AN OCULO-PALPEBRAL PROTHESIS.

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WHEN an eye has been severely burnt by molten metal, by a caustic alkali, or by a mineral acid, it occasionally happens that the lids and orbit are damaged so seriously that the ordinary artificial eye cannot be worn. In such cases I am in the habit of adjusting an eblepharon fitted to a spectacle frame. There is nothing original in the procedure, for it was known as long ago as the sixteenth century, and Ambroise Paré's works contain not only a description but also an illustration of that form of prosthesis. Few references have been made to it in ophthalmic literature, because cases suitable for its use are of infrequent occurrence. The subject has, however, assumed considerable importance at the present time owing to the large number of soldiers who have been wounded in the head and face, and in some

the lids an infinitely more satisfactory result is obtained than that got from an eblepharon, no matter how artistic and unrecognisable.

Each eye must be made to suit the individual case, and different materials have been suggested to replace the damaged lids. The most perfect imitation is obtained when the deformity can be covered by an oculo-palpebral prosthesis made wholly of glass. Such an eblepharon mounted on a silver plate and soldered to a spectacle frame is made by Müller, and in suitable cases it is so realistic that it is only detected after attention is drawn to it. Skilled artists in glass are not, however, always at hand, and different makers of the prosthesis have mounted the artificial eye in porcelain, in celluloid, in metal, and in various substances having gelatine as a basis. The drawbacks as well as the advantages of these different preparations are obvious. In the striking case¹ published by Sir William Collins an extensive deformity was hidden by a copper-plate skilfully moulded and painted, and to this a glass eye was attached. Coulomb and Ruppe² advise vulcanite, and this is the substance that I have chiefly

Photographs of Cases Illustrating the Oculo-palpebral Prosthesis.

1 A

1 B

2 A

2 B

3 A

3 B

4 A

4 B

of whom the lids and orbit have been destroyed so completely that there is no possibility of the socket retaining an artificial eye. In such cases a carefully adjusted oculo-palpebral prosthesis hides the deformity so satisfactorily that the wounded man can move about among his fellows without attention being drawn to the loss of his eye. He avoids, therefore, the annoyance of unnecessary commiseration, and is placed in a much more favourable position for obtaining employment. The æsthetic value of the prosthesis is, indeed, great, and it only requires the spectacles to be lifted to reveal the astonishing change in the appearance when the eblepharon is removed. It goes without saying, however, that the aid of art ought never to be called in until the resources of plastic surgery have been exhausted, because if the socket can be repaired so that an artificial eye can be retained by

employed because of the ease with which it can be moulded and painted to harmonise with the surrounding parts of the face. The parts to be reproduced are carefully modelled in wax, and from the model a plaster-of-Paris impression is taken. The soft rubber is then moulded on the plaster-of-Paris and thoroughly vulcanised. The artificial eye is cemented to the vulcanite lids, and after these have been coloured to match the surrounding parts the prosthesis is attached to a spectacle frame. The lens in front of the sound eye corrects any error of refraction which may be present, while that in front of the artificial eye is of the curvature which is found to give the best cosmetic result.

¹ THE LANCET, 1916, i., 1217.² Annales d'Oculistique. April, 1916.

The four soldiers whose photographs illustrate this paper have been provided with the oculo-palpebral prosthesis through the generosity of some of the ladies visiting the hospital. I am much indebted to them and also to Mr. John Trotter, of 40, Gordon-street, Glasgow, who has taken great pains in the construction of the eblepharon, and the photographs show that his mechanical and artistic skill have been rewarded by satisfactory results. The immobility of the prosthesis is its most serious drawback, but that is a disadvantage which is also present in many cases where an artificial eye is worn in the socket. It is important that all cicatricial contraction is as far as possible completed before the eblepharon is adjusted, for if any further shrinking occurs a readjustment of the prosthesis is necessary.

CASE 1.—Private —, aged 26, was severely wounded on the left side of the face by a bullet on July 10th, 1916. He was admitted to the 3rd Scottish General Hospital on August 5th. The left eye had been enucleated and a deep adherent cicatrix extended from the inner third of the lower eyelid downwards and outwards one and a half inches across the malar bone. Both upper and lower eyelids were adherent to the tissues of the orbit and pulled backwards by cicatricial contraction. The scar from the lower lid on to the face being very unsightly, was cut out on Sept. 2nd and the edges of the wound were carefully sutured. Captain John Morton, R.A.M.C. (T.), assisted me at the operation, which, however, was not so successful as it promised to be at the time, owing to the occurrence of secondary hæmorrhage two days afterwards. The pressure of the effused blood caused some of the stitches to give way, and the result after healing was completed is well shown in the photograph. The right eye is healthy and vision equals 6/12, measured by Snellen's test-types. The prosthesis was adjusted in October and the man was discharged on Nov. 11th, 1916. (Fig. 1.)

CASE 2.—Rifleman —, aged 20, was wounded by shrapnel on July 2nd, 1916. The bullet struck the left side of the nose, shattering the nasal bones, tearing the right cheek, and damaging the right eye so severely that it had to be enucleated. He was treated for four days at No. 1 Stationary Hospital, Rouen, and then taken to the 3rd Scottish General Hospital, where he was first under the care of Lieutenant-Colonel T. Kennedy Dalziel, R.A.M.C. (T.), who treated the fracture of the nose. He was transferred to the ophthalmic department on Sept. 6th. At that time a suppurating wound extended across the cheek, and the right lower eyelid was completely everted. There was a copious discharge of pus from the orbit, and the upper lid was dragged into the socket and partially adherent to the underlying tissues. Antiseptic dressings were applied, and on Sept. 30th a plastic operation was performed to remedy the deformity of the lower lid. By the end of October the appearances were as represented in the photograph. The left eye is healthy in structure and function, and vision equals 6/9, measured by Snellen's test-types. An oculo-palpebral prosthesis was adjusted and the man was discharged on Nov. 11th. (Fig. 2.)

