the neighbourhood of the ligamentum patellæ; the walls of the abscess united almost immediately after all the pus had escaped, and from February 9th to this present date, April 24th, he has had but one dose of physic.

R. Hydr. cum cretâ gr. ij; pulv. scam. co. gr. vi; pulv. rhei gr. iv. M. Fiat pulvis horâ somni sumendus.

By the end of the eighth week he was able to move freely about in bed. By the end of the ninth week he could get about the ward on his crutches. Before the end of the tenth week he could bear his weight on the affected leg and use it in going about the ward. On taking off the starched bandage, April 15th, a very minute opening was still found to remain in the situation from where I had removed the triangular piece of bone, but it had discharged in ten days only enough to form a small scab over it.

April 21st. The sinuses seemed closed.

April 24th (that is to-day), the boy may be pronounced well; the parts appear to be soundly healed, he gets about easily by means of his crutches, and would bear a good deal of his weight on the affected limb if he were allowed to do so. Of his present condition, and the probability of his possessing a useful limb, I will leave you to judge, as I have him here for your inspection.

I should not, however, have brought the case before you so early were it not that this will be the only opportunity I may have of showing the patient to you, as I am anxious to send the child out of the hospital into the fresh country air, to which he has been always accustomed, and I may not be able to ensure his attendance at a future time.

REMARKS. The fact of my performing the operation sufficiently proves that I considered excision of the knee-joint a most legitimate procedure, and the result I have obtained certainly does not tend to diminish my opinion of its propriety. Indeed, from a consideration of this case, I am inclined to believe that it should be employed much earlier in the cases ordinarily chosen for it than is at present customary; also, that acute inflammation and violent constitutional disturbance should not be esteemed hindrances to, but rather arguments for the operation, provided a source of irritation be present which can be got rid of; and finally, that in cases of wounds of the knee-joint, accompanied with suppuration into the synovial sac, instead of having recourse merely to incisions, it would be better practice to at once lay open the joint and excise the ends of the bones, thus saving a prolonged suppuration, which, after trying the constitution to the uttermost, can only eventuate in a stiffened limb, which is not so serviceable when of its natural length, as when shortened a little by the extremities of the femur and tibia being removed. In the former case, the patient in walking is obliged to throw himself over on the sound side, and swing his stiff leg round like a person suffering from hemiplegia, besides being continually liable to trip and fall down; whilst in the latter (care being taken not to remove too much bone), the stiff limb can be swung backwards and forwards over the surface of the ground, the toes just escaping contact with it during the movement; there is thus less liability to trip, and there is less peculiarity in the gait of the patient. Besides, in excision, the recovery, in the majority of cases, would be much more rapid.

During the treatment of this case, I had an opportunity of watching the progress of a patient who was under the care of my friend Mr. Godfrey, and suffering from a gunshot wound of the knee-joint, who was treated by free incisions into the joint, and who ultimately recovered with a stiff knee. But when I remember the great constitutional disturbance, the prolonged suppuration, the imminent danger the patient ran, and the final inconvenience resulting from a stiffened leg of the natural length, I am inclined, as far as a conclusion can be drawn from the comparison of so few instances, to regard very favourably indeed the idea of not only freely opening the joint in cases of injury exposing its cavity, but also, in addition, of excising the cartilaginous extremities of the large bones entering into its composition; as I believe, by so doing, the constitutional disturbance will be less at first, and the sys-

tem not so much taxed during the progress of the case, as well as the recovery made more rapid, and the result more satisfactory.

On inspecting the excised parts, the extremity of the femur was found to be quite healthy, but that of the tibia to contain the upper half of the cavity of an abscess which had opened externally by means of the sinus already spoken of, and into the cavity of the joint by an opening situated underneath the external semilunar cartilage, this latter opening having been the cause of the great constitutional disturbance.

Original Communications.

CLINICAL OBSERVATIONS UPON CASES OF HERNIA.

By J. W. KEYWORTH, M.B., etc.

[Read before the Birmingham and Midland Counties Branch, April 10th, 1856.]

I HAVE selected three cases of hernia as illustrating certain circumstances attending this disease which are of importance in guiding us in the course of treatment that we have to adopt, because upon that course must depend the prosperous or adverse issue of the case—the life or death of the patient.

CASE I. The first of them is interesting from the fact that the individual was the subject of double hernia; that nature had once successfully acted the part of the surgeon; and that an operation was twice necessary.

