MEETINGS OF SOCIETIES.

Edinburgh Medico-Chirurgical Society.

DISCUSSION ON THE TREATMENT OF SIMPLE FRACTURES.

A MEETING was held on 28th February 1912, Mr. J. M. Cotterill, President, in the chair.

Mr. Charles W. Catheart opened the discussion. His paper will be found at p. 303.

Professor Alexis Thomson said that personally he was a disciple of the French surgeon, Lucas Championniere. It was difficult to formulate any parallel regarding the enormous improvement which Championnière's work had brought about on the results of the treatment of fractures. Professor Thomson had been fortunate in succeeding Professor Chiene, from whose wards splints in the treatment of fractures had disappeared for some years previously, and in being associated with Mr. Pirie Watson, who had taken a special interest in the treatment of fractures. He confined his remarks to fractures of the lower extremities. The contrast between the treatment of fracture of the femur when he was a student and its treatment at the present time was marvellous. Then chloroform was administered, the fracture reduced, a short local splint applied, extension applied to the limb, and finally the long splint was applied and the patient lay in bed for from six to ten weeks while the fracture united; there was great discomfort to the patient lying in the long splint, and complete loss of function of all the tissues. Nowadays a patient with fracture of the femur may or may not be given chloroform for its reduction, and unless he has some shortening to be corrected by extension he has no other disability. The knee is flexed over a pillow and he is encouraged to use his muscles, with the result that while the fracture is uniting his tissues are kept in good condition. Three or four days after fracture of the shaft of the femur the patient should be encouraged to use his thigh muscles and promote absorption of the extravasated material. If a more difficult fracture has to be dealt with, in which there is pronounced shortening, perhaps beyond what is capable of being overcome by the ordinary extension with weight, he advised the use of an apparatus invented by Steinmann, a specimen of which was shown. It was placed on either side of the limb and fixed to a pin inserted into the lower end of the femur. By this means extension equal to 40 or 50 pounds was obtained, and any shortening could be undone; in fact one had to be careful not to make the leg longer than its fellow. The most difficult thing to correct is the eversion, and undoubtedly for this purpose the long splint was useful; sandbags on either side of the limb were also useful. Under modern methods eversion is most difficult to correct in fractures of the shaft and neck of the femur. In using Steinmann's apparatus in fracture of the neck of the femur one must be sure that the pin is introduced through the trochanter in such a way that it will ultimately arrive at the side of the bone. Sometimes two pins may be necessary.

While one of his patients was lying in bed with two pins through the trochanter she was encouraged to turn the limb in certain directions, and the masseuse kept the leg in better condition. It is more difficult below the lesser trochanter. If rest is combined with the splint apparatus and the limb
is allowed to lie over a pillow, massage will keep the condition of the limb right in other respects. On looking into the results of his cases this winter he found one fracture of the thigh up and walking about in six weeks; by the older methods that result could not have been achieved. In fracture of the femur, with a sandbag lying on either side, if the patient is asked to lift the leg the bending can be seen as he lifts it. Some years ago it would have been considered criminal to lift the leg off the bed, whereas now we know it is beneficial. In another case an old woman over 80 was walking well in six weeks; in the case of a man with fracture of the neck of the femur he was up on the 21st day and out on the 28th.

Mr. David Wallace was of opinion that the introduction of X-rays had given a great impetus to the consideration of fractures. Genito-urinary surgery entered on a new epoch when the cystoscope was introduced, and the treatment of fractures had entered on a new epoch when the X-rays were introduced. He thought it a duty in every case of fracture to use the X-rays, not only for the purpose of definitely determining where the displacement is, but even after the setting of the fracture had been carried out, in order to see whether that has been properly done. In the case of the upper extremity not infrequently the screen was sufficient.

