in the medical profession, when I first settled in Paris, has now nearly entirely disappeared. So I am able, by this mode of operating, to correct the deviation in those cases in which the patient, owing to this prejudice, would never have consented to an operation upon both eyes.

With regard to point 2, I need only mention that the suture is to be applied in all cases. I think it of consequence that the conjunctival wound should be completely closed, and in such a manner that the conjunctiva reassumes its original position, so that the edges of the wound cannot become shifted from each other. If the finest English black silk and fine curved needles be used, no disadvantages can accrue, even if it should be necessary to apply several sutures.

But I consider the third point—the avoidance of more than two operations upon the same individual—as the most important. I hope that all surgeons who agree with me as to the disadvantages of a third or fourth tenotomy, will adopt my mode of operating in all cases of very considerable strabismus. The permanent effect must not, however, be estimated according to the immediate, but the ultimate, result; for the difference between these two is far greater in the modified operation (more especially if it be done extensively) than in the common one; and this applies not only to the deviation, but also to the loss of mobility. We find more especially that the loss of mobility, which is very considerable immediately after the operation, subsequently diminishes more and more, until it finally does not in the least exceed that which follows the common operation.

THE BRITISH LYING-IN HOSPITAL has just received a donation of £500 from an anonymous benefactor, who is also said to have set apart £25,000 for distribution amongst metropolitan charities.

DEATH FROM HYDROPHOBIA. Mr. Humphreys held an inquiry last week relative to the death, from the bite of a stray dog, of Edward Raymond Beasley, aged five years. On October 2nd the deceased was in his usual health, playing in the garden in the rear of the house, when a strange dog came in, and seizing his hand in his mouth shook it violently. Mr. Davey attended him, and the wound rapidly healed. Nothing seemed to be amiss until the evening of Friday, November 23rd, when he became very ill. He foamed at the mouth a little. He never slept afterwards, and death took place on Monday last.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON. The quarterly court of governors of this charity was held on November 29th. The secretary read the report of the committee of management. The working of the establishment as regards in and out-patients had been carried on with the usual beneficial results. The annual colouring and whitewashing had been completed, and the wards had been all filled up again. The financial progress of the charity had met with a slight check during the past quarter; but the committee did not attribute it to any diminution of favour on the part of the public. A donation of £500 had been received through Mr. E. J. Layton. The kind assistance of the clergy, by means of church collections during the last few weeks, was also gratefully acknowledged. The following legacies had been announced within the past quarter:—Miss Hannah Hopkins, 1,000 guineas; C. Beachcroft, Esq., £50; D. Falcke, Esq., £19: 19. The number of in-patients admitted since August 9th was 320; discharged, many greatly benefited, 240; died, 46; new out-patient cases, 2327.

THE

Jacksonian Prize Essay

FOR 1865.

ON DISEASED CONDITIONS OF THE KNEE-JOINT.

BY

WILLIAM PAUL SWAIN, M.R.C.S.,

SURGEON TO THE ROYAL ALBERT HOSPITAL, DEVONPORT, ETC.

SECTION III.—OPERATIVE INTERFERENCE.

(Concluded.)

Diseased Conditions of the Knee-joint which Require Amputation through the Thigh.

PERHAPS the most pressing necessity for amputation arises in that condition of disease which we have noticed; viz., acute synovitis which has run on to suppuration and destroyed the entire mechanism of the joint. I have given the notes of a case of Mr. Kempe's, where excision of the joint was performed with excellent results; but, satisfactory as that may be to the surgeon who performed it, and upon whom the operation was thrust by the patient and his friends, yet there can be no doubt that amputation is the rule in such cases, when all other means have failed to procure remission of the severe symptoms which always accompany the disease. One of those means will doubtless have been free incisions into the joint; and these should be so made that they may form a portion of the incisions in the amputations should it be required. The disease is itself a great shock to the system; and although in its last stage amputation is positively necessary to save life, yet we cannot but feel that the dangers of the operation are very great, and that the chances are rather against than in favour of the patient. The other diseased conditions of synovial membrane requiring operative interference have been referred to when considering excision of the knee. I then stated that I believed there were few other cases, besides the one just mentioned, of disease of the synovial membrane alone, which might not be cured without resorting to the knife.