On the 8th of May, I was called to Mrs. Boucher, living at Aston. She was 56 years of age, a healthy, but rather feeble woman, of spare habit, and the mother of several children. When a young woman, living in service, she became the subject of inguinal hernia on the right side. For this she wore a truss for some years, but eventually neglected to do so; and the hernia, as often as it protruded, was reduced by her own efforts. In the year 1839, the hernia became strangulated, and continued in this condition for *four days*. She was then taken to the Birmingham General Hospital, but the hernia receded as she was being prepared for operation. The injury, however, which the intestine had sustained from this lengthened compression, and from the manipulation which had been employed, was such that adhesion took place between the intestine and the abdominal parietes. Suppuration followed, and eventually an artificial anus was formed in the groin, and the feces were presently discharged exclusively by this aperture. The opening in the bowel appears to have been high up in the intestinal canal; for extreme debility and emaciation were the result, and the patient was confined to her bed for two years. But gradually the new opening contracted; the feces began to resume their natural course; and, towards the close of the two years, the opening became entirely obliterated. Sixteen years afterwards, there remained only a depressed scar in the right groin, marking the site of the former opening.

In the winter of 1843, she was one night attacked with pain in the bowels, succeeded by vomiting; and on the following morning, while going down stairs, she felt something give way in her bowels, and a femoral hernia suddenly formed on the left side. She endeavoured to reduce the protrusion, but desisted on account of pain which it gave her. The severe pain extended over the whole abdomen, which became tender, and vomiting of bilious (but not fecal) matter took place repeatedly. Twenty-four hours after the occurrence, she was seen by Dr. Russell, to whose notes I am indebted for this part of the history. The rupture was then very firm, half as large as a hen's egg, and tender. She was now the mother of several children, and was the subject also of prolapsus uteri. Manual efforts were employed without success, and the warm bath was also used unavailingly. The vomiting,

however, ceased after the administration of a dose of opium.

Thirty-six hours after the appearance of the hernia, Dr. Russell operated. A small fold of intestine had descended, and this was adherent in front to the sac, which contained a little fluid. The operation was well borne; it gave immediate relief, and was followed by no untoward symptom. Twenty-eight hours afterwards, the bowels were relieved by an aperient dose, followed by an enema. Recovery was speedy.

She wore a truss after this operation for some years, until the instrument becoming useless, she neglected to replace it. The hernia occasionally descended, and was returned; but in process of time the reduction became imperfect, and a more or less constant protrusion was the result, which could at any time be removed by pressure.

On the 8th May, 1855, at ten o'clock in the forenoon, whilst moving a bedstead, the hernial swelling became greater, and strangulated. It was very painful, and no efforts that she could employ availed in any degree to lessen it. Eight hours afterwards, I saw her, and found the hernia quite irreducible. Four hours later, assisted by my friend Mr. Yelloly, having placed the patient under the influence of chloroform, I opened the sac, and returned the intestine, which was adherent to its coverings in a slight degree. The stricture was exceedingly firm, and required free division. Thirty hours subsequently, the bowels were spontaneously evacuated, and in eighteen days she was able to leave her room.

CASE II. The second case differs from the preceding in the age and condition of the patient, and the duration of the disease. It was a male infant, 24 days old, at whose birth I had attended, which was brought to me one morning on account of illness. Two mornings before, when washing the infant, the right side of the scrotum was found to be swelled; the child appeared to be in pain, was sleepless, and refused the breast. During the following day, it had repeatedly thrown up matter of a yellow colour and faecal smell, and the bowels were obstinately confined: the attacks of vomiting now occurred every ten minutes. For the last six hours, the child had ceased crying, and lay quite exhausted and motionless, except when attempting to vomit. I found the child perfectly prostrated, pale, cold, and almost pulseless. On the right side, there was an oblique inguinal hernia, which probably had been strangulated for at least forty-eight hours; the skin covering it was red and tense, slightly oedematous, and disposed to mortify; between the groin and the scrotum, slight sloughing had taken place. Careful manipulation produced no effect upon the hernia; the child gave little evidence of pain, being nearly unconscious. Under these circumstances, I explained to the parents the almost hopeless nature of the case, and that an operation was the only remaining resource, the shock of which it was barely possible that the child could sustain—an opinion which was strongly held by others who saw the patient. The case, however, being left to my judgment, I immediately determined to attempt relief, and forthwith performed the operation in the usual manner. Some difficulty occurred, from the excessive congestion of the parts and distension of the sac, which it was necessary to open before the hernia could be returned. This was immediately followed by great protrusion of the small intestine, about six inches of which had been strangulated, was stained of a deep red colour, and lay in front of the testicle and spermatic cord, separated by the hernial sac and involuted tunica vaginalis (forming the variety termed by Hey, infantile hernia). It was necessary to enlarge the internal abdominal ring considerably, and to employ prolonged manipulation before the intestine could be returned. Immediate relief followed; the vomiting ceased almost directly, and the child fell into a quiet slumber during the adjustment of the dressings. Minute doses of anodyne medicine were given during the first twenty-four hours, with a little wine and water; and the bowels, distended with flatus, were relieved after thirty hours with castor oil.