Mr. Cathcart had alluded to three methods, and under certain conditions each of these has a merit of its own, and in individual fractures any one of them may be the proper one to adopt. He had been for many years a strong believer in Lucas Championnière's method, all the more so perhaps because, like Mr. Thomson, he was associated with Professor Chiene, who laid great stress upon its value, and it was interesting to remember that Professor Chiene in his teaching pointed out how important movement and massage were in a fracture near a joint, and how he recognised that union took place quite satisfactorily in spite of the movement and massage carried out. In Colles' fracture more particularly good results are obtained; in Pott's fracture, however, they did not carry out that treatment until Championnière showed it was the right thing to do. Displacement is due to one of two things, namely, to the violence producing the fracture or to muscular action. On this depends greatly the treatment suitable for individual cases. In the former circumstance once the fracture is set there is no reason for any further displacement occurring; this is so both in Colles' fracture and in Pott's fracture, and in these cases, as Mr. Cathcart has said, a splint or some form of support may be beneficial for a day or two after the accident to give comfort to the patient, but is not required to prevent displacement. Mr. Wallace used practically no splints in his wards. In Pott's fracture he kept the leg at rest, he never used sandbags; in Colles' fracture he put the arm in a sling and encouraged the patient to make movements. In fracture of the femur it was most important to have good alignment of the bone; as Arbuthnot Lane and Robert Jones pointed out, if the alignment is unsatisfactory then the weight of the body is borne in such a way that it gives rise to much pain. If good alignment cannot be obtained without operation then he thought operation was the right thing. During the past year he had had three cases of fracture of the femur; two of them were transverse fractures about the middle third, and in neither could he get the fragments in apposition, he therefore cut down and plated them. These two cases were extremely satisfactory, while the third case was at present under treatment.
Meetings of Societies

They operation, olecranon process massage and recovered. The bone. The best and bone, although a the bone examined taken, procedure the ment experience ends in of the femur where there is much risk by operation. For fracture of the femur the first intention. In the other condition shortening his results matter. Personally, he would estimate that in fracture is this the present injury, and who has a complete functional disability of the part with local tenderness over the bone, although there is no deformity and no crepitus, there is a fracture of the bone; he would estimate that in 99 cases out of 100 there is fracture of the bone. The best and most expeditious results were obtained by the massage and movement method; by this treatment 90 patients out of 100 recovered.

Mr. Cathcart referred to a selected group of cases in which he would employ operation, and mentioned the case where a muscular attachment is torn off. They had had 7 or 8 such cases in the Out-Patient Department, one where the olecranon process was separated fairly widely from the shaft of the bone. At
first they were doubtful about trying massage and movement. The method followed, however, was to set the part; the arm was kept in a sling and massage and movement adopted, the part being steadied and held down while the movements were practised. He doubted whether any other treatment gave such good results—within three weeks union took place. In a number of cases they had the massage done by the patient’s wife; they had been able to instruct her in a very short time, and she was able to carry out the treatment quite satisfactorily.

Mr. Scott Carmichael said that during the last two years in the Out-Patient Department of the Infirmary they had seen 1200 to 1300 cases of fracture, more especially of the upper extremity. The basis of treatment was massage and movement. Splints in the treatment of fractures were occasionally necessary, and should be looked upon as a rare accessory. He agreed that this treatment was undoubtedly a great advance on the old method by splints but there were one or two disadvantages. He was convinced that it required a good deal more supervision and a great deal more care on the part of the surgeon and doctor. There were good masseurs and also bad ones, and striking differences in results were seen according to the intelligence and skill of the masseur or masseuse, and one must therefore be sure that the proper massage treatment was used, hence a great deal more supervision was required.

Mr. Scott Carmichael was convinced that if they were to treat fractures properly and satisfy both the public and the profession there should be a special department for fractures.

Mr. Dowden said he had come to the conclusion that the use of these various splints was wrong. In treating a case in private he employed adhesive plaster, placed the arm in a sling, encouraged the patient to make active, not passive, movements, and himself massaged the part. He had done away with splints and bandages, but there was still, unfortunately, shortening which had to be corrected by extension. In one case of fracture of the forearm the patient got perfectly well without splints being employed.

Dr. Langwill referred to the after-treatment of fractures. Most of the previous speakers had referred to the treatment of fractures while under the care of the surgeon, but he was more particularly interested from the compensation point of view. He was frequently sent to workmen who had met with an accident who had not been under his care, but under the care of one or other of the surgeons present. He did not see quite the satisfactory results afterwards that the speakers led one to expect. What he found was that after a certain time the patient is discharged from, or leaves, the hospital where he was being treated with the fracture supposed to be cured as regards the original injury, but he is unfit for work. The point of importance, to his mind, was not merely the union of the bone and a fair amount of movement in the limb, but the patient’s ability to earn his livelihood; until then he ought to remain under the care of the surgeon who originally treated him. The difficulty was that these patients were often living in lodging-houses with nobody in attendance. They nurse their injured limb, going about with it in a sling, and one cannot get them to use it. When a medical man is sent to see the patient on behalf of the employer he finds the man going about; he is not under the care of any surgeon, it is nobody’s interest to see that he is treated. The employers could not insist that their medical men should treat the patient. The patient’s statement is that the hospital doctor said he need not come back as the fracture
had united. But the limb is not useful, and that man, he thought, ought to be still in attendance. Dr. Langwill could not help thinking it would be useful demonstration if surgeons at institutions got their old fracture patients to report themselves two, three, or four months after leaving hospital. They would find a great many of them going about unable for work and drawing compensation.