The gelatiniform degeneration, when in a very advanced stage involving the whole joint-tissue is, I believe, incurable, and is also very unfavourable for excision. It is just one of those cases where one would be loth to amputate without first endeavouring to save the limb by an exploratory excision of the knee; and, unless the bony tissue were then found to be in a very favourable condition, amputation had better be at once completed.

There is no diseased condition of articular cartilage, that I am aware of, which ever demands amputation of the limb. If the patient be worn out by pain and confinement, all other means having failed, relief should be sought, as before stated, in excision of the joint; but, as a primary proceeding, amputation of the thigh need never be resorted to.

It is more especially in *Diseases arising in or extending to the bones of the joint* that we are called upon to remove the limb above the seat of the disease. In cases of diffuse inflammation of the bone,

the joint being entirely destroyed, there is clearly no better means of relieving the patient than by amputating the limb. Preparation No. 4 very well shows this condition. The bones are entirely denuded of cartilage and inflamed. On making a vertical section of the femur and tibia, this condition was found to extend far into the substance of the bones, presenting a bright pink colour. In order to show the joint, the divided bones have been put again together. When caries or necrosis is present in the ends of the bones to such an extent as to leave very little sound tissue remaining, a shell of bone being almost all that is left, no benefit can accrue to the patient by the endeavour to save the limb. In both these cases, whilst every care is taken to save as much of the femur as possible, the section of the bone should be made well above the disease, which often extends high up into the shaft of the femur.

The following case well illustrates this condition. It was my intention to excise the knee-joint; but when first I saw the patient his state of health would not admit of this proceeding; at a later period, I attempted to perform the operation, but, finding the bones in a state of advanced caries, I amputated the thigh, and the boy made an excellent recovery. I send in a dry preparation (No. 5) of the femur and tibia; and a photograph of the case before the operation is appended.

Fig. 20.

CASE. John Harper, aged 18, was admitted under the care of the author with disease of the knee-joint on July 7th, 1864.

History. He stated that he injured his right leg about five years ago. The only immediate effect of this was to cause swelling of the joint, which never subsided. At that time it was not very painful. For three years this swelling caused no great inconvenience, and he performed his ordinary avocations as a miner. At the end of that time the joint became stiff and painful. He kept on working, how-

ever, until ten weeks ago. The pain and inability to move the limb then compelled him to give over working. He had been healthy, and not subject to cough.

On admission, he was seen to be a healthy, but slightly formed lad. Pulse 90, quiet; skin cool; bowels acting. The right leg was extended almost to its full extent, and slightly wasted. The lower leg was longer than usual for one of his height. The knee-joint was much enlarged, of oval shape, much bulged on the inner side, and very tender on manipulation. There was some effusion into the joint. The patella was moveable, and in its normal position. The head of the tibia was considerably enlarged. The external condyle of the femur was enlarged; the internal condyle was likewise enlarged, but to a less extent. He had little or no power of flexing the joint. There was rather free lateral movement.

July 18th. He had an attack of acute inflammation of the knee, with much pain and swelling, and slept badly; skin hot; pulse 100; tongue furred. The knee was acutely painful on the slightest movement. The leg had been extended on a McIntyre's splint and swung in a Salter's swing. Poppy fomentation were ordered to be constantly employed; and three grains of Dover's powder to be given every four hours.

July 27th. Blisters had been applied, and had risen well; and fresh ones were ordered. The joint was less swollen. The pain had abated. He slept well, and had a good appetite.

Sept. 5th. The patient continued under treatment since the last note. Blisters and iodine were applied; and perfect rest maintained. The knee continued as much swollen as ever, with considerable tenderness over the joint. He had lost his health lately; was very thin and weak. On the 4th, a gutta serena splint was applied to the leg; and he was allowed to get up and walk about the ward. He was ordered to take cod-liver oil.

