ginning to move so as to require more chloroform, which was given through the nose and through the laryngeal tube, until the tumour, and also a small independent and suspicious nodule at the tip of the tongue, were removed. During this time, the laryngeal tube was in full action, admitting air to pass both ways. Except a few drops of blood from the puncture of the tongue, there had been no bleeding into the mouth.

The tube was now taken away, and the edges of the wound in the neck were brought together by plaister. The after-progress of the case was as satisfactory as could be, the patient leaving town on the seventeenth day.

The interest of this case relates to the question of opening the larynx. The results of this operation in chloroform accidents have not hitherto been favourable. Not only have most of such cases died in spite of it, but a large proportion of cases of chloroform asphyxia are restored by other means. It is probable that, in most of the unsuccessful cases, chloroform had produced cardiac syncope, and the circulation had ceased before the windpipe was opened.

In this case, however, I suppose that, when the first pause in respiration took place, the saliva, mucus, or perhaps a small clot of blood, got over the glottis and impeded, without altogether stopping, the passage of air during the respirations which followed; and further that, as the chloroformed air had not been removed from the nose, the small quantity of air which did pass contained enough chloroform to paralyse the actual movements of breathing. The rule which I should follow in any case where I did not fear the consequences of reflex movements, is to take away the chloroform during any intermission of respiration which is not evidently the result of voluntary effort.

The state of the glottis when asphyxia from an anæsthetic is impending is very different from its normal one. The muscles which dilate the opening are paralysed, and its sides lie closely together, so that a very little mucus or blood lying over that aperture would close the way. Probably, if a gasp had occurred, such as we noted a minute or so after the larynx was opened, this would have been associated with renewed action of the dilators of the glottis, and enough air would have entered to begin to restore the patient. Such gasps do, fortunately, generally occur several times when an animal is being nearly killed by chloroform; and, if the heart have not ceased beating, it usually recovers.

Drawing forwards the tongue has sometimes had the credit of producing these gasps, when, in fact, it merely preceded them. In the particular instance before us, both Mr. Marshall and myself were at the time, and are now, so impressed with the complete and sufficiently prolonged absence of all response to the persevering efforts to produce artificial respiration through the glottis, as to make us more than doubt whether it would ever have taken place. In truth, we despaired of its occurrence.

In an emergency of this kind, laryngotomy is, of course, a much simpler operation than tracheotomy. In this case, an incision was made by Mr. Marshall an inch long in the mesial line down to the cricothyroid membrane, and then a second short transverse cut through that membrane, when I immediately pushed through the opening a curved pointed trocar and cannula or tube. The size of the laryngeal tube employed in such a case need not be so large as when laryngotomy is performed for obstruction due to disease. The one used was of the size of a No. 11 catheter, and might have been smaller.

Although it is certain that laryngotomy in this case was an important factor in the patient's recovery, and most probably an essential one, I should regret if this record were to lead any one to open the larynx without sufficient necessity. I have never used the cannula before, although it has been my companion at some thousands of anæsthetic cases; and I should never use it so long as air could be made to pass by artificial respiration through the glottis, or so long as the pulse could be felt. Whilst the circulation goes on, the patient will almost certainly gasp, and, in gasping, I believe the larynx opens sufficiently to make laryngotomy unnecessary; but when, under artificial respiratory movements of the thoracic walls, *glottidean respiration ceases and no pulse can be felt*, the prompt admission of air through an opening in the larynx, coupled, of course, with perseverance in the Silvester method, appears to us an imperative duty, especially as the operation is so exceedingly simple, free from risk, and cannot do any direct harm.

Mr. Marshall and I have consulted about the incidents and the bearings of this case, and we entirely concur in opinion as to the practical inferences to be drawn from it. As remarked by Mr. Marshall, artificial respiration, so called, is not artificial respiration unless air enters and passes out by the glottis; and the sounds produced by the air should, therefore, in all cases be carefully listened for. He also wishes me to add that, in a certain number of cases of asphyxia from

other causes than anæsthetics—as from carbonic acid, drowning, etc.—laryngotomy, performed as an accessory or even as a precursor to the Silvester method, could do no injury and might save life. Mr. Marshall promises to have a *résumé* of the results of laryngotomy or tracheotomy in chloroform or ether asphyxia prepared for publication.