The important point was when a fracture case should pass out of the cognisance of the surgeon under whose care he was, whether merely after there is good union and the patient is able to walk about with the limb more or less useless or when he is cured, viz. fit for his original work.

Mr. George Chiene emphasised the advantages of active over passive movements in the treatment of recent fractures, and said to a certain extent he supported Dr. Langwill's contention, but on the other hand those patients whom he saw were looking out for compensation.

He showed two photographs in illustration of the value of wiring fracture of the patella in recent cases. In one case the patient, who died of Bright's disease, was the 7-foot clown in a travelling circus; the man was at work until shortly before he died. This patella shows four different breaks; the fragments showed that the fracture was an old one. The other photograph represented a fracture which occurred in a soldier 7 years previous to the time he came under Mr. Chiene's observation. He had been invalided from the army seven years before. That man had been doing all sorts of work, and the movement at the knee-joint was perfectly good.

Mr. Pirie Watson thought they owed a debt to the operative school for having stimulated an interest in fractures throughout the country. He confined his remarks to the special experience of fractures of the upper extremity which he had had in the Out-Patient Department of the Infirmary. The splint he did not consider important, what really was of consequence was massage and movement at the beginning. The treatment could be carried out with benefit in all fractures except that of the patella, and was applicable by either surgeons or general practitioners, and was specially desirable in older patients. There was great difference between the power of recovery in young and in old joints. The immobilisation method is merely concerned in keeping the bone in anatomical alignment, while the massage and movement method deals with the affection of the soft parts. He emphasised the point that the massage and movement treatment could not be started too early. The massage, at all events, might be started at once. It gives the patient comfort and confidence if rightly employed; it should precede reduction, and for overcoming spasm in the muscles it is useful. Again, massage and movement produce an excellent mental effect on the patient. This treatment was not easy to carry out, it required a great deal of attention, but if it takes more time at first it certainly saves time and vexation later. The masseur, too, is an important factor; he thought the best masseur was the doctor himself. He knows the danger of rough movement, and his training has given him the necessary fineness of touch required to produce good results in massage and movement. As to the criterion of massage, it should never pain but always sooth.

Mr. Watson had been able to get perfect alignment in fracture of the clavicle. In one of his cases of fracture of the olecranon the patient was only off work three weeks, and perfect bony union could be seen. He had
treated eleven cases of fracture of the humerus without any splints, and the patients were back to work. The last patient was discharged at the end of five weeks, and working as a painter at the end of six. Fracture into the elbow joint also gave good results by this method, but must be very carefully attended to.

Dr. John Orr said that as general practitioners they knew about Championnière's method before, but were not sure about putting it into practice. When he (Dr. Orr) was taught surgery the teaching was that the joint above and below should be controlled, and that the limb should be immobilised; but there were two exceptions—one was Colles' fracture and the other fracture of the elbow joint. In Colles' fracture early passive movement was carried out; in fracture of the elbow joint early passive movement was also used, and no splints applied. One would have expected that if the statements with regard to the immobilisation of the joints above and below were absolutely accurate that worse results would have been obtained with regard to movement. His experience was that worse results had not been obtained in Colles' fracture and fracture of the elbow joint.

Dr. James Ritchie said he spoke as a general practitioner, and was afraid he would be considered heterodox, because after a fracture has been reduced his practice was to apply a light splint with an elastic bandage because of the great comfort it gives to the patient. The patient's comfort was a point of great importance. The elastic pressure diminishes the amount of swelling afterwards. He was old enough to see the difference between the old method and the new, and was quite astonished at the difference in time required. It was astonishing how much sooner patients were sent home cured under the new treatment than under the old. Massage ought to be begun the very day of the accident; by so doing, the blood and inflammatory material is removed much sooner. On the other hand the new treatment involved a tremendous increase of time and care on the part of the doctor. Patients should be encouraged to carry out all the movements they possibly could, and to do the same every day. His method was to endeavour to produce as much movement as possible in the proper direction until pain is produced; immediately pain is produced stop. Each day one is able to do a little more.

