

the 16th to perform abdominal section, the abdomen being now somewhat distended and bloody mucus being passed at frequent intervals with much tenesmus. Liquid nourishment had been fairly taken since admission, and had only been occasionally ejected, the vomited matters having no fæcal odour.

The operation was as follows:—The child being as much as possible protected from cold, the abdomen was opened by an incision in the median line, extending from a point a little above the umbilicus to midway between this and the pubes. Some two feet of small intestine having then been drawn out on to the abdomen and protected with a cloth wrung out of hot water, reduction of a portion of the bowel was effected with difficulty by a process of pulling and kneading. During this proceeding a fissure occurred in the surface of the ensheathing gut by the giving way of the peritoneal coat, and finally this was converted into a rent during further efforts, exposing the invaginated intestine, the last two inches of which were found to be in a gangrenous condition, but with no signs of ulceration or separation. The intussusception having been thus reduced so far as the lower end of the ascending colon, and the adhesions being then found too strong to admit of any further reduction, the invaginated gut, which consisted of the cæcum and its appendix with about three inches of the small intestine, was then removed, the bowels emptied as much as possible of their contents (liquid fæces), and the ends of the divided gut united by the continuous suture interrupted at intervals. The wound was then closed with wire sutures.

The child never rallied from the operation, but died three hours afterwards. On reopening the wound, the ends of the divided intestine were found in perfect apposition and the colon and rectum contained liquid fæces, which had evidently passed down from above since the operation.

COUNTY DONEGAL HOSPITAL.

CASE OF LARGE SPINAL ABSCESS FILLING THE ABDOMEN, OBSTRUCTING VENA CAVA; ASPIRATION; INJECTION OF TINCTURE OF EUCALYPTUS; CURE.

(Under the care of Dr. TRAVERS B. BARTON.)

RICHARD MCL—, aged sixteen, was admitted on Oct. 1st, 1882. He had suffered from spinal curvature for five years. Two years ago the right side began to enlarge close to the umbilicus; since then the abdomen had gradually increased until the breath got short, when he sought advice. The abdomen was enormously distended and full of fluid; dulness from ribs to pelvis on right side to within an inch of the median umbilical line; the intestines were pushed *en masse* to the left side. The superficial veins were very prominent, some as large as a lead pencil in diameter; respiration was short and difficult; slight jaundice was present; measurement round umbilicus $32\frac{1}{2}$ in. The abscess seemed inclined to point in the nipple-line below the ribs. There had been extensive caries of the spine in the dorsal region; at least five vertebræ were implicated, their spines forming a prominent angle.

On the 4th sixty-nine ounces of greenish colourless pus were drawn off by an aspirator, the needle being introduced below the ribs in the nipple-line. Evening temperature 98° ; pulse 72. The abscess appeared about half empty. The needle became choked. The next day the veins were almost invisible; pulse and temperature normal; breathing comfortable; circumference round umbilicus $29\frac{1}{2}$ in. On the 10th the swelling was aspirated and eight ounces of pus withdrawn. The needle choked. On the 15th aspirated to six ounces, and the needle, having again become choked with flakes of pus, was removed and then reintroduced, but it at once became blocked. Three drachms of tincture of eucalyptus were injected through the needle. On the 21st seventy-six ounces of creamy pus were removed, and the abscess was completely emptied. The pus was of a uniform consistence, and flowed slowly but continuously through the needle. Measurement round umbilicus $27\frac{1}{4}$ in.

On Nov. 11th there was no appearance of the abscess filling. Sayre's jacket was applied, and the patient was allowed up. On the 24th the jacket was cut and reapplied, he having become too fat for it.

The patient was discharged cured on Jan. 13th of this year, with a fresh plaster jacket applied. Intestines in both sides of abdomen. No appearance of abscess anywhere. He has gained flesh, and wished to go home to work.

Remarks by Dr. BARTON.—There are some points of interest in this case—viz., the size of the abscess simulating ascites, it having taken five years to form; so little inconvenience was caused that the patient had walked six miles the day before admission; and, lastly, the curious effect the eucalyptus had upon the flaky pus that could not be removed through the aspirator needle. I have not yet heard of any other case in which eucalyptus has been used in this way, and with a similar result. The pus removed (six days after the injection) had a strong smell of the eucalyptus.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Case of Malformation of the Left Shoulder-Girdle.

THE ordinary meeting of this Society was held on the 13th instant, Professor J. Marshall, F.R.S., President, in the chair. The evening was occupied by the reading of a paper by Messrs. Willett and Walsham descriptive of a rare form of Malformation of the Shoulder-girdle, presumably the persistence of a supra-scapula analogous to the condition met with in the skate, being the second recorded instance of the deformity. The first example had been recorded by the same observers in a paper read before the Society three years ago.

