would act as a health visitor. Dr. W. G. WILLOUGHBY said that there was sometimes a sentimental objection to school nurses dealing with tuberculous cases on the score of possible infection. Dr. SANDILANDS considered that the dispensary nurses should be on the staff of the medical officer of health. Dr. CALDWELL SMITH thought it was not the duty of a dispensary nurse to attend people at their homes and make beds, empty slops, etc. The people themselves should do this. Dr. BYGOTT was afraid that tuberculosis work might get into the hands of voluntary charitable societies, whose standard was not usually very high. Dr. GERARD TAYLOR urged the importance of co-operation with the general practitioners who were just now suspicious of innovations, and feared the time might come when their work would be taken from them by public officials. Dr. HERBERT JONES, Dr. F. ROBINSON, and Dr. HOWARD-JONES also took part in the discussion, a portion of which took place at an adjourned meeting of the society on April 25th, when Dr. W. G. Willoughby presided.

ULSTER MEDICAL SOCIETY.

AT a meeting on April 17th, Dr. R. W. LESLIE, President, in the chair, Professor SYMINGTON demonstrated a method of making anatomical preparations by filling the hollow cavities with gelatine. Transverse sections of the human body an inch thick could be made in this manner, and could then be handled without displacement of structures, which so frequently happened when sections were made by other methods. Exact poker-work models could be made of these sections in wood, and transfixed in column by a long iron rod. Mr. CRYMBLE gave a demonstration on the living body of the palpation of the ileo-colon, the caecum, the transverse colon, and the lower end of the ileum where it enters into the caecum; and subsequently showed lantern slides of some abnormalities of the large intestine, and their relation to intestinal stasis. The other exhibits included demonstrations by Dr. MALCOLM of the paracolic folds and fossae, and some sections showing pericardial effusion; of the form and capacity of the renal pelvis, by Dr. KERR; of the motor area in a case of brachio-facial monoplegia in an infant, by Dr. DICKEY; and of a method of improved technique of staining tubercle bacilli, which was especially useful when there were a large number of specimens, by Dr. W. J. WILSON.

LIVERPOOL MEDICAL INSTITUTION.

AT a meeting on April 17th, Mr. F. T. PAUL in the chair, Mr. JEANS, after showing some specimens of *Desmoid tumours*, said the term was applied to tumours consisting of fibrous tissue growing from muscle and fascia, especially in the lower part of the abdominal wall. It was supposed that they might originate from inflammation, haemorrhage, or from friction. They sometimes appeared in cicatrices. Mr. Lockwood had described them and had recommended that they should be treated as suspect of malignancy. The specimen shown was about the size of a pigeon's egg, and had occurred in a fat, healthy woman of 22 in the region of McBurney's point, and had been noticed for three years, and was slowly growing and becoming painful. Mr. PAUL said the tumour was of a class of spindle-celled tissue which might become malignant, but when removed in time would not recur. Dr. J. MURRAY BLIGH, in a note on the *Tuberculin reaction*, said he had used Koch's old tuberculin in 60 cases, all children, half of whom had no symptom of tuberculosis, and half with evident tuberculous disease. His general conclusions were that tuberculin reaction was of no practical value for diagnostic purposes. He mentioned that in 9 cases of chorea tested 8 gave a positive reaction to human or bovine tuberculin, or to both, and after the chorea was cured they gave negative reactions. Professor BEATTIE said that a positive reaction in cases where there was no evident disease might arise from tuberculous disease being present in the tonsils. He had found this in cases where there was no other tuberculosis. The cases of chorea might give a reaction, as sore throat was a common accompaniment of chorea, and it might be tuberculous, and so explain the high percentage of reactions in chorea cases. Dr. PERCY MARSH had found, after extensive use of von Pirquet's method, that it was of little value, but in children under 1 year a positive reaction had invariably meant a fatal result in that case.

Reviews.

HUMAN EMBRYOLOGY.

ALTHOUGH the science is but of yesterday, the two handsome volumes of the *Manual of Human Embryology*,[1] by KEIBEL and MALL—one consisting of over 500 pages and the other twice as large—illustrate in a striking fashion the enormous output of work in this subject since the late Professor Wilhelm His began, by means of serial sections, the systematic examination of human embryos. He it was who made the great change in technique, and who constructed the apparatus for section cutting which, primitive as it now seems, led the way to our modern microtome, and he also thought out a method of graphic reconstruction which has been greatly improved, especially by Born, and which is now absolutely indispensable in embryological investigation. It was with this equipment that His began the study of human embryology, and a whole army of investigators—many of whom received their first inspiration to the study of the subject in his laboratories—have continued the work.