Mr. J. W. Struthers said Dr. Langwill had complained that the patients passed out of the surgeon's care before they were cured, and Mr. Struthers thanked him for introducing a controversial element into the discussion. It seemed to Mr. Struthers, however, that the employer was the proper person to treat the patient. After the patient reaches a certain stage the best thing he can do is to work; what he wants is voluntary movement, and the best compulsion which can be brought to bear on him is that of earning his living. The difficulty is that employers will not take these patients back to work. If it were possible to get light jobs for them they would be fit in a much shorter time than they are at present. Professor Alexis Thomson's remarks on the treatment of fracture of the femur had struck him, for he (Mr. Struthers) had great difficulty now and then in obtaining anything like a good result in that condition even in strong men. He had not used Steinmann's apparatus, but with the older methods of treatment he had to confess he had been unable, in a certain number of cases, to get reduction of the deformity without shortening and a good deal of disability. He would like to hear something of the operative results in these cases; probably better results were obtained than by means of "nails," extension, strapping, or wires attached to the femur.
The President said, as a member of the staff of the Infirmary, he would like to remind Dr. Langwill that there are two sides to the question he raised. They were all aware, and were ready to admit, that they had to send out not only fractures but a great many other cases from the wards before they would like, but what could be done when there were many urgent cases for operation waiting for the beds. When a patient with Pott's fracture was sent out they knew he was not fit for work, but they were invited to attend the Out-Patient Department, and he thought it would be a great advantage to have a larger staff of rubbers and others to look after these cases. They must be careful as to whether the fracture was recent or old, and not put these patients into the hands of a somewhat enthusiastic and very muscular masseur. He was conscious of cases which have been harmed instead of the contrary by a very enthusiastic masseur; they had to be watched with great care, and particularly so in the treatment of fractures.

The President was very much in agreement with Mr. Alexis Thomson when he made an uncomplimentary remark about the long splint. It seemed treason to abuse that method which was so intimately connected with the Edinburgh School, but the long splint, he agreed, was an abomination. It had been said that much more care was required in treating with massage and movement than with the splint; on the other hand one required to be constantly watching the long splint to prevent anything going wrong. The patient sinks down in the bed, and angulation and internal rotation of the foot result. He was sorry they had been so long in finding out its disadvantages, and personally he had entirely given it up.

Mr. Catheart in reply thanked the Society for the kind response they had given to his paper. He had not tried Steinmann's apparatus, disliking the idea of putting nails into the femur, but if the results were always as good as Mr. Thomson has found them he would certainly consider adopting it. With regard to the bending method in fracture of the neck of the femur, that was not, he thought, necessary, but he did not know whether an intracapsular or an impacted fracture was referred to. He still used splints, and he had seen a fair number of cases, such as Dr. Langwill referred to, in which there had been unsatisfactory results where no splints were employed. He could not help thinking that the bone after being replaced under an anaesthetic could hardly fail to come out of place if not supported for a week, ten days, or a fortnight by splints. In fracture of the humerus he still used splints and had not seen any harm result. Plaster and massage should perhaps replace the splint. In fracture of the clavicle he did not use splints—Sayres' method was better.

As regards Dr. Langwill's remarks, it was sometimes very difficult to get the muscles and joints back to their normal condition. It was not his experience that by the Lucas Championnière method of treatment when the bones have united the muscles have returned to their proper power, but, as the President said, they had to turn out their patients too soon.

The difficulty in compensation cases was not that the patients could not have massage, but that they did not want it. A large number of such patients are quite satisfied if they are getting compensation, and they do not want to return to work. Unless the patient voluntarily exercises himself and makes active movements with the muscles Mr. Catheart defied the masseur to bring back power. That was one of the great difficulties in connection with the Workmen's Compensation Act.
A special department for the treatment of fractures such as Mr. Scott Carmichael suggested was, in Mr. Catherart’s opinion, unnecessary. When these cases were treated along with other conditions the students had their attention directed to them, and it was very important that they should see the treatment carried out; if all the fractures were put in one ward, where the students were not obliged to go into, they would not see as much of the treatment as they do at present.

He hoped the standard of treatment in the Edinburgh Royal Infirmary would be a very high one, and if they could turn out their students well instructed in the treatment of fractures they would be doing a very great deal for the benefit of the people of the country at large.

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**Edinburgh Obstetrical Society.**

The fifth meeting of the session was held on 13th March, Dr. Haig Ferguson, President, in the chair.

The President showed uterus and appendages removed for bilateral gonococcal pyosalpinx. Dr. Haultain showed a double pyosalpinx, probably of tubercular origin.