The following is an abstract of the paper on the second Case of Malformation of the Left Shoulder-girdle, with remarks on the probable nature of the Deformity, by Mr. ALFRED WILLETT and Mr. W. J. WALSHAM. In the 63rd volume of the Transactions is a paper by the authors on "The Dissection of a Specimen of Congenital Malformation of the Bony Thorax, Spinal Column, and Left Scapular Arch, removed from the body of a woman, thirty-two years old, with remarks on the probable nature of the Deformities." The malformation of the shoulder-girdle consisted of a triangular bridge of bone stretching between the spinal column and the scapula. The present paper is founded on a similar malformation in a child eight years old, from whom the bridge-like piece of bone was removed by Mr. Willett, the child making a good recovery. The portion of bone removed was of an irregular triangular form, with a truncated apex. It had an osseous attachment to the spines of the seventh cervical and first dorsal vertebræ, and was connected by a layer of cartilage to the base of the scapula. It measures one inch and three-eighths in length, and one inch and a quarter at its widest part. It was covered by periosteum, and muscular fibres were inserted into it. The malformation is evidently similar to that in the former specimen, but differs in that the union of the bridge of bone to the scapula in the first case was osseous, in the present case cartilaginous—a difference which the authors believe throws additional light on the nature of the deformity. They regard it, in both specimens, as an over-development of the epiphysis which normally exists along the posterior border of the scapula, and consequently as the homologue of the supra-scapular bone of the lower vertebrata. The points that they think favour such a view are—1. The apparent continuity in the first specimen of the bridge of bone with the supra-scapular epiphysis, of which it appears to be an outgrowth. 2. Its cartilaginous attachment in the second specimen to the scapula (central piece). 3. The absence of analogy between these cases and exostoses, and the impossibility of explaining how, if they were exostoses from a vertebra, they could have become secondarily attached to the scapula. 4. The insertion of certain muscles into them, showing that the abnormality occurred at a very early period of development. 5. The abnormal condition, in the first specimen, of the scapula itself, and the presence of concomitant malformations of evident congenital origin. The intimate osseous union of the bridge of bone to the spine might suggest its being a so-called spinal exostosis. It differs from such, however, in that it is not covered with cartilage except where united to the scapula, in its flattened condition, in its growth in only one direction, and in its broad base of attachment to the scapula. The union to both the spine and scapula, moreover, can be better explained on the assumption of its being a supra-scapula. That an overgrowth of the epiphysis may occur is shown by

specimens in the museums of the Royal College of Surgeons and St. Bartholomew's Hospital. The epiphysis which normally exists in man at the base of the scapula presents a much higher grade of development in some of the lower animals; in some it remains throughout life as a distinct bone—the supra-scapula, which in some even (the thornback skate) is united to the spine. As the supra-scapular epiphysis in man is admitted by all to be the homologue of the supra-scapular bone of animals, it follows that if the bridge of bone is an overgrowth of the epiphysis it must also be the homologue of the supra-scapular bone. That this epiphysis in man may actually present an abnormal backward development is shown by the specimens referred to. It is advancing, therefore, but one step further to compare the bridge of bone in one specimen to the distinct supra-scapula of the frog, and but one step further still to conceive it united to the spine, as in the skate. On this theory the abnormality may be regarded not as a mere overgrowth of the scapula, but as having existed in its present form, though of course unossified, from the time of the differentiation of the cartilaginous shoulder-girdle from the mesoblast, and therefore as having had an attachment to the spine from the earliest period of its development. Considering the similarity of the primitive cartilaginous shoulder-girdle in all early vertebrates, it would not seem that such a grave departure from normal development was required to produce the abnormality. Analogous processes are not wanting in the human body, as, for instance, the overgrowth of the transverse processes of the seventh cervical vertebra into a cervical rib. If by a forward extension the transverse process, the homologue of a rib, may, as in birds, be developed into an actual rib, why may not the scapular epiphysis, the homologue of the supra-scapula, be developed by a similar but backward extension into an actual supra-scapular epiphysis, as in reptiles and fish? Given a cartilaginous union between the scapula and the spine there is no difficulty in explaining how the ossific centres in the spinous process and supra-scapula would meet and become fused, any more than in the analogous process of the union of the epiphysis and diaphysis in an ordinary long bone. The probabilities of the malformation having existed from a very early period of development are strengthened by the following facts:—1st. The attachment of the muscles into the bridge of bone. 2nd. The rudimentary condition of the scapula itself in the first specimen. 3rd. The concomitant malformations of the spine, ribs, and clavicle, which were shown in the former paper to have occurred at a very early period of the development of the embryo.—At the close of the paper the child was exhibited to the Fellows by Mr. Willett, and it was seen that the scapula had regained its natural mobility.—The PRESIDENT, in inviting discussion upon the paper, drew attention to the interesting fact of two examples of this hitherto unrecorded deformity having occurred to the authors within a few years. The question of its origin, whether it was a reversion to a type present in the lower vertebrates, or whether it was an aberrant osseous formation between the spine and the scapula in the position occupied by muscles, was important, and the evidence adduced favoured the former view.—Mr. HOWES said that modern inquiry pointed to the direct descent of mammals from the amphibia, and he referred to the resemblance between the shoulder-girdle of echidna and that of the amphibia in illustration of this; the cervical ribs in that animal also persisting during life. Recent embryological researches had shown that the limb girdle is developed from the limb itself, so that any attachment of the former to the spine must be secondary. In the skate the ossified supra-scapular bone is fixed to the unossified spine, which is strengthened by a vertebral plate at this place. He alluded to many developmental affinities between amphibia and mammalia, as in the hyoid arch, the Eustachian cartilage, the mandible (which Professor Parker has lately found in the foetal mole and in the platypus to be composed of splint-like portions as in the lizards), and the parisphenoid,—an amphibian structure, of which a relic has been found by Professor Parker in the creeping lemur. Such facts supported the author's view of the abnormality they described being the homologue of the supra-scapula. Its fusion with the spinal column depended probably upon the necessity of its affording sufficiently firm attachment for the neck muscles.—Professor THANE assented generally to the authors' conclusions in that in each of the instances it was an example of a greatly developed supra-scapula. The dissection of the former specimen showed that it was not an instance of ossifica-