EIGHT CASES OF EXCISION OF THE KNEE-JOINT, TOGETHER WITH A DESCRIPTION OF A NEW MODE OF PERFORMING THE OPERATION.*

By WILLIAM KNIGHT TREVES, F.R.C.S.,
Surgeon to the National Hospital for Scrofula, Margate.

EXCISION of the knee-joint has got into bad odour of late. I believe the explanation is to be found in the fact that operating-surgeons either do not always sufficiently secure perfect immobility of the limb in the putting up, or leave the after-dressing to dressers or house-surgeons of limited experience.

It has been our custom not to remove the limb from the splint in which it was placed on the operating-table, till the wound is healed and union is believed to have taken place; measures being taken to prevent the soiling of the splint, so that removal may not be necessary. The splint has generally been left on for three months. In all these cases, the limb has been secured to the splint by gum and chalk or silicate bandage, so as to render rebandaging unnecessary. The splint used has consisted of moulded leather thigh and leg pieces, with iron interruption at the knee; the leather splint being put on damp, and secured by the fixed bandage at the time of operation. Sufficient slices have been taken off the bones to permit the excised ends to lie easily in a good position, and not to exercise any pressure against each other. All the cases have had an excision-bed, that is, two short mattresses separated by a square air-pillow, which is emptied for the use of the bed-pan, or to change the sheets. The limb has in each case been swung in a Salter's cradle. They have all, except the fatal case and one still in the hospital, been kept in till the wound has entirely healed, and they have been able to walk, run, and use the limb freely. Their average stay has been about six months after the operation. I have mentioned these particulars at the commencement to avoid repetition.

1. R. M., aged 17, female: disease of two-and-a-half years' standing; acute pain on movement, with partial dislocation outwards; excised March 17th, 1871—usual operation. The cartilages were found eroded, and there was grumous matter in the joint. This patient has remained perfectly well up to the present time. She walks long distances and leads an active life.

2. E. A., aged 11, male: disease of seven years' standing; complete dislocation of tibia backwards and perfectly useless limb; excised October 12th, 1871. In this case, I for the first time tried the side-incisions; but, difficulties arising from the malposition of the bones, I completed the incision and performed the ordinary operation. The result was good; he could run and play leap frog before leaving the hospital, and remained quite well a year afterwards.

3. H. B., aged 11, male; disease of two-and-a-half years' standing; operation August 29th, 1872; side-incisions and patella left. There were ulceration of cartilages and total disorganisation of the joint. The result was good, with a movable joint.

4. M. B., aged 23, female; disease of eight years' duration; operation October 19th, 1872; side-incisions; patella sliced. There were gelatinous degeneration of the synovial membranes and ulcerated cartilages. The result was good. She was leading an active life up to last Christmas.

5. G. W., aged 8, male. His knee had been excised at a London hospital, and he came down with the tibia completely dislocated backwards, the leg hanging like a flail to the thigh, without any bony union. I excised again, with a perfectly good result, as shown in the photograph.† This dislocation, I found reason to believe, might have been brought about by the muscular throes attending masturbation, to prevent which vice I removed the foreskin.

6. M. S., aged 20, female: operation August 20th, 1874, by side-incisions; gelatinous degeneration of the synovial membrane, with erosion of cartilage. This was a most promising case; but the patient died a fortnight afterwards from pyæmia, and there was reason to fear that she had been infected by a sponge which had been used in a case of septic poisoning. I have never used a sponge since.

* Read at Margate, at a meeting of the East Kent District of the South-Eastern Branch.

† Photographs were shown of all these cases, except the fatal one and that last excised.

7. E. II., aged 8, female: disease of three years' duration; excised September 22nd, 1875, by side-incisions. The bone-surfaces were carious, with numerous sinuses about the joint. Some of the sinuses were difficult to heal, and this patient is only now leaving the hospital. She has a perfectly sound limb.