Sept. 21st. His chest was examined. There was dulness over the right apex; the vocal resonance was increased. There was diminished respiration, and slightly prolonged expiration. He had an occasional hacking cough. The boy walked about on crutches; he looked very phthisical.

Oct. 8th. Since the last note he had recovered strength; he was tolerably strong now, and walked upon crutches. He went out to-day to recruit his health; and was made an out-patient.

He was re-admitted under the author on March 8th, 1865. When seen, he was a tall, sparsely nourished lad. The skin was warm and moist; he perspired at night, but not profusely. Pulse 90, of good volume, compressible; tongue clean and moist; appetite not very good; bowels rather relaxed; urine natural; no cough or expectoration. Breathing was coarse beneath both clavicles, with prolonged expiration.

The right knee was enlarged, chiefly at the inner condyle of the femur; it was one inch larger round than the left. The tibia and fibula were rotated outwards and fixed in a semiflexed position. The patella was fixed to the end of the femur. The circumference of the right thigh was $10\frac{1}{2}$ inches; of the left, $13\frac{1}{2}$ inches; of the right calf, $9\frac{1}{2}$ inches; of the left, 12 inches. The right foot was red and brawny. While standing on the left leg, the right heel was about five inches from the ground.

March 11th. The author opened the joint with the view of excising the articular ends of the bones; but found them so far diseased that he thought it advisable to amputate in the lower third of the thigh, which he did by antero-posterior flaps. The wound was brought together by strapping without sutures,

and dressed with wet lint. A third of a grain of acetate of morphia was given.

March 12th. He slept some hours during the night; looked pale. Skin warm and dry; respiration natural; pulse 100, compressible; tongue clean and moist. He had no appetite; was thirsty; vomited several times since the operation. He complained of much pain across the epigastrium. The wound was not dressed. There had been slight oozing of blood ever since the operation.

March 13th. He was rather restless during the night. Skin hot and dry. Respiration was natural; he had a slight cough, and expectorated a little mucus. Pulse 140, jerky, compressible; tongue slightly furred, moist. He had no appetite; was thirsty; vomited after taking anything but cold milk. The bowels were relieved after a common enema. His urine was rather high-coloured; it passed freely. The stump looked quiet; it was still oozing blood. He was ordered to have six ounces of wine, an enema, and the following draught every four hours.

R. Ammonia sesquicarb. gr. v; tinct. cinchonæ comp. ʒj; ether. chlor. ʒxx.

March 14th. He passed an indifferent night, but looked rather better. Skin not so hot, still dry; cough easier; pulse 120, rather jerky, soft; tongue thickly furred, moist. He took but little nourishment; could not take the wine. He vomited after taking the medicine. Bowels confined. The stump was not yet suppurating; still oozing. The wine and medicine were omitted.

March 15th. He had a pretty good night. Skin warm and a little moist; face sometimes flushed; no cough; pulse 108, rather jerky; tongue cleaner and moist. He had taken some chicken and drank some ale; he vomited less frequently. Bowels confined. The stump discharged a bloody fluid; no pus. He did not complain of pain. He was ordered to have a pint of Bass's ale.

March 16th. He had a good night. Skin warm and moist; pulse 96, soft; tongue slightly furred. He took his nourishment better; but vomited after the dinner. Bowels confined. The stump was discharging a small quantity of bloody serum; no pus. He complained of pain in it. He was ordered two pints of ale.

March 17th. He passed a fair night; complained of twitchings in the stump. Face sometimes flushed; pulse 108, a little jerky; appetite better; no nausea nor vomiting; bowels confined. The stump was discharging a little pus mixed with blood. Part of the wound was healed.

March 18th. He slept well; and looked much better. Skin cool and moist; pulse 108, soft; appetite improving; no vomiting. The bowels were well relieved by a common enema. He complained of twitching in the stump, which discharged a moderate quantity of bloody pus.

March 19th. He slept well. Pulse 100, soft; bowels acting; tongue clean and moist. The stump was granulating in parts; there was not so much blood with the discharge. He complained of twitching.

