(Fig. 3, *e*, and Fig. 2, *f*) is effected by means of an 'extremely simple and easily worked wedge-joint or lock, which is, at the same time, perfectly strong and efficient. This joint is shown in Fig. 5, *e*, *f*'.

To use these axis-traction rods, the left traction-rod is hooked into the left or lower blade of the forceps; and, it being held, along with the handle, the blade is introduced as usual. Then the small upper portion of the right rod is hooked into the right blade, and its lower end sprung on to the shank. (Practically, it is as well to keep it always *in situ*, as it is more easily carried thus, and cannot be mislaid.) This blade can then be introduced in the ordinary way, and the forceps locked—as the rod does not, in the slightest degree, interfere with either the introduction or the locking. A stout India-rubber ring (similar to an umbrella-ring, but stouter) is now to be slipped over the handles of the forceps, or they may be tied together; and, the lower end of the right rod being freed from its attachment to its shank, its lower portion, at present hanging loose, attached to the traction-handle (Fig. 2, *c*), is brought up and guided by the finger into its catch (Fig. 3, *e*).

Fig. 2. Left or lower blade, with its Traction Rod and lower half of Right Rod (*c*), both attached to Swivel Traction Handle (*b*).—Fig. 3. Right or upper Blade, carrying upper half of its Rod (*d e*) clamped on to shank at (*e*).—Fig. 4. The hook by which the Rods are attached to Forceps.—Fig. 5. The Wedge bolt (*f* *e*), by which the wedge of right rod (*f*) is connected, with the clamp of the upper portion (*e*).

The rods being now complete, traction is to be made entirely by the traction-handle in the line A, B, C, Fig. 1, the handles of the forceps being left perfectly free, and merely held together sufficiently firmly to prevent the blades from slipping, by the India-rubber ring, or by tape.

As the foetal head descends in the pelvis, the handles of the forceps move forwards, and indicate that the direction of traction is to be altered, so as to keep the traction-rods parallel and just in contact with the shanks, as in the use of Tarnier's instrument.

It will be observed that the junction of the two portions of the right rod can never require to be made higher up than about an inch from the vulva, and this only when the head is high and the maternal pelvis deep.

The mechanical details have been well and carefully worked out for me by Mr. J. Gardner, surgeons' instrument maker, 45, South Bridge, Edinburgh, who is prepared to fit these traction-rods to any pattern of pelvic curved forceps, at a moderate cost.

Since writing the above, a paper has appeared in the *Edinburgh Medical Journal* for February 1881, by Dr. Archibald Reith, of Aberdeen, condemning all axis-traction forceps, and asserting that traction in the true axis of the brim of the pelvis is mechanically impossible. I think that, if Dr. Reith will take the trouble to study the laws of mechanics, and also to test practically (as he evidently has not done) traction-rods, such as I have described, he will find that it is not only possible, but easy, to make traction in the curve of the pelvic axis.

ON A NEW METHOD OF PERFORMING PLASTIC OPERATIONS.

By J. R. WOLFE, M.D., F.R.C.S.E.,

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In September 1875, I published in this JOURNAL a case of ectropion cured by a plastic operation performed after a new method. Eight months later, I exhibited to the Glasgow Medico-Chirurgical Society the same case, along with another which was published (*Medical Times and Gazette*, April 1876) after we had an opportunity of satisfying ourselves of its successful issue.

Dr. Wadsworth, of Boston, U. S., sent me a report of a case in which he had performed my operation successfully, and which he afterwards brought before the Ophthalmological Congress in New York in September 1876; and successful cases have since been reported by Professor Hirschberg, of Berlin (*Beiträge für Praktische Augenheilkunde*, page 97), Dr. Martin, of Cognac (*Annales d'Oculistique*, September 1880, page 97), Dr. Vitall, of Bari, and Dr. Aub, of Cincinnati (two cases) (Knapp and Hirschberg, *Archives*, 1879, pp. 400-408). These surgeons consider that "the results of this operation are more satisfactory than those of any other blepharoplastic procedure; and that it is destined to supersede all others in cases where skin is wanted to replace cicatricial tissue".

This operation formed the subject of discussion at the Amsterdam Congress, and at the one recently held in Milan; and as I am not aware that the method has been tried in this country, I think it desirable to bring the subject again before the notice of the profession.*

I may say, at the outset, that my plastic operation is not skin-grafting, as introduced by M. Reverdin; nor cuticle-scraping, in which the little bits are said to be dissolved, and then to grow up again; but it consists in the transference of skin-flaps, cut to shape from any part of the patient's body, or from any person who feels disposed to make a present of a portion of his skin; to supply deficiencies elsewhere. The practical importance of this operation is evident when we consider that it saves cutting a flap from the face to mend the face, in which case, if the operation be unsuccessful, we only introduce a new scar.

CASE.—Mrs. M., aged 30, fell into the fire in a fainting fit, three years ago, and got her face and left eyelid severely burned; the temporal bone was laid bare; the lower eyelid was dragged downwards and outwards; the conjunctiva exposed to its *cul-de-sac*; and the lower canaliculus pulled about half an inch from its normal position. This accident not only caused a deformity of the face, but also produced dryness of the conjunctiva, especially at its outer angle, where the membrane had assumed a xerotic appearance. The eyeball was exposed, and was thus rendered liable to attacks of inflammation. Owing to the awkward twist of the eyelid, and to the total obliteration of its border, I considered the case very unpromising, and therefore avoided the operation for a considerable time; but ultimately, when it was represented to me that family considerations made the patient exceedingly anxious to try the effect of an operation, I consented to give her a chance.