8. W. S., aged 9, male; excised July 18th, 1876, by the ordinary operation. I did not use the side-cuts in this case, as the patella was much diseased, and there were sinuses and wounds about the front of the joint. The ends of the bones were found carious. The wound has healed, and he is now getting about on crutches, wearing the splint applied at the time of operation.

I will now, with your permission, describe a new mode of performing the operation, which I may fairly call my own, and which, I venture to think, has in suitable cases certain decided advantages over the usual plan. The object of this operation is to leave the tissues in front of the joint uninjured, to preserve the natural covering of the joint, and to keep intact the extensor tendon with its attachments. The bones are sawn *in situ*.

First. I make a semilunar incision about three inches in length on each side of the joint, the lowest point of each incision being thoroughly dependent for the exit of pus or serum.

Secondly. I divide the lateral ligaments on each side, and reflect the tissues till the synovial cavity in front is well opened. If there be adhesions in front, they are divided. A wide director is passed behind the joint in front of the posterior ligament, and with a narrow bistoury the crucial ligaments and any adhesions there may be between the bones are divided.

Thirdly. A metal retractor is inserted in front of the bones to secure from injury the tissues in front and the skin and tissues loosened from the sides, whilst the bones are being sawn. The blade of a Butcher's saw is passed behind the joint; and, this being connected with its frame, a thin slice is sawn from the joint-ends of each bone. The sawn surface of this slice is the exact counterpart of the surface left behind; and if, on examination, it appear to be healthy, I pass on to the patella, which is left if healthy, or sliced if its cartilage be ulcerated. I formerly used a chain-saw for the sections, but have relinquished it in favour of Butcher's.

The following are the chief advantages to be derived from this mode of operating.

1. Decided improvement in the after-appearance of the limb. The front view shows little difference from the other limb.

2. Greatly increased power of extension. After ordinary excision, extension is often feeble from the divided and shortened extensor tendon; the leg is inclined to drag, and the patient catches his toe in walking. With this operation, they are able to lift the leg even before union is firm; and they get increased advantage from the additional power and handiness of the limb.

3. The extensor tendon being still attached to the tibia in front, whilst the posterior ligament is intact behind, the bones are not so loose and the tibia is not so likely to become displaced.

4. This mode of operating partakes of the nature of a subcutaneous operation. The sawn surfaces are still left under their natural covering; they are not exposed under an extensive wound, which will sometimes gape in spite of care; but, being well protected, they unite, I believe, more kindly and readily than with the usual operation. I may add that this is, after a little practice, a very easy operation.

THERAPEUTIC MEMORANDA.

TREATMENT OF RINGWORM BY CASSIA ALATA.

I SHOULD like to say a word upon the subject of Dr. Foulis's remarks on the use of cassia alata in ringworm. Just ten years ago, my attention was called to the reputed value of the powdered leaves of this plant in ringworm; and, through the kindness of the late Mr. Daniel Hanbury, I procured a supply of the plant, together with some of the seeds, from the Botanical Gardens at Peradenia, Ceylon. I think there is a specimen in the Pharmaceutical Society's Museum, which I presented to it; but of this I will not be quite certain. At all events, Messrs. Sandford and Blake of Piccadilly have in their possession a small quantity of the powdered leaves, with which they prepared me an ointment, and a portion of the original supply of unpowdered leaves which I obtained in 1866. In addition, a certain number of plants were raised in the Apothecaries' Society's Garden at Chelsea, from seeds which were given to the Curator by myself. Cassia alata has long been known in India as a remedy for ringworm and some other affections. In Redwood's *Supplement* of 1857, p. 269, the following description of it occurs. "*Cassia Alata* (Linn.) *C. Herpetica* (Jacq.)

Ringworm bush. Warm parts of America. India. Flowers used to cure tetter; bruised leaves and expressed juice used against itch, tetter, and ringworm. (G) The Telinga and Tamul physicians say that this plant cures all poisonous bites and venereal outbreaks, and also strengthens the body; fresh leaves often employed to cure ringworm."