March 20th. He slept nearly all night. Skin warm and moist; respiration natural; pulse 108, rather feeble; tongue clean and moist; appetite not good; no vomiting. The bowels acted freely, rather loose. The patient complained much of twitching in the stump, which was discharging more healthy pus. He was ordered four ounces of brandy.

March 21st. He had a fair night. Skin warm and dry; pulse 100, rather feeble; tongue slightly coated on the dorsum, moist. He took his food better; had no vomiting. The bowels had not acted since yesterday. The stump was granulating and discharging tolerably healthy pus.

March 22nd. He slept well. Pulse 108, rather jerky, easily compressed; tongue slightly furred, moist. He took nourishment pretty well; vomited after breakfast. The bowels acted twice. The stump was granulating and discharging healthy pus.

March 23rd. He complained of twitchings. Skin cold and dry; pulse 96, rather feeble; bowels not open; no vomiting; appetite pretty good. The stump was looking well.

March 24th. He was looking better; slept well. Skin cool and moist. He had a slight cough, and expectorated a little nauseous mucus. Pulse 96, rather feeble; tongue slightly furred; appetite pretty good; no vomiting. The bowels had acted once. Two ligatures came away. The patient had pain, referred to his foot.

March 25th. Two more ligatures came away. The wound was granulating well.

March 30th. He slept well, and took his food well. He complained of occasional pain, referred to his foot. Tongue clear and moist; bowels open; pulse 96, rather feeble. The wound was contracting, and discharged healthy pus. The last ligature separated.

April 5th. He ate and slept well; and his general condition was improving. The stump was contracting well.

April 15th. The general health was much improved, and he was gaining flesh. The stump was almost healed. He had been out of doors each fine day this week.

June 20th. He left the hospital with his stump quite healed, and his general health much improved.

There are many cases of diffuse strumous deposit which are better treated by amputation, particularly in very young children enfeebled by disease, and with knee-joints quite disorganised. The history of such a case (Margaret Bolt) has already been given, and a cast (No. 3) of the limb, which I amputated, is also sent in. The poor little child much improved in health during her stay in hospital; but some few months after she left, to go to a miserable home, strumous abscesses formed in different parts of the body, and she at length died.

I have before referred to the great objection which exists to excision of the knee-joint when visceral disease is present. It often becomes the duty of the surgeon to decide as to what treatment he shall apply to a diseased joint, when his patient is affected with some other serious malady in addition to the joint-mischief. For instance, it frequently happens that tubercular deposit in the lungs is an accompaniment of knee-joint disease; and, probably from the extreme debility caused by it, the joint-disease goes from bad to worse, and is a source of constant distress to the patient. Moreover, there is no doubt that it acts as a direct irritant to the lung, and aggravates all the pulmonary symptoms. Now, as soon as this fact is established, it follows as a matter of course, that the removal of the cause of irritation is the proper course; and, as excision of the diseased joint is not admissible under the circumstances, nothing but amputation of the thigh remains. It is an operation quite justifiable, and calculated to prolong life; although, in all probability, the tenure of life will be but a short one. The following is the history of such a case up to the present time; and a cast of the limb, with a preparation of the joint, were sent in.

CASE. Wm. Harris, miner, admitted under the

care of the author, September 30th, 1865, with disease of the right knee-joint, and phthisis.

History. He was a miner by occupation. His habits were regular and temperate; he was married. His knee began to swell and become painful about three years ago, after he had been working in water. For two years he had occasional pain and swelling. During the last twelve months, the joint had been gradually enlarging, and had been more painful, occasionally preventing his working.

He had been laid up for the last six weeks only. His father died of phthisis about twenty years ago, aged 41; his mother was still alive. He had several brothers and sisters, all healthy. He was a sparely nourished man, of fair complexion. He looked pale; skin warm and moist. He perspired very much at night. Respirations natural; occasional slight dry cough; pulse 110, rather feeble; tongue slightly coated with a white fur—moist; appetite bad. He had vomited several times lately. No thirst; bowels confined; urine natural. His sleep was much disturbed, but he had pain and startings in the left knee-joint at night. The knee was swollen principally over the internal condyle; circumference, right, 16½ inches; left, 13½ inches; right thigh, 11 inches; left, 13 inches. The patella was slightly moveable; no tenderness, except at a spot behind the internal condyle, which he could not bear touched. The knee was slightly flexed; leg oedematous.

