tion of the patient afterwards I found the os open. This narrowing of the os uteri may take place after the cure of inflammation or ulceration of the cervical cavity by milder means." On the other hand he writes: "Even when a deep slough has been formed by the action of a powerful caustic, such as potassa fusa, or the actual cautery, in the course of a few months, or even weeks, all trace of the cicatrix disappears, and the cervix again becomes soft and supple." (*Op. cit.*, p. 397). And again: "I have repeatedly seen females confined without difficulty or accident, whom I had previously treated by deep cauterisation. M. Gendrin's experience on this point is the same as my own." (p. 434.) Dr. Bennet argues that mucous membrane, wanting the developed fibrous tissue of true skin, cannot become the seat of a hard cicatrix; but it is, I believe, no uncommon thing to have hard cicatrices, producing stricture of the œsophagus, as the result of swallowing boiling or corrosive liquids; and the urethral stricture following on the cicatrization of a wound or injury of the mucous membrane is one of the most intractable and recurring forms of that disease.

As to the treatment of our case, it seemed right, as there was no sign of labour, first to try all remedies for the convulsions; and, these failing, it became imperative to empty the uterus. But for the success of Dr. Lever's expedient of boring through the closed os with the finger, we were prepared to make an incision into the most depending part, as has been done successfully in several instances; but fortunately this was not necessary, and the great rigidity of the os was overcome by steady perseverance.

PRACTICAL ILLUSTRATIONS OF THE TREATMENT OF SOME CASES OF INJURY TO THE HANDS.

By JOHN BIRKETT, Esq., F.R.C.S., Surgeon to Guy's Hospital.

[Read before the Medical Society of London, October 24th, 1857.]

THE opportunities afforded by the clinical experience of a large hospital may be taken advantage of by the practical surgeon for the benefit of the public in two ways.

First, he has abundant examples of the results of improper surgical treatment, in consequence of the prejudices of the sufferers themselves, the advice of some parties not qualified to direct the most suitable plan of treatment, and neglect of, or the inability to carry out, the proper mode of treatment when advised to do so.

Secondly, he has a vast field open before him in which to observe the method and plan of treatment by which the most permanent and rapid cures are effected, and the reparative powers of nature assisted.

From the first class of cases, therefore, he learns what to avoid; from the second, he feels confidence in the plan of treatment he recommends.

Fortified by the observation of both classes of cases, I thought it might be useful to bring forward for discussion the treatment of certain forms of injury to the hands which are very common in our metropolitan hospitals; and my chief object in doing this has been to elicit the opinions of hospital surgeons upon its merits.

Some of the members of the Society, especially the hospital surgeons, may regard this communication as destitute of novelty and deficient in originality; but I made choice of the subject, under the conviction that the treatment of the injuries to which it relates is not generally recognised, and certainly, from the number of cases I have seen treated with stripes of adhesive plaster, that it is not very generally practised.

For many years accustomed to see the ill effects resulting from the plan of encircling with stripes of adhesive plaster even slight injuries of the fingers, particularly in the labouring classes, it occurred to me that it might be useful to describe a plan of treatment, simple in itself, and certainly most efficacious in producing a very rapid cicatrization of a wound. It has constantly occurred to me to see a man's hand inflamed, thecal abscess produced, and even the destruction of a finger result from this method of applying plaster around that which was in the first instance a most simple injury—a simple incised wound.

I considered, therefore, that, by the relation of a few practical illustrations of the advantages of the method now generally adopted in Guy's Hospital, and, as we shall probably learn to night, in other hospitals, the chemists and druggists and the surgery assistants might be induced to lay aside their plaster for strips of wet lint, and some surgeons their bread or

meal poultices for a much more cleanly and really useful application. I strongly advocate the plan to be immediately described in every kind of injury of the hand or fingers, except the purely incised wound inflicted with a sharp cutting instrument. In such an injury the careful adjustment of the lips of the wound with adhesive plaster may be admissible, the application being so arranged that the finger is never encircled, nor the wound entirely covered and closed over with the plaster.

In all other injuries complicated with wounds, my practical experience induces me to urge the adoption of another plan, which I will now briefly describe.

After the thorough cleansing of the hand by soaking in warm water, narrow stripes of lint or linen wetted in tepid water should be lightly and gently applied around the fingers which are injured, commencing from their ungual phalanges. In each case some slight modification may be required, and often an oblique or even a vertical adjustment of the lint may be useful. When a severe laceration of the back of the hand or palm is to be treated, pieces of lint with a slit in them may be advantageously employed. The finger passes through the aperture in the lint, and the stripe then supports the flap of integument very firmly. The arm is to be supported and raised upon a pillow, and irrigation may be used temporarily or continuously. This is accomplished by arranging a vessel to hold water above the patient, and to this a tube of vulcanised India-rubber is affixed, the end of which terminates in a fan-shaped piece of zinc, the convex border of which is perforated with small holes, through which, by means of threads, the water percolates guttatim. A piece of vulcanised India-rubber cloth must be laid upon the bed as a conductor for the water as it drains off into some receptacle placed by the side of the patient.

