two catches, the compressive power being stronger than in any previously invented forceps. (Remarks on Forcippresure, *BRITISH MEDICAL JOURNAL*, vol. i, 1879, p. 926.) This "Wells's forceps," as now recognized, had a screw lock with a block on the blade side, the older type having a box lock, with a block on the blade side and the shank side; this arrangement was as dangerous as the space between the shanks, and very difficult to clean after use, as those who had the honour of working with Sir Spencer Wells were not slow to discover. Improvements have since been made—"Péan's joint," properly Charrière's "take off joint," and other devices being adopted; and the teeth cut in the blades in different ways. Lawson Tait, Greig Smith, Bryant, and others have modified the pressure forceps yet more distinctly, but in principle it remains the instrument developed by Charrière, Webber, Koeberlé, Péan, and Wells in the chronological order above displayed.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE thirty-eighth annual meeting of the above association was held at Pagani's Restaurant on March 17th (St. Patrick's Day). The presidential chair was resigned to Sir JOHN LENTAIGNE, F.R.C.S.I., by Surgeon-General Sir Havelock Charles, G.C.V.O. The annual report showed that the association, which now has 640 members, is flourishing financially, and has contributed during the year largely to the Indian Soldiers' Fund, the Fund for the Relief of Belgian Medical Men, and other funds for similar patriotic purposes. There had been some serious losses by death during the year. The one felt most was that of Dr. T. Hobbs Crampton, formerly the indefatigable honorary secretary and subsequently chairman of council, to whom was due, to a great extent, the present flourishing condition of the association. The council drew attention to the large number of members who had responded to the invitation of their ex-president, Sir Alfred Keogh, K.C.B., to take service during the war. Many had already gone to the front, among whom were mentioned the metropolitan honorary secretary, Dr. Gordon Holmes, Dr. T. Crean, V.C., and Dr. William F. Roe. Regret was especially recorded at the loss of the first recipient of the Arnott Gold Medal of the association, Lieutenant-Colonel Charles Dalton, R.A.M.C., whose distinguished services have already been recorded in the *JOURNAL*. Reference was also made in the report to the deaths during the year of Dr. Anthony Traill, Provost of Trinity College, Dublin, Dr. Irvine Scott of Brighton (ex-president of the association), Dr. Ernest Wilson Stoker, and Professor Anderson, Galway University College.

On account of the war there was no public banquet such as in previous years had always taken place on St. Patrick's Day. Some of the members, however, and their guests, to the number of seventy-nine, dined together in an informal way in the evening. Among the guests were Sir Frederic Hewitt and a large number of ladies. Opportunity was taken at the dinner to present to Lieutenant Thomas J. Kelly, R.A.M.C. (now on leave from the front on account of wounds), the Arnott Gold Medal for the year 1915, which had been awarded by the council for an "act of heroism" and devotion to duty on the occasion of the Church Street disaster in Dublin on September 2nd, 1914. Sir Launcelot Gubbins, in reply to the toast of "Our Defenders," said that he was proud of the fact that so many of his countrymen had, like Dr. Kelly, responded to the call for surgeons to do duty at the front, and he rejoiced to see the khaki uniform so conspicuous that evening among the members present. He concluded by quoting a stanza from some verses composed for the occasion by their old friend, Dr. Macnaughton Jones:

We'll ne'er forget our hero sons,
Than whom live none more brave,
Who fight for Freedom and for King,
And Ireland's honour save.