Sept. 30th. There was dulness on percussion beneath the right clavicle, with pectoriloquy, prolonged expiration (coarse), and scanty moist crepitation. The heart-sound was heard abnormally loud over the right side. Puerile respiration was heard over the left lung. He was ordered a pint of porter, and

R Potassii iodidi gr. v; spirit. ammoniac. co. 3 ss; tinct. cinchonæ 3j; aquæ 3j. M. Fiat haustus ter die sumendus.

A blister, an inch and a half by three, was applied to the knee; and twenty minims of solution of acetate of morphia were given at night.

Oct. 3rd. He was ordered a pint of milk, and four ounces of wine.

R Æther. chlor. mx; infus. gentianæ 3i. M. Fiat haustus ter die sumendus.

Oct. 13th. He was ordered an ounce of cod-liver oil three times a day, and one egg.

Oct. 21st. He slept well; perspired much less. Respiration was easy; cough slight; no expectoration; pulse 108, of moderate volume, compressible; tongue almost clean and moist; appetite much improved; bowels regular. The painful startings at night were much less frequent.

Oct. 28th. The author amputated by anterior and posterior flaps immediately above the knee-joint. The wound was brought together by silver sutures, and the stump wrapped in wet lint. The joint was found to be full of pus and *détritis*. The cartilages covering the external articular surface of the femur and the opposite surface of the tibia had disappeared. The internal surface of the femur was ulcerated, and the cartilage detached. The internal surface of the tibia was covered by cartilage, much thinned and separated at its edges. The crucial ligaments were present, but much softened. Only a vestige of the semilunar cartilages could be found. The cartilage on the patella was surrounded by a line of ulceration. The synovial membrane was in a state of pulpy degeneration.

Oct. 29th. He passed a good night, but looked pale. Skin hot and dry; respiration natural. The cough troubled but little. Pulse 132, easily compressed. Tongue coated with a dirty white fur on its dorsum, red at its tip, moist. He was slightly

sick after the chloroform, and vomited once during the night. He took nourishment fairly; was thirsty. Bowels confined; urine rather scanty. He had little or no pain or twitchings.

Oct. 30th. He passed a pretty good night, but did not sleep much; perspired freely. Skin hot; lips dry; pulse 130; tongue much coated; appetite pretty good; bowels much confined; not much thirst; very little pain. He was ordered to have a common enema.

Nov. 1st. He slept fairly; looked pale. Skin cooler; cough troublesome; pulse 106, rather jerky; tongue still furred; appetite moderate. He vomited twice last evening; not much nausea. He was thirsty. Bowels open; urine plentiful, clear. The wound was suppurating; not painful.

Nov. 3rd. He did not sleep much. Skin warm, moist. He perspired freely at night. Cough easier; pulse 108; tongue clean, redder. He took but little nourishment yesterday. No vomiting; thirst slight; bowels confined. The wound was discharging freely; looking rather red around the sutures.

Nov. 4th. He was ordered a pint of ale.

Nov. 5th. Sleep was almost prevented by cough; there was very little expectoration. Skin dry; pupils dilated; pulse 108, of moderate volume; tongue cleaner, rather dry and red; appetite bad; bowels open. The stump was discharging a moderate quantity of healthy pus. It was dressed with a weak solution of Condy's fluid. Three sutures were removed.

Nov. 8th. He slept better; looked pale. The cough was easier. Pulse 96, moderate volume; tongue clean and red; appetite somewhat improved; bowels regular. The wound was suppurating freely. The last suture was removed; the ligatures were coming away.

Nov. 13th. The patient's nights were much disturbed by a very troublesome cough, with very little expectoration. Skin hot and moist; he perspired very profusely during sleep. Pulse 108, easily compressed; tongue clean, rather red, and moist; appetite very bad. He took his wine. Slight thirst; bowels regular. He complained of twitchings in the stump. The wound was contracting. About an ounce and a half of pus came away from one of the apertures left by the sutures during the dressing.