As the result of my experiments, I was led to regard the remedy as of some value in ringworm, but as offering no advantages over parasitocides in more common use; and I may take this opportunity of saying that this is the conclusion I have arrived at in regard to Goa powder, so much vaunted at the present time as a remedy for ringworm.

TILBURY FOX, M.D., F.R.C.P., Physician to the Department for Skin-Diseases, University College Hospital.

TREATMENT OF RINGWORM BY GOA POWDER.

IN 1866, my friend Mr. Ransford, of the Peninsular and Oriental Company's service, who shortly afterwards went down in the *Carnatic*, sent me some Goa powder from India and asked me to try it in cases of ringworm. I did so with the very best results, and ever since have considered it a specific. I have used it at the Samaritan Hospital with satisfactory results, and take this opportunity of recording my experience.

PERCY BOULTON, M.D.,
Physician to Samaritan Free Hospital for Women and Children.

SOURCES OF CHRYSOPHANIC ACID.

I OBSERVE, in the last issue of the BRITISH MEDICAL JOURNAL, a memorandum from Mr. Balmanno Squire, in which he states that he has reason to judge from the numerous authorities he has consulted, that chrysophanic acid has not been found in the senna plant. If he had consulted *Pharmacographia*, p. 193; Royle's *Materia Medica*, p. 650; or the *Pharmaceutical Journal*, third series, vol. ii, p. 221, he would have found that the weight of recent evidence goes to prove that senna leaves do contain chrysophanic acid, although in small proportion. The name Cassia lata, which, I presume, is copied from Dr. Foulis's previous memorandum, is incorrect, as may be seen by reference to Decandolle's *Prodromus*, vol. ii, or to the *Pharmacopœia of India*, p. 77, the correct name being Cassia alata, L.

From the statements made in the *Pharmacopœia of India*, it would appear that Cassia alata was introduced into India from the West Indies, and that it has been favourably noticed by several resident physicians in India; also, that the leaves of the following species have been stated to possess similar virtues, viz., Cassia Sophora, L.; C. occidentalis, L.; C. Tora, L. It would be interesting to determine whether these leaves owe their properties to chrysophanic acid, or to some other ingredient.

E. M. HOLMES, F.L.S., Curator
of the Museum of the Pharmaceutical Society.

SUGGESTIONS FOR THE SAFE AND RAPID CURE OF ANEURISM.

I WISH to submit to the consideration of surgeons a simple suggestion for the safe and rapid cure of aneurism. It is, to stop the circulation above and below the aneurism, and substitute for the fluid contents of the sac a substance insoluble in blood, solid at the temperature of the blood, fluid at a temperature low enough to allow of its being safely brought into contact with living tissues, and changing from liquid to solid without fail and with great rapidity, and which at the same time is light, innocuous, and unirritating. All these conditions are completely answered by either spermaceti, melting at 120 deg., or stearin, melting at 130 deg.; and I submit to the consideration of surgeons whether there is any practical reason why an aneurism should not have its fluid contents withdrawn by an aspirator and their place filled by melted spermaceti or stearin. Either of these substances would so rapidly and permanently solidify *en masse* as to be absolutely free from the danger inseparable from either "active" or "passive" clots being washed away when the blood-current is again allowed to flow; and the time occupied in their solidification would be so short as to remove all danger of damage from arrested circulation in the parts below the aneurism. I need scarcely add that the subsequent blocking of the artery above and below the aneurism will, of course, go on as usual.

HORACE DOBELL, M.D.

BEQUESTS, DONATIONS, ETC.—St. Mark's Ophthalmic Hospital has received £90 from the Trustees of the late Bishop Stearne's Charities; the Rev. Arthur Pakenham has given £50 to the Belfast Royal Hospital; and the Rev. T. J. Welland a similar amount to the same hospital. "Anonymous" has given a donation of £100 to the Hospital for Incurables, Dublin.