Dr. Hugh S. Davidson read notes on three cases of transplantation of the ovary in the human subject. They were people in whom palliative measures had failed. As all were women under 30, homoplastic grafting was attempted in order to obviate the menopause. One case was a complete failure, and showed distinct symptoms of the menopause. One was a comparative success in so far as menstruation returned and persisted for seven months, but was complicated by the appearance of a fibroid of the uterus; she had shown no menopausal symptoms. The third started to menstruate three months after the operation and had menstruated every month since. In none of them had there been any return of pain, either locally where the ovary was transplanted into the rectus abdominus, or “pelvic,” at the time of the “periods.” He considered it a superior method of treating pathological ovarian conditions to attempts at conservative surgery, as the transplanted portion had shown no signs of further change in its new situation, whereas pieces of ovary left in situ tended to become pathological and thus required a second operation. Though admitting that the graft might not be permanent, he contended that it produced a slowly appearing menopause and so a milder one instead of a sudden removal of ovarian internal secretion with the resultant severe upset of the general system.

Dr. Barbour, in discussing the paper, referred to the haemorrhage which often occurred after removal of both ovaries and asked if one could call it menstruation. Had one any proof that an ovary grafted into muscle could produce the same effects as a normal ovary; did ovarian secretion go on and was not this secretion itself dependent upon the formation and ripening of Graafian follicles as it ceased after menopause? Had one any proof of maturation of follicles in a grafted ovary? Some patients after ovariotomy had no distressful symptoms, even when no grafting was done.

Dr. Ballantyne thought the main result of Dr. Davidson’s case-records was to strengthen the claim already put forward for the benefit of transplantation, and suggested that it might be tried to insert a portion of the ovary into the
of the usual central the anterior was extending degenerate, in the incision symptoms. Had he advocated labour, after-comfort not suffer at all. In removal of ovaries there could be no harm and there probably was benefit in transplanting a portion of ovary into the muscle.

Mr Scott Carmichael referred to his experimental work in transplanting ovaries in 21 rabbits. Of these one was completely successful, 14 partially so, and 6 failures. The site of the transplantation probably had a great deal to do with the ultimate success, transplantation into muscle giving the best success. One attempt he made in the uterine muscle of a woman was a failure. From his experience he was convinced that ovarian tissue could live for a time after transplantation but in the long run he thought the ovary was bound to degenerate. It might be, however, that the amelioration of menopausal symptoms made transplantation worth doing. It must be a slice of ovary and not the whole organ that should be transplanted.

The President said his experience did not convince him that the ovaries were the cause of menstruation. He had known menstruation continue after the removal of the uterus and appendages for fibroid, where a fair piece of lower uterine segment had been left. These cases were free of menopausal symptoms. He agreed that the results of resection of ovaries were unsatisfactory. He agreed with Mr. Scott Carmichael that the grafts were likely to degenerate, but they let the patient down gently with the menopause. He had had good results in neurotic cases with ovarian extract.

Dr. Robert Robertson read a paper on "The Lateral Incision of the Perineum," which he described as applicable chiefly to cases of primiparae, in prolonged labour in occipito-posterior labours, with rigid perineum. The incision he advocated was a right lateral one, done by means of scissors, and extending from the vagina to an inch outside the anus and for two inches up the vaginal wall. After delivery with forceps this was carefully stitched up in layers by iodised catgut, bringing the ends of muscle together. The skin was sewed with silkworm gut. He claimed for this incision that it saved detachment of the levator ani from the symphysis and prevented prolapse of the anterior vaginal wall. The stitching was also much easier than in the case of the usual central tear. He also advocated strongly the immediate repair of the cervix after labour.

Dr. Keppie Paterson, Dr. Haultain, and Dr. Ritchie, in discussing the paper, all expressed a preference for allowing tearing to take place in the
central position in cases where it was unavoidable, and for repairing it in
the usual manner. The difficulty of forstoint what perineum was likely
to give way was referred to. Dr. Fordyce had found formidable bleeding
result from episiotomy, and had given it up in favour of a method of passing
silkworm gut sutures through the perineum before the birth of the child,
which were fastened up and tied afterwards. This latter method, suggested
by Dr. Lapthorn Smith, was more fully described by Dr. B. P. Watson, who
said he had had most excellent results with it.

Dr. Bowie thought two small lateral snips were preferable to one long
incision.

The President thought better results were obtained by waiting longer and
allowing of head-moulding, when one would have little difficulty with the
perineum.