The advantages of this plan seem to be—

1. A constant stream of water is flowing over the injured part, whereby an equable temperature is maintained.

2. When suppuration is established, the discharge, especially if sloughing takes place, is washed away, and the wound kept perfectly clean.

3. The cuticle is kept moist and yielding, a circumstance of no little importance in the treatment of injuries of the hand in the working classes, in whom this structure, often like a layer of horn, prevents the swelling resulting from inflammation, and causes intense pain, and therefore more constitutional disturbance.

4. It ensures the parts being kept moist, which is not always the case when the patient is dependent upon another person to apply the water.

In illustration of the advantages of the treatment advocated, I adduce the following cases, which I will now briefly relate.

CASE I. *Incised wound of the Index Finger, with division of its Metacarpal Bone.* A boy, aged 8 years, whilst using a chaff cutting knife, inflicted upon his right hand the following injury. A wound in the soft parts extended from the palmar surface of the index finger transversely across its radial border, over its dorsal surface, and terminated at the radial border of the extensor tendon of the middle finger. The head of the metacarpal bone was severed from its shaft, and the member hung down from the hand, being attached by the soft parts only on its palmar aspect. The knife had cut into the metacarpal bone of the middle finger also. My dresser, Mr. Penfold, at once determined to attempt the restoration of the finger, and adjusted the parts by means of stripes of wet lint in an extended position. The arm and hand were elevated, and the parts were kept constantly wet. Suppuration occurred; but after a few days the wound granulated healthily, and in nine weeks the part was healed, and the boy enjoyed flexion and extension of the finger.

CASE II. *Incised Wound of the Metacarpo-Phalangeal Articulations and soft parts on the Dorsal Surface of the Right Thumb and Index Finger.* Dennis Haley, aged 20, was admitted into Guy's Hospital May 6th, 1853. He was a healthy, robust countryman from Bexley, and employed in a stable. With the knife of a chaff-cutting machine he had inflicted a severe wound transversely across the dorsal surface of the right thumb and index finger. The metacarpo-phalangeal articulations of both these members were laid open. The extensor tendons of the thumb were divided, but those of the index finger were not entirely divided. The thumb was partially dislocated forwards by the action of the flexor muscles. The wound extended slightly round to the radial border of the thumb. The hand was well soaked in warm water; and afterwards, the soft parts being adjusted, and the articular surfaces of the thumb being brought into apposition, narrow stripes of

lint, wetted in water, were gently applied around the injured members, beginning from their ungual ends until a complete splint was thus formed. The stripes of lint were applied layer upon layer as high up as the wrist joint. The whole hand was then enveloped in wet lint, and supported on a pillow so that a constant stream of water might flow over it from the irrigator. Considerable hæmorrhage occurred during the first twelve hours. For a few days afterwards active inflammation existed, which was controlled, however, and in eight days the edges of the wound showed healthy granulations. Irrigation was still continued for a few days longer, after which wet lint alone was applied. About the middle of June the wound was quite healed; and when he left the hospital he had a useful hand. He could flex and extend the index finger, and bring the thumb in contact with it firmly. The thumb was partially dislocated forwards, and did not allow of much movement.

CASE III. Lacerated Wound of the Joints between the First and Second Phalanges of the Index and Middle Fingers: Both Saved. A boy, aged 16 years, was admitted in Guy's under my care in February, 1857. A severe injury had been inflicted on his right hand by a circular saw, just before admission. The little and ring fingers were merely hanging by stripes of integument; and my dresser, Mr. Broad, removed these through the first phalanx. The joints between the first and second phalanges of the index finger and middle were cut open on their dorsal aspect; but as there was no further injury to them, Mr. Broad determined to attempt their reparation. In this he was successful; for by enveloping the injured fingers in stripes of wet lint cicatrization was effected in thirty-four days, and the boy enjoyed the movements of flexion and extension of the fingers.

As the value and usefulness of the hand depends in a great measure upon the integrity of the thumb, I may be excused if I devote a few moments to the consideration of the injuries of this important member in particular.

I believe it may be laid down as a rule that no portion of a phalanx or of the metacarpal bone should be removed by the surgeon, even should the bone project beyond the lacerated integuments, and appear to be so denuded, that to save it would be looked upon by the majority of observers as hopeless. This rule is based upon practical experience, and the results obtained in leaving cases of compound comminuted fracture to the reparative powers of nature. One case among several I will relate.