The idea of working out a complete account of the development of the human body was always before the mind of His, but as time went on the hope of accomplishing the task single-handed failed him, and he suggested to Professor Keibel of Freiburg that he should collaborate with him in writing a textbook on the subject. Unfortunately, through the death of His in 1904, the plan was never carried out, but Professor Keibel, on whom His's mantle has fallen, has been able by means of his *Normentafel zur Entwicklungsgeschichte der Wirbeltiere*, to carry the plan further, and to prepare the way for its fulfilment. Obtaining the assistance of one of His's most distinguished pupils in America, Franklin P. Mall, of the Johns Hopkins Medical School, he has been able to bring to completion such a handbook of human embryology as His and he had planned. To do this they have enlisted the services of a number of colleagues, the necessary similarity of treatment being secured by a common purpose and by editorial supervision. No one can examine the pages of these two volumes without being struck by the fact that each contributor writes with a complete mastery of his subject. In vol. i Keibel has written on the germ cells, fertilization, segmentation, and young embryos; Grosser has contributed the article on the egg membranes, the placenta, and menstruation; Mall has written on the pathology of the human ovum and the determination of the age of human embryos and fetuses; Pinkus has contributed the chapter on the development of the skin; Barden that on the skeleton; and Lewis that on the muscles. The first volume is completed by an article by Mall on the development of the diaphragm and the body cavity.

In vol. ii Streeter has a long article on the development of the nervous system; Zuckerkandl a short one on the suprarenals and chromaffin organs; Grosser, Lewis, and McMurrich have collaborated to write the chapter on the development of the digestive tract and its derivatives; whilst Minot, Evans, Tandler, and Sabin together have contributed the article on the development of the blood, the vascular system, and the spleen. One of the most comprehensive chapters—that dealing with the urino-genital system—has been written by Felix, and the work is rounded off by Keibel, who has summarized in a brief closing chapter the interdependence of the various developmental processes.

Within the limits of this review it is not possible to give any detailed criticism of the work, and we cannot do more than speak in general terms of the high character of the whole series of articles contributed. It has been a gigantic task, and embryologists the world over are under a great debt of gratitude to the distinguished editors and authors for providing such a record of present knowledge of the embryology of the human body, a record which must remain the standard work to which all investigators in this field will turn for reference. It is a work also which indicates in a critical way the lines along which future work must develop. The usefulness of the book is greatly

[1] *Manual of Human Embryology*. By various Authors. Edited by F. Keibel and F. P. Mall. London and Philadelphia: J. B. Lippincott. Two vols. (Imp. 8vo, vol. i, pp. 555, illus. 423; vol. ii, pp. 1040, illus. 658. 30s. net each.)

enhanced by the free use of illustrations—it contains over one thousand—and also a very full bibliography; in short, it is a mine of authoritative information, to which the physician and surgeon will doubtless turn, as well as the teacher and student of anatomy, whenever helpful knowledge is required in connexion with the development of any part of the human body.

THE TREATMENT OF INFANTILE PARALYSIS.

THE English translation of the book on this subject by Dr. OSCAR VULPIUS of Heidelberg,[2] has been made by Dr. ALAN TODD, and we may say at once that he has succeeded in rendering the German into clear and idiomatic English. Beginning with the history of infantile paralysis Dr. Vulpius gives an interesting summary of the recorded epidemics of the disease in Europe and America. He inclines to the disquieting opinion that its prevalence has increased, although it must be admitted that the increase may be apparent only, owing to the increased attention given to disease in general and to nervous diseases in particular. The surgical treatment of infantile paralysis may be roughly classified as correction of position by means of operations on the skin, bones, joints, and tendons, or correction of function by operations on tendons and nerves, designed to restore lost powers of voluntary movement. These latter proceedings are of quite recent date, for although Nicoladoni's first operation was done in 1880, it is only since 1892 that much attention has been given to the subject by surgeons, and notably by Professor Vulpius himself. His statement, therefore, in this book of his experience and of his opinions is bound to have great weight and interest, and we do not think that the student of the subject can find anywhere a more complete account, or one which will give him more full practical advice, always remembering that the author is somewhat of an enthusiast in tenoplasty, and that some authorities, notably Professor Kirmisson of Paris, would very heavily discount his account of the benefit to be expected from it. The work includes a great deal of valuable information upon the incidence of the different forms of paralytic deformities, discussions of the best treatment for each, and a very good section on orthopaedic instruments. The illustrations are many and excellent.

RADIOLOGY.

A BRIEF account of the methods employed in the *x*-ray examination of the stomach and intestines is given by HOLZKNECHT.[3] It is illustrated by diagrams showing the appearances that may be considered normal, and comparing them with the signs found in such disorders as hypermotility, duodenal obstruction, chronic constipation, ulceration or new growth in the colon, enteroptosis, and so on. He recommends the use of barium sulphate, *chemice purissimum ad usum internum*, as the best salt for the purpose. Of this, 80 grams (2¾ oz.) may be given by the mouth in milk-gruel; when the large intestine is to be examined, 300 grams (10½ oz.) of it may be administered to an adult in a starch enema, 500 to 1,000 c.cm. being slowly injected in children, 1,500 to 1,700 c.cm. in adults. The *x*-ray examination should be made immediately after the enema has been given, and, in general, both six and twenty-four hours after the barium sulphate meal has been taken. Holzknecht notes that the enema commonly fills the whole colon and caecum, often the appendix too, not rarely part of the ileum. The pamphlet may be warmly recommended to the attention of skiagraphers and clinicians.