The operation was performed in the following manner. I began paring away the edge of the upper eyelid at the inner margin, keeping clear of the eyelashes, and opened the obliterated canaliculus, into which I introduced a thin probe, pushing it horizontally into the lacrymal duct. I then made a curved incision a little beyond the puckered edge of the cicatrix, and dissected up the eyelid, liberating it from the malar bone, to which it was adherent. Having introduced my finger into the conjunctival sac to make sure that the whole tarsal cartilage and orbicularis muscle had been liberated, I pushed the probe into the nasal duct to serve as a guide in retaining the lids in apposition, and at the same time to keep the canaliculus out of harm's way. The edge of the lower eyelid being also pared, four ligatures were introduced through the upper and lower eyelids, and tied together. The hardened subcutaneous cicatricial tissue was cleared away, and the whole extent of

* Two other successful cases have more recently been recorded by Drs. Mathe and Pilcher. *Annals of Medicine and Surgery*, January 1880.

the gap exposed. Having taken a shape with a piece of lint of the flap required, I carefully dissected a piece of skin from the forearm, cutting it larger than the necessary shape all round, so as to allow for shrinking; I then turned up its deep surface, and with a pair of flat sharp scissors pared off every vestige of subcutaneous tissue, so as to leave a

Fig. 1.

Fig. 2.

Fig. 3.

white appearance. It was then applied to the gap in the eyelid, to which it was united by fine silk ligatures. After pressing and moulding it into its new place, lint soaked in hot water was applied to its surface for about ten minutes. It was finally dressed with lint wrung out of hot water; over this, four folds of dry lint were placed, and the

whole covered with fine gutta-percha tissue, and secured by an immovable bandage. On the third day the dressing was removed, and it was found that adhesion had taken place; the flap looked clean and dry, the temperature being slightly above that of the neighbouring part.

What was most remarkable in this case was, that the transferred flap was not looking white, but quite normal; bluish lines were visible here and there. The same dressing was repeated daily. The ligatures were removed from the flap, and also from the eyelids, on the eighth day, when the flap was found to have assimilated in appearance to the neighbouring skin. Only a small inner segment of the cuticle had become slightly elevated; the rest of the cuticle showed no tendency to peel off. On the fifteenth day, I separated the eyelids; the lower was rather stiff at first, as if unaccustomed to its new covering and position, but gradually it assumed its normal appearance. Fig. 1 shows the appearance of the eyelid before the operation; Fig. 2 its condition six weeks after the operation; Fig. 3 the exact size of flap.

The success of the operation materially depends upon every step of the operation being carried out to its minutest details. Seeing that such an operation takes more than two hours for its proper performance, we shall never be able to exercise sufficient patience, unless we start with the conviction that scrupulous attention in every point is essential. The eyelids should be carefully united, but not too tightly, else they will tear asunder; the wound must be properly cleared of cicatricial tissue; the size of the flap should be sufficiently large to allow a certain degree of shrinking; the forearm from which it is taken should rest in semi-supination, so that the skin may not be stretched; and the flap should be cut round the shape of lint larger than the required measure, and every vestige of its binding tissue carefully removed.

In my first operation, the skin of the face was dissected all round, and served as a frame under which the new flap was inserted, and by which it was held in its place without ligatures. The dressing consisted of dry lint; but I think Dr. Martin's recommendation of hot dressing is a decided improvement; and I have gradually been reconciled to the use of very fine ligatures. The patient is kept warm in bed, the head well covered, both eyelids closed, and generous diet is allowed. I do not employ antiseptic dressing now, because I consider it desirable to keep the cuticle from peeling off, and I am rather afraid that carbolic applications might have that tendency.

Considering the short period which has elapsed since I introduced the operation to the profession, and the favourable reports received from different countries, I think it is deserving of further cultivation.

PHIMOSIS AS A CAUSE OF HERNIA IN INFANTS.*

By SAMUEL OSBORN, F.R.C.S.

HAVING, in my capacity as surgeon to the Surgical Appliance Society, to examine many cases of hernia and apply some hundreds of trusses in the course of the year, the frequency of phimosis in combination with rupture in infants has struck me repeatedly. More especially of late, as I have had no less than ten cases within the last month. The phimosis in all these cases, I am certain, was the undoubted cause of the rupture, and may be thus explained.

After the descent of the testicle into the scrotum has been accomplished, the vaginal process of peritoneum through which it descended begins to close and become converted into a fibro-cellular cord. But the testicles having but lately descended (the left coming down between the seventh and eighth months of foetal life, and the right between the eighth and ninth months) the uniting medium is but yet young; and, not being sufficiently organised, is easily broken down by any strain thrown upon it. Phimosis occasions that strain from the impediment which it offers to the outflow of urine; for the mechanism of ordinary micturition is effected by the contraction of the muscular coats of the bladder and urethra; but in cases of obstruction to the outflow of the urine, extraordinary force is called into action, and this is effected by the contraction of the abdominal walls pressing upon the bladder, whilst the diaphragm is also, at the same time, in a state of tension. By this means pressure is exerted over the whole of the abdominal wall; and, the apertures by which testicles have descended to the scrotum being always the weakest points of the abdominal surface, they naturally give way under the strain thrown upon them. In other words, the child, straining to pass his urine, forces the abdominal contents downwards upon the weak points at the inguinal canals, and rupture on one or both sides results.

I would go even still further than this, and say that the canal which

* Read before the West Kent Medico-Chirurgical Society.