In reply, Dr. Robertson said the poor resistance shown by town women to
the strain of a long labour, and the exigencies of a busy practice, rendered it
often impracticable to delay application of forceps as long as one would like.
He had found one long lateral incision much easier to sew up than two small
ones.

Dr. Archibald M’Kendrick and Dr. James Young gave a demonstration of
an improved method of measuring the internal diameters of the female pelvis in the
living subject, Dr. M’Kendrick taking up the X-ray and mathematical aspect
of the subject and Dr. Young the anatomical. By their method the measure-
ment of the transverse diameter was strictly accurate, but that of the conjugate
was in a small percentage of cases liable to an error of about one-tenth of an
inch.

Forfarshire Medical Association.

A meeting of the Forfarshire Medical Association was held on 14th March,
Dr. MacGillivray, Vice-President, occupying the chair.

Mr. A. Don showed two cases of ununited fracture in the forearm which
he had treated by means of bone pegs in the medullary cavity.

Mr. Greig gave an account of an unusual case of spondylitis in a young
man who on account of it had been invalided out of the Dragoon Guards.
For eighteen months he had complained of pain in the right hip and thigh.
Kneeling with the thigh in flexion gave relief. There was now some degree
of atrophy of the muscles of the right thigh and calf. The patient (who was
shown) presented dextro-concave scoliosis with stiffness of the spine. The
trouble was in the right side of the lumbar spine with in addition two or
three dorsal vertebrae. On two occasions the actual cautery had been applied
and the patient had much improved. Mr. Greig entered into a discussion of
the differential diagnosis of the case. Mr. Greig then showed three specimens
of hydronephrosis, one of them a kidney of a woman who had double congenital
dislocation of the hip, a circumstance which made the operation of removal
a difficult one by the ordinary route. Mr. Greig also read a paper on a case of
“stab wound in the heart” for which he had performed a trans-diaphragmatic
pericardiotomy. The wound was inflicted by a fall from a hay-cart on a
three-pronged hay-fork. One prong penetrated the left rectus muscle and
the diaphragm, entered the pericardial sac and then pierced the wall of the
left ventricle. It was impossible to say whether it had entered the cavity of
the ventricle, as the wound was plugged with clot. At the operation blood-clots were removed from the pericardial sac and the diaphragm was sutured. The boy was now perfectly well and able for his work. Mr. Greig then gave an interesting historical account of wounds of the heart, and quoted Guthrie, who a hundred years ago had said that a wound of the diaphragm never closes, and that it is constantly a source of danger to the patient from hernia.

Dr. Foggie demonstrated a case of ulcer of the leg with epitheliomatous invasion and a case of lichen planus. He showed specimens from a case of aneurism of the aorta with erosion of the ribs. The case was a man of forty-two, and a point of interest was that there had been leakage into the substance of the pectoral muscle. Dr. Foggie read a paper on a family defect, namely, "hyperextension of the fingers with, in the more marked cases, a tremor." The family consisted of a grandfather who showed hyperextension and tremor. Five out of the seven of his family were affected, and of the next generation five. He mentioned that such family defects were of importance in the study of Mendelism, and classed such cases with cases of night-blindness, ichthyosis and bradydactyly.

Dr. Kerr brought a case of syphilitic dactylitis. The patient was a girl of nine, and the condition was well marked in both hands.

Dr. Pirie gave a demonstration of "Some Recent X-ray Negatives."

RECENT LITERATURE.

CRITICAL SUMMARIES AND ABSTRACTS.

MEDICINE.

By W. T. RITCHIE, M.D., F.R.C.P.,
Assistant Physician, Royal Infirmary.

VARIETIES OF HÆMATOPORPHYRINURIA.

The subject of hæmatoporphyrinuria is fully discussed by Hans Günther (Deutsch. Arch. f. klin. Med., 1911, Bd. ev. S. 89). Hæmatoporphyrin, prepared from acid solutions, is an amorphous powder of brownish-purple colour which becomes yellowish-red when rendered alkaline. It is readily soluble in alkalis, dilute mineral acids, ethyl-alcohol, and ether, but is relatively insoluble in amyl-alcohol and chloroform. In solution it is decolourised by nascent peroxide of hydrogen. Like bilirubin and hæmatoidin, hæmatoporphyrin does not give any reaction with guaiac, aloin, and benzidin tests. In solution it gives a reddish fluorescence; if the solution be alkaline this appearance is best elicited by the addition of ferric chloride. On spectroscopic examination weak alkaline solutions of hæmatoporphyrin yield four bands—one between C and D, a second near D, a third between D and E, and a fourth between b and F.