CASE 3.—Private —, aged 35, was severely injured on the right side of the head by the explosion of a rifle grenade at Souchez on August 14th, 1916. He was taken to a base hospital, where the right eye was removed, and was admitted to the 3rd Scottish General Hospital on August 20th. The right orbit was septic, the lower lid was torn and sloughing, and communicating with the socket there was a large suppurating wound in front of the right ear. Major J. W. Downie, R.A.M.C. (T.), examined the sinuses in connexion with the orbit and reported that they were not implicated. Antiseptic dressings were applied and the suppuration gradually diminished. On August 31st the patient complained of difficulty in opening his mouth, but there was no trouble in swallowing. Antitetanic serum was injected on three different occasions, but there was never any sign of tetanus. The wounds healed slowly, the difficulty in opening the mouth persisted, and considerable swelling of the face remained over the right superior maxilla. Massage and passive movements were applied to the face and lower jaw, and the swelling and stiffness gradually lessened. By the end of December the wounds had healed, but the orbit was so contracted that an artificial eye could not be worn. An oculo-palpebral prosthesis was supplied, and the man was discharged on Jan. 6th, 1917. (Fig. 3.)

CASE 4.—Lance-Corporal —, aged 25, was severely wounded on the left side of the head by the bursting of a shell near Ginchey on Oct. 22nd, 1916. He says he was taken to the 1st Australian Hospital at Rouen, where the left eye was enucleated and an "abscess" of the orbit evacuated and drained. On Nov. 3rd he was admitted to the 3rd Scottish General Hospital. The orbit was sloughing and a deep suppurating wound extended from it outwards to the cheek and upwards on the forehead, where a large area of the frontal bone was exposed. There was also a deep wound of the left parietal region. The wounds and the orbit

were kept clean and treated with antiseptic dressings, and antitetanic serum was injected on three different occasions. Healing was slow but uninterrupted in its progress, and by the beginning of January, 1917, cicatrization was almost complete. The eyelids were drawn backwards and had become firmly adherent to the tissues of the orbit, and the wounds of the forehead and face were represented by deep adherent cicatrices. An oculo-palpebral prosthesis was adjusted and the man was discharged. The right eye is healthy and vision equals 6/6, measured by Snellen's test-types. (Fig. 4.)

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THE SURGICAL CORRECTION, WITHOUT CICATRIX, OF UNLOVELY NOSES.

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To rectify, or correct, unlovely noses and to render them acceptable to the æsthetic sense by means of a surgical operation and without leaving any cicatrix appears at first sight paradoxical, in that every surgical operation involves a scar. This kind of operation therefore encounters a certain incredulity, not merely among persons unfamiliar with surgery, but even amongst a number of colleagues. The following letter sent to me last year by the chief of the Medical Clinic at the Faculty of Medicine in Toulouse is sufficient evidence of this.

With the Forces, June, 1916.

On my speaking with colleagues at the field hospital of your nasal corrections without scar they gave expression to a certain doubt. Being desirous of convincing them I should be obliged if you would send me photographs of the cases that we have had the opportunity of operating upon together.

D. PUJOL.

This kind of plastic surgery being quite a novelty, such scepticism is scarcely surprising. In France we have to reach the point of correcting any and every case of nasal deformity by operating in the endonasal passage, and it is thus that the cutaneous covering shows not the slightest trace of a scar. By nasal deformity we understand any exaggerated development of the nose in length or breadth, any protuberance or deviation, an exaggerated point, or too broad or too long an extremity. If rhinoscopy is practised after rectification doubt may often arise whether the bistoury has actually been used, for the incision in the mucosa leaves no visible trace; nor is this surprising to rhinologists, who are well aware that after submucous resection of the nasal septum with consecutive suture the area of incision is identical afterwards with other parts of the mucosa not touched by the bistoury.

Rhinoplastic operations belong not only to the æsthetic but to the psychic sphere. The majority of those upon whom we operated did not desire a well-formed nose for elegance, or for purity of line, but rather a nose "like everyone else," one which "does not attract attention." As we expressed it in a communication to the Academy of Medicine in Paris on Feb. 23rd, 1917, the mentality of Cyrano was not created entirely by the imagination of a poet, but was the fruit of keen observation. It would carry us too far to quote the various complaints we have received from patients thus afflicted. Some speak of the prejudice occasioned by this unlovely feature, others of moral suffering or of the pleasantries of which they are the victims. "If there is anything to be done," wrote one of them to us after having described the shape of his nose, "I shall owe you a thousand thanks if you will let me know of it, for it is a source of suffering to me." It is necessary to have seen the emotional gesture with which the patient hurries to the glass at the termination of the operation, and his look of satisfaction on grasping the result, to be entitled to state that it is with them more than the satisfaction of vanity; it is actual moral salvation.

It is generally at puberty that the nose, which presented till then a normal aspect, changes in character, if it may be so expressed. The nose may develop largely in height, producing an exaggerated curvature (Fig. 1 A), or it may be only the medial portion that develops, thus resulting in the hump-backed nose. (Fig. 2 A.) In other cases the abnormal enlargement affects the length instead of the height, giving rise to various forms of pointed nose; in one type the nasal point is unable to bend over towards the chin, in another