Nov. 15th. He was ordered to have two eggs, and eight ounces of wine; to have a drachm of tincture of cinchona added to the mixture; and to take twenty minims of solution of hydrochlorate of morphia.

Nov. 17th. He slept better, but perspired very much. Pulse 108, rather jerky; cough not so troublesome; tongue clean and moist; appetite improving; bowels acting regularly. The wound was contracting, and discharged a moderate quantity of creamy pus; it was rather more painful. He was ordered a pint of Bass's ale.

Nov. 23rd. His general condition was unaltered. The stump was looking full. About an ounce of pus passed out of the existing opening; it was evidently burrowing upwards between the muscles. Two ligatures still remained firmly attached.

Nov. 28th. He looked better; slept fairly. Respiration was less profuse, and the cough easier; pulse 108, jerky; tongue clean; appetite pretty good; bowels rather costive. The wound was almost healed; it discharged a moderate quantity of pus from the ligature-openings.

Dec. 2nd. The patient's sleep was sometimes disturbed by cough, with slight expectoration. Pulse 108, rather feeble; tongue clean; appetite fair; bowels rather confined. He was not losing flesh. The stump was still discharging a moderate quantity

of pus. The two remaining ligatures came away. He was progressing favourably, and ultimately recovered.

Here was a case of far advanced phthisis. There was nothing in the condition of the joint itself to preclude excision, as the disease was confined to the surface of the bones; but the cavity in his lung at once decided me as to what I ought to do. He was a poor man; and, if I had sent him away with the joint, it would have been impossible for him to give it the rest necessary even to preserve him from great pain. I do not think the man will live long; but I believe he will live longer than if the limb had not been removed. I believe it should be a rule of practice to remove by amputation a diseased knee-joint, if it be satisfactorily proved that it acts as an irritant to more important visceral disease.

One of the gravest considerations for the surgeon is the treatment of *Wounds and Injuries of the Knee-joint*, when it becomes a positive necessity that the joint should be removed. I have already discussed this question, and have stated my opinion that it is possible to effect this by excision of the joint. The fearful mortality attending upon amputations of the thigh after injury is quite a sufficient warrant for the surgeon to look to some other method of treatment. There are, however, injuries to the knee of such a character as to necessitate the removal of the limb by amputation, at all risks. One of the most distressing cases I ever saw was under care of one of my colleagues. The man was caught in machinery. He sustained a compound fracture of the right tibia, with severe laceration of the soft parts. There was also a lacerated and contused wound into the right knee-joint. The left leg was immediately amputated; but an attempt was made to save the right. Tremendous suppuration set in, the pus burrowing back amongst the muscles of the thigh; and, five days afterwards, the thigh was amputated. The patient died on the third day. Now, under similar circumstances, if I attempted to save the other leg at all, I should certainly follow Mr. Kempe's plan, and perform primary excision of the joint, as I believe that much less suppuration and constitutional disturbance would have arisen.

The last condition requiring amputation, to which I shall refer, is that of the limb upon which *Excision of the Knee has failed*, and where, consequently, it is either an incumbrance or a positive source of danger to the patient. Of 238 cases collected by Price, 30 came to amputation at various periods after; and out of the 30 thus operated on, 5 died.

These amputations were performed at distances of time from the excision varying from a few days to over two years. In many of these cases, there can be no doubt that amputation was performed where a little patience would have avoided it; the bones being found healthy, and union taking place between them. Profuse suppuration, the remains of diseased synovial membrane, necrosis and caries of the bones, were the principal causes for the amputation in the others. The fact of five only out of thirty dying after the operation proves my assertion in a former portion of this essay to be correct; viz., that patients having undergone excision of the knee are seldom worse able to bear subsequent amputation than if it had been the primary proceeding.