CASE IV. A young man was brought to the hospital, whose thumb was shattered by the explosion of a pistol. The ungual phalanx and about half of the first were carried away, together with the soft parts, as high as the ball of the thumb, and the integuments were hanging in shreds. The stump of the first phalanx projected considerably, and it did not seem possible that it could ever have been again covered by skin. I determined, however, to assist nature in saving all that remained; for, had the parts been neatly trimmed, and the bone covered with integuments, the stump of the first phalanx required to be removed at its articulation with the metacarpal bone. In this case the hand was well cleaned, and stripes of lint applied from the carpus towards the ungual phalanx, so as to bring the lacerated integuments as much over the stump as possible. Superficial sloughing of the lacerated surface took place, granulations were soon developed, and about an eighth of an inch of the stump of the phalanx exfoliated. After this the wound healed rapidly, and the lad obtained a most useful hand, enjoying all the movements of the second phalanx. He came under my observation a few years after this accident; and I was gratified to feel the power he enjoyed in grasping my hand between the stump of his thumb and fingers. He was then pursuing the employment of an engineer, an occupation requiring considerable manipular dexterity.

I trust my hearers will excuse the detail of this case, hoping that its result may deter the younger members of the profession from an officious interference with the reparative powers of the animal economy. No case, at first sight, presented more discouraging prospects; yet I never had one attended with more satisfactory results.

In severe lacerations of the soft parts of the fingers and hands, I believe we are not justified in pursuing any other treatment than an attempt to save the parts. However ragged and lacerated the integuments, it is surprising how nature restores the injured member; and in the treatment of these cases the wet lint dressing assists the reparative powers admirably.

A machine is employed in some manufactories under the term of a "devil", to tear rags into fine shreds. Boys are em-

ployed to feed this machine, which consists of a roller covered with spikes, and which performs rapid revolutions. These boys often get their hands drawn in, and the result is most frightful laceration.

CASE V. An injury of this description occurred to a little boy who was brought into Guy's Hospital under my care. Both hands and fingers were frightfully lacerated, the integuments hanging from them in shreds. At first sight, they seemed to be hopelessly damaged. The injury was chiefly, however, on their palmar aspect, and the movements of flexion and extension were not destroyed. The fingers had suffered most, and the ungual and second phalanges of the right index finger were nearly torn off. If, under the circumstances above described, the parts most injured had been removed, little more would have been preserved than the palm of the hands; for, upon examining each finger, if any portion of them had been removed, the amputation must have been performed at the heads of the metacarpal bones. I therefore determined to attempt the reparation of the injury; and, with this view, after the removal of the injured portions of the right index finger, the other fingers and thumb were dressed with wet lint, and the integument which remained was brought over the parts as neatly as was practicable. In these vertical lacerations it is remarkable how the skin contracts laterally, and becomes drawn into a narrow stripe upon the dorsal aspect of the finger when the wound is on the palmar surface; and, in this case, this effect was so marked as, upon some of the fingers, to expose the theca and the tendons, as if a dissection had been made of them. Slight sloughing of the lacerated edges took place, but a few days sufficed to bring about a healthy granulating action, and cicatrization proceeded favourably. After the hands were healed the boy enjoyed a considerable amount of movement in the fingers; indeed, to a far greater extent than would have been anticipated after the first examination of the injury.

The injuries of the hand to which I believe the treatment described to be adapted may be thus classified:—

1. All incised and lacerated wounds of the integuments.
2. The same wounds complicated with similar injuries of the muscles or tendons.
3. Incised and lacerated wounds, by which the joints are cut open.
4. Compound fractures of the bones of the metacarpus and phalanges, with severe contusion, and those accidents by which one or more of the fingers are torn off by machinery, leaving, as in the thumb for example, more or less of the bone of that important organ exposed without any covering of soft parts.
5. Injuries produced by the explosion of gunpowder from firearms, with or without shot, by the force of which the soft parts are more or less lacerated, contused, and destroyed, and the bones fractured.

CASES OF NERVE-DISORDER, RECORDED WITH REFERENCE TO THE PROBABLE OPERATION OF MALARIA AS A CAUSE.

By C. HANDFIELD JONES, M.B., F.R.S., Physician to St. Mary's Hospital.

SERIES II (continued.)

CASE XIII. W. M., aged 40, coachman, was admitted May 14th, 1856. He had been ill three weeks. He had never had ague, but was in a part of Kent where it prevailed very much six months ago. He vomits all his food, and, after each vomiting, has a fever all over him for two or three hours, with perspirations. The epigastrium is tender. He is better with light food. The tongue is moist and clean, except a streak of coating in the centre; the urine is very red; the bowels are open. He is very weak. He has a pain in his forehead, "as if he had all the troubles of the world". He attributes his illness to a bad smell proceeding from a sick person. He was put on the use of strychnia and quinine, the former being changed after three days for six minims of liquor opii sedativus. At this time, he had less of the febrile paroxysms, but attacks of shaking occurred every evening. In four days more, the sickness had quite ceased; he had no pain in his head; and there had been but trifling shaking on the previous evening. On the same plan, he improved still further, and ceased attendance.

REMARKS. It seems scarce doubtful that this was an instance of aguish impregnation roused, though after a long