In the progress of the case, nothing very noticeable occurred. The wound, which it was impossible to keep clean, granulated, and was healed in three weeks, the event being procrastinated by the impossibility of keeping the parts properly at rest, and by their unhealthy infiltrated condition at the time of operation. The child's health suffered greatly during this period; it grew thin and puny, and required constant attention, but at length rallied, and, when I last saw it, had acquired the dimensions and appearance of a robust and thriving infant of six months old.

CASE III. With the preceding cases I would contrast a third, which was that of a middle-aged woman, of spare habit, and sallow, unhealthy appearance, who had been the subject of direct inguinal hernia for several years, for which she had worn a truss at intervals. About ten o'clock one evening, it descended while she was taking supper, and she was unable to return it. In the course of the night, it became painful, and she applied warm fomentations to the part. The bowels had been relieved during the day.

When I saw her, the intestines had been firmly strangulated for eleven hours. She felt sick, but did not vomit. There was much abdominal tenderness. Gentle steady manipulation produced no effect upon the hernia, but, in the course of an hour and a half, after using refrigerant applications for half an hour, it was reduced by a medical friend. The inclination to vomit diminished, but great tenderness was complained of in the inguinal region. Leeches to the part and hot fomentations were used; and calomel, with full doses of opium, were given every hour; but, without any considerable increase in the symptoms, she suddenly died on the following day, forty-three hours after the descent of the hernia, and thirty-one hours after its reduction.

I opened her body, and found the whole canal of the intestines pervious and free from stricture. No rupture or injury had taken place, but the part which had been strangulated—about three inches of ileum—was deeply injected and vascular. The general mass of intestines was inflamed, and matted together by great quantities of firm lymph mixed with pus. The peritoneum contained a pint of purulent serum. The sac of the hernia was infiltrated with pus.

REMARKS. I think that these cases, selected from a number, illustrate various points of interest.

From comparison of a large number of cases, I conclude that the operation for hernia is by no means a dangerous one—in fact, is far less dangerous than the means which are often resorted to prior to operation. Out of 261 persons of all ages operated on in London, chiefly last year, only 64 died—less than 1 in 4; and in a large proportion of these fatal cases, death occurred several weeks after the operation, and in others resulted from contusion or rupture of the intestine by undue employment of manual efforts. Mr. Luke, of the London Hospital, lost only 2 out of 40 persons in whom he operated without opening the sac.

The third case is an example of what, I believe, often occurs in cases where an operation is performed; viz., that, from constitutional or other cause, apart from the operation, inflammatory action is rapidly set up, and destroys the individual. I have never, however, seen inflammatory results occur so rapidly and fully as in this case.

Age in itself is no impediment to an operation of this nature, as is shown by the second case which I read. Mr. H. Smith, of King's College, London, operated on a child about six weeks or two months old, if I remember right, with complete success. In such cases, indeed, we find operations, like other severe injuries, singularly well sustained, owing, I believe, to the fact that the infant organism is reduced in most of its vital relations nearly to a level with inferior animals, in whom we find recovery follow the severest wounds. I should be glad to hear the experience of members present with regard to herniotomy at an early age.

On the other hand, the operation has often been safely performed at advanced periods of life. I have seen a person nearly ninety years of age recover speedily from the

operation: in fact, as in the case of children, the lowered vitality of age removes many of the liabilities to disease.

One special object, however, which I have in narrating these cases to-night is to elicit the experience and opinions of gentlemen present on the propriety or otherwise of opening the hernial sac. The question is by no means settled at present, so far as I know, among London practitioners; and the difference in results is not so great as to decide the question.

Out of 160 operations, this and last year, in London, in which the sac was not opened, there occurred 38 deaths—nearly 1 in 4; whilst in 101 cases in which the sac was opened, there were 26 deaths—barely over the same proportion. Mr. Luke, however (as I have before said), lost only 2 out of 40 cases in which the sac was unopened.

I shall be glad to know, also, whether it has often been found that herniæ which have resisted the taxis have receded after the use of the warm bath.

When a student, I observed that, in many fatal cases in old people, death resulted from bronchitis or pneumonia; and for this reason, Mr. Simon, of St. Thomas' Hospital, as a rule, prohibited the use of the warm bath. He believed that a hernia which resists a fair use of the taxis is seldom, if ever, reduced by the bath. For the same reason bleeding was rarely employed. Dr. Druitt remarks that "a delicate person will not be very likely to bear the shock of an operation if bled or boiled to death's door first of all."

NOTES ON THE PATHOLOGY AND TREATMENT OF ULCERS OF THE LEG.

By JOHN KENT SPENDER, Esq., Surgeon to the Eastern Dispensary, Bath.

[Continued from page 208.]