It is a question of great importance to decide in any given case, at what period all hope of saving a

limb, in which the knee has been excised, expires. Of course, if profuse discharge and continuous pain so wear down the constitution of the patient as to place his life in jeopardy, there can be little question as to the immediate removal of the limb; but the difficulty exists in those cases where, perhaps, there are sinuses leading to diseased bone, and where the union is only fibrous, and of such a nature as to be perfectly useless. I have before laid stress on the necessity for great patience in these cases. Much, I think, depends upon the feelings of the patient himself. If his position in life be such as to make it very needful for him to get about as soon as possible, or if he be tired of his limb, and urge on the surgeon its removal, I should not hesitate to comply with his request, unless I had very strong grounds for expecting rapid improvement. There are, however, indications of an entire lack of usefulness in some limbs, which would decide the surgeon in no longer allowing it to cumber his patient. We sometimes find cases in young subjects where the limb has not only ceased to grow longitudinally, but where its whole nutrition seems to have been arrested in all the tissues. It hangs loosely from the femur, seemingly attached to it only by the skin and soft tissues surrounding what was once the knee-joint. The muscles of the calf are quite atrophied; the foot is small and undeveloped; the temperature much below that of the sound leg; in fact, there is every indication that it hangs almost lifeless, and quite useless to its owner. There is little or no prospect of amendment here; and I think the sooner amputation is performed, the better. Appended is a drawing, taken from a case in which Mr. Holt of the Westminster Hospital performed excision of the knee, and amputated some time afterwards, on account of non-union.

It sometimes happens that disease is again set up in the bones by violence. I remember a case where Sir W. Fergusson excised the knee-joint of a young woman, with a most excellent result. Some years after, she fell, and necrosis of the bones took place; Sir W. Fergusson attempted to re-excise, but was obliged to complete the operation by amputation of the thigh.

I believe that all the varying circumstances demanding the operations of excision of the knee and amputation of the thigh have now been reviewed. I have endeavoured to perform this task in a fair, unbiassed spirit, neither unduly vaunting the merits of one proceeding, nor depreciating those of the other. I have contended that, whereas it is a glory to the surgeon to save both limb and life to his patient, he has no right unduly to risk the latter in attempting to save the former. Much as I admire, and desire to practise, in every fair case, excision of the knee, I have no wish to strike amputation of the thigh out of the roll of surgical procedures. It is a painful operation for the surgeon to undertake, and a still more painful and distressing circumstance for the patient to go forth maimed to so fearful an extent; but the prolongation of life is the surgeon's great triumph; and, if the loss of a limb to his patient is the cost at which this is procured, he must not hesitate to perform his duty. On the other hand, it behoves us as a profession to be more careful how we deal out such full measure to our patients. A great and important addition has been made to our operative resources by the revival of excision of the knee-joint; and we must be careful how we allow either

prejudice against, or ignorance of, the operation to prevent us from giving those who are under our care, and who may require it, the benefits of its use.

Illustrations

OF

HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

BROADMOOR STATE ASYLUM.

REPORT OF A CASE OF CONVULSIONS.

By F. W. GIBSON, M.D.Lond., Assistant-Medical Officer; late House-Surgeon to the Taunton and Somerset Hospital.

EMILE H., aged 43, a jeweller, admitted in February 1865, with symptoms of general paralysis, had on March 16th, 1866 a convulsive fit, lasting about two minutes, of which the account given in the case paper is as follows.

"Head drawn to right, and both eyes to right; right arm convulsed, and convulsive action of right pectoral muscles; no convulsions of lower limbs; temperature 101.2; pulse 80.

"March 17th. Has had three more fits since yesterday; temperature 100; respirations 40; pulse 88; no abnormal chest signs.

"March 18th. Temperature 97; pulse 65; has had no more fits."

He had no recurrence of the fits until July 28th; his temperature was taken constantly during the interval, and was always normal. At 6.30 p.m., whilst lying in bed, he became suddenly convulsed.

At 7.5 p.m., the temperature in the left axilla was 101; right 102.2; pulse 120; respirations 44. He was semiconscious; both eyeballs were drawn to the left; the pupils were equal, moderately dilated—they did not act to light; the muscles of the face on the left side twitched convulsively; those on the right did not move; but were not paralysed; the right side of the face was considerably redder than the left; the right temporal artery was markedly more distended than the left; the whole of the right half of the face was covered with beads of sweat; there was no visible perspiration on the left side; there were convulsions of all the muscles on the left side of the body; none on the right; there were slight twitches of muscles of right leg.