Dr. H. E. SCHMIDT, of Berlin, who is well known as a dermatologist and radiologist, has written a small practical manual on radium-therapy, but it would not be claiming too much for it to describe it also as a book of reference.[4] The German style is easy, terse, and to the point, and the subject is treated so simply that the English reader will have no difficulty in understanding even the technical section, which occupies the first sixty-eight pages of an admirably illustrated book. The advantages and disadvantages of the many varieties of appliances now on the market are shortly reviewed in this section, and the study of it will amply repay any intending purchaser of an *x*-ray outfit. The second part is a compendium of *x*-ray therapy, and includes a very clear description, under subheadings, of the development of the art, *x*-ray dermatitis and carcinoma, sensitization and desensitization to *x* rays, deep-level technique, prophylaxis for the operator, and the detail for the individual treatment of all the skin disease indications, with simple diagrams to illustrate his exact meaning. The survey concludes with a reference to the applications of radio-therapy in general medicine, and the treatment of such diseases as leukaemia, malaria, Graves's disease, arthritis deformans, etc. Neuralgia, uterine myomata, tuberculosis, hypertrophy of the prostate, inoperable carcinomata, and certain diseases of the larynx and air passages are discussed. Every worker should possess a copy of this book.

[2] *The Treatment of Infantile Paralysis.* By Oscar Vulpius, M.D. Translated by Alan H. Todd, M.B., B.S., B.Sc.Lond. With introduction by J. Jackson Clarke, M.B.Lond., F.R.C.S. London: Baillière, Tindall and Cox. 1912. (Med. 8vo, pp. 328; 243 figs. 10s. 6d. net.)

[3] *Die Röntgenuntersuchung des Darmes.* Von Priv.-Doz. Dr. G. Holzknecht. (8vo, pp. 12, with 12 figures.) Reprint from *Jahreskurse für ärztliche Fortbildung*, Munich, August, 1912. J. F. Lehmann.

[4] *Kompendium der Röntgen-Therapie.* By Dr. H. E. Schmidt. Third and enlarged edition. Berlin: August Hirschwald. 1913. (Demy 8vo, pp. 233; Abbn. 80. 5s.)

NOTES ON BOOKS.

AN issue of the Twentieth Century Science Series which has not hitherto been noticed is by Dr. SIDNEY HILLIER of Stowmarket, Suffolk, whose volume is entitled *Medical and Surgical Science*,[5] the scope of the work being further indicated by the subtitle, "Conception and Progress." Considering the modest size of the volume, the account supplied by it of the evolution of the science and art of medicine from the earliest ages up to the present time must be deemed remarkably complete. For the most part it is schools of thought and those who have founded or represented them that are considered; but in the later pages the author deals in some degree with modern treatment, and indulges himself in a cautious forecast of future developments. Obviously keen as is his interest in the subject, he nowhere allows it to run away with him, the result being that all periods receive a well-balanced meed of attention, and that the volume may be read with interest either by laymen or by members of the medical profession. In addition to a good index and some reproductions of old pictures of early surgical procedures there is a comparatively brief bibliography.

MEDICAL AND SURGICAL APPLIANCES.

An Antiseptic Toothbrush.

IN 1910 Dr. D. W. Carmalt-Jones and Mr. Herbert Smale read a joint paper before the British Medical Association on "Some Points in the Bacteriology of Toothbrushes," in which they advocated the sterilization of those articles, because it appeared to them that even in an infected cavity such as the mouth it was preferable that an instrument which is so used that it may scarify the gums should not convey any additional organisms directly into the wound. This paper appears to have attracted some attention in America, and Dr. Carmalt-Jones and Mr. Smale inform us that an American dentist, Dr. Ernest C. Dye, of Greenville (S.C.) has devised a toothbrush which is efficiently sterilized by formalin vapour. It consists of a cylinder closed at one end by an hemispherical cap which contains wool soaked in formalin and kept in place by wire gauze. The other end carries the brush, which is screwed on for use and after use is reversed and screwed inside the cylinder, where it is exposed to the formalin vapour and rendered sterile. A more practical modification is, they consider, the use of a long cylinder in which an ordinary toothbrush can be kept while out of use. If the toothbrush is damp when put into the cylinder all ordinary mouth organisms are killed.

[5] *Medical and Surgical Science: Its Conception and Progress.* By S. Hillier, M.D. Twentieth Century Science Series. Halifax: Milner Company. 1911. (Crown 8vo, pp. 133; plates 6. 1s. net.)

AT the meeting of managers at the Royal Infirmary, Edinburgh, on April 28th, it was intimated that of the 2,862 patients admitted to the wards for treatment between January 15th and April 14th, 1,197 were insured persons; of the 7,966 out-patients treated during these three months 2,535 were insured persons.