tion in muscles passing between the spine and shoulder-girdle. Indeed, the similarity to the supra-scapula of the frog was very striking. That the structure should ossify earlier than the epiphysis usually does was not surprising, for when a part ordinarily small and vestigial is increased in size its developmental processes are hastened, as seen in the coracoid. Its union with the spine was more difficult to explain; and the cartilaginous connexion with the scapula made it almost impossible to believe that it was primarily developed from the spinal column. Atavism was a natural explanation for its occurrence; and certainly in many mammals the supra-scapula is very well developed, and cartilaginous wholly or in part; but he doubted whether its connexion with the spine could be so explained. This united condition in the skate was doubtless related to the great development of its upper limbs; and, moreover, the fact which Mr. Howes had pointed out as to the shoulder-girdle being developed from the limb, and separated by the muscle-plates from the vertebral column, rendered the explanation of this union the main difficulty to be explained.—Professor CURNOW agreed with Professor Thane that the difficulty lay not in its connexion with the scapula, but with the spine, and the parallelism to the skate increased the difficulty. Was there any evidence of hereditary transmission of the malformation?—[The Hon. Secretary (Mr. B. Hill) read a letter from Professor Milnes Marshall, expressing his regret at being absent, and his inability to agree with the authors' morphological conclusions, partly on grounds of theoretical improbability, as regarded the skate-like type of shoulder-girdle, and partly from the fact that in both recorded instances the malformation was on one side only. The accompanying deformities in the first case would tell against the authors' theory, unless it could be shown that these malformations were of the nature of reversion to an ancestral type. The cases might be explained by pathology rather than by morphology.]—The PRESIDENT was also struck by the unilateral character of the malformation, and that in both cases it was on the left side. The structure of the bony plate, however, showed it to have been formed in cartilage, and not by ossification of fibrous or muscular tissue. It seemed more likely that the fusion with the spinal column was due to attrition and pressure rather than referable to a morphological condition of the lower animals.—Mr. WILLETT, in reply, said that Mr. Howes' remarks strongly corroborated the view of reversion affording the best explanation of the condition. The great difficulty which had been raised seemed to be cleared away by Mr. Howes' statement, that the ossification must grow from without inwards, which excluded the idea of the structure being spinal in origin. Its connexion with the spine might fairly be explained by contact and attrition. He was unable to give any facts as to heredity; the child was the only one, and the mother died early. As to its unilateral disposition, the small number of cases observed deprived that objection of much weight. He regretted Professor Milnes Marshall's absence, as he might have explained why he regarded the condition pathological rather than morphological. In conclusion, Mr. Willett expressed his great obligation to Mr. Walsham for the labour he had bestowed on the paper.—Mr. WALSHAM claimed Professor Milnes Marshall and Professor Flower as supporting the possibility of a supra-scapular element being found. Analogous instances of reversion are often one-sided. In the first case, the concomitant malformations lent great support to the view they maintained, and Professor Parker, when he saw that specimen, at once recognised its similarity to the shoulder-girdle of the skate.

CLINICAL SOCIETY OF LONDON.

Excision of Ulna. — Necrosis of Roof of Orbit. — Picric Acid Test for Sugar.

THE ordinary meeting of the above Society was held on the 9th inst., Dr. Andrew Clark, President, in the chair. Before the meeting Dr. Dyce Duckworth showed a case of remarkable hardness of the ears, and a woman with rheumatic subcutaneous nodules. Dr. Stephen Mackenzie showed a case of subcutaneous nodules without any rheumatic history. Mr. Godlee read an important paper, and Dr. G. Johnson demonstrated his mode of using picric acid as a qualitative and quantitative test for sugar.