8.20 p.m. Convulsions continued; there was stiffness of the convulsed muscles.

July 29th. Temperature 101; pulse 120; respirations 44; the convulsions had continued, were very severe in character, and had not ceased for a single minute since the attack began.

July 30th, 7 p.m. Temperature 101.8; pulse 100; respirations 44; he was quite unconscious; he died comatose at 10 p.m.

POST MORTEM EXAMINATION. The number and size of capillaries in the grey matter of the cerebellum were notably increased; some were varicose; there was fatty degeneration of the muscular fibres; the same condition, to a less degree, existed in the capillaries of the grey matter of the convolutions of the cerebrum; the pons, medulla, cord, and all the other organs, were healthy.

REMARKS. The researches of Claude Bernard have proved that irritation of the cerebro-spinal system of nerves, by paralysing the sympathetic, produces dilatation of the minute vessels, increased animal heat and augmented chemical action.

The phenomena observed in this case would, at first sight, appear to be satisfactorily accounted for thus—"Here is irritation of the cerebro-spinal system, as shown by the convulsions, producing increased heat and increased flow of the cutaneous secretion;" but, on the other hand, the phenomena of the convulsive attacks of epilepsy are a direct contradiction of this theory, for while in these attacks there is, as I think I may affirm as the result of very numerous observations, no increase of temperature, there is irritation of the sympathetic causing contraction of the vessels; hence the loss of consciousness, the pallor of the face, and the small radial pulse, and dilatation of the pupils.

Physiological science does not, as far as I am aware, at present offer any data for a theory which would give a satisfactory reconciliation of these apparently contradictory facts.

The *post mortem* appearances are evidence in favour of the views of M. J. Luys, regarding the pathology of the obscure disease known as general paralysis; namely, that the cerebellum is affected primarily, the cerebrum secondarily, and that hence the motorial disorder usually precedes the mental. (*Recherches sur le Système Nerveux Cérébro-Spinal*, p. 618.)

I may mention, in conclusion, that I found elevation of temperature in another case of convulsions occurring in a general paralytic; also in a case of convulsions caused by acute cerebral softening. The non-elevation of temperature in epilepsy may, perhaps, when thoroughly established by further investigations, serve as an aid in the diagnosis between true epilepsy and non-epileptic convulsions.

The temperature is considerably elevated in tetanus and in chorea; and although I am not aware that any observations have been taken of the temperature during convulsions connected with acute Bright's disease, yet as it is, as I know from experience, elevated in that disease, that elevation of temperature, would, in all probability, not be affected by the convulsions; so in convulsions caused by tubercle in the brain or meninges, an elevation of temperature would undoubtedly exist as the result of the tubercular disease.

HULL GENERAL INFIRMARY.

[Cases reported by T. M. EVANS, Esq., House-Surgeon.]

TERTIARY SYPHILITIC DEPOSITS.

Under the care of OWEN DALY, M.D.

JAMES BODDY, aged 39, a railway porter, was admitted on December 9th, 1865, suffering from severe headache, of a dull and constant character, and of four months' duration, which had been attributed to neuralgia, and treated as such. He was very thin and anæmic, and had a languid, vacant expression, with large, sluggish pupils. Three years previously he had primary syphilis, and enlargement of the inguinal glands, but he had not suffered from any eruption, sore throat, nodes, or other symptoms of a secondary character.

The headache increased in intensity, and was soon accompanied by dimness of vision, and a slow, tottering gait, so that he could not walk without support from surrounding objects; and a month after admission he became quite comatose, the pupils being much dilated, but not quite fixed, and there was no stertor. From this state he seemed to be roused by repeated blistering, and had so far recovered at the end of a fortnight as to be able to sit up, and to answer questions in a slow hesitating manner; but he did not appear to take notice of surrounding objects, being partially amaurotic. Several similar attacks