ULCERS are occasionally found on the leg which are clearly independent of any varicose condition of the limb. Old people are subject to a vital and physical deterioration of their tissues, which is the first step in the process of ulceration. Large ulcers of an obstinate kind are apt to be developed in legs suffering from oedematous swellings; and the same result is the occasional sequel of a severe attack of idiopathic inflammation. The legs are also frequently the seat of specific sores; and the reason why these are more liable to occur in the inferior extremities in preference to other portions of the body, may be owing to the fact, that the position of the limb renders it obnoxious to injury, while the presence of the varicose affection makes it particularly prone to ulcerate.

Classification of Ulcers. Every ulcer is either strictly local in its source and in its consequences, or else it is the local expression of a special blood-disease. Theoretically, any classification is unexceptionable which is based upon this fact. An ulcer dependent upon constitutional causes is curable only by constitutional remedies, acting through the blood. Here we trace a local disease back to a general cause, and our practice is governed by this knowledge. In like manner, all strictly local ulcers should be traced back to their own local causes. If in the one case we prefix to an ulcer a generic term significant of the particular diathesis with which it is associated, why in the other should we not give prominence to the pathological fact upon which the same lesion depends? Every nosological definition should be expressive of a cause, and suggestive of a remedy. But I fulfil only the latter of these conditions, when I speak of a local ulcer being simply acute, or chronic, or healthy, or indolent: I say nothing about its origin. Clearly, therefore, any classification of local ulcers which does not take for its basis the presence or absence of varicose veins, is philosophically defective, and therefore practically wrong. To classify ulcers of the leg according to their appearances only, is merely an attempt to transcribe the manifestations of an evil, and not the evil itself.

Ulcers on the lower extremity may therefore be arranged

under two orders, determinable by the existence or non-existence of phlebeetasis. Each order may embrace the specific distinctions arising from the superficial appearance and character of the ulcer; as irritable, simple, indolent. Here the element of the greatest practical importance is taken first; the principle of the classification being intended as a guide to the principle of the treatment.

Lord Coke says, that to trace an error up to its source is to refute it. With equal truth it may be affirmed, that to trace a disease up to its source is to cure it. But to treat an ulcer according to its look, is not to go back to the origin of that ulcer; and we ought not to expect to be able to cure it in this way. Yet most systematic works on surgery offer minute directions for the topical management of every variety of sore, without adequate recognition of the necessity of modifying the predisposing cause. And the result is, that, under the most favourable circumstances, a palliation of the malady is the only object accomplished, and this perhaps at the expense of much time and suffering.

General Principles of Treatment. From what has been said, it is clear that we have to deal with a departure from the normal condition of things in two obvious points:—firstly, the cause—varicose veins; secondly, the effect—ulceration of the integument. A rational method of treatment consists in the attempt to rectify both these deviations. In many cases, to cure the one is practically to cure the other. But under all circumstances, our remedies should be so directed that both deviations may be simultaneously brought under their control; for in this way we not only save time, but, what is of far more importance, we insure the certainty of the curative process.

The application of these principles is a matter of not the slightest difficulty in the case before us. Every solution of continuity in the body, nature makes an attempt to repair: the method adopted varying with the exigencies of each case. In healing by adhesion, the liquor sanguinis which is exuded separates into serum and fibrin; the former trickling away from the wound, the latter remaining "in the form of a thin layer to invest and bind together the cut surfaces". In healing by the second intention, a portion of the exuded fibrin becomes metamorphosed into granulations, while the remainder appears under the form of pus, which serves as a "protective covering" to the whole. This is the usual mode by which ulcers cicatrize. Now, can we adopt any plan which will imitate and assist the natural process? The principle is a most simple and obvious one: we have only to follow where nature leads the way, and interpret her teachings, and a successful result is almost infallibly attained.

The indication plainly is to preserve and maintain the purulent secretion, which is furnished as a "protective covering" during the healing of the ulcer. In order to effect this, my father has proposed the use of an application which will form a chemical union with the secretion, and thus provide an incrustated layer over the granulations until they cicatrize. Such an application ought to be a compound of animal and mineral constituents; and when thus prepared, it fulfils the chemical and physical conditions required of it. Experience has shown that an ointment containing a very large quantity of prepared chalk, forms the best artificial incrustation. "The earthy matter must be in a much greater proportion than enters into any ointment in the Pharmacopœia, consisting of about three pounds of chalk to two pounds of lard. If about three ounces of olive oil be added, the ointment will not be too stiff, but will easily admit of being spread upon linen. The best method of preparing this application is not by rubbing the chalk down with the lard; but, having previously reduced the chalk to a very fine powder, heat the lard to a tolerable temperature, and, whilst it continues hot, gradually add the levigated chalk in the same vessel in which the lard was warmed. By this means, it forms more of a solution than a mere addition; and the two ingredients thus become more intimately blended together. This should be stirred until it is nearly cold, and then