SMALL FLAP SCLEROTOMY

To the Editor of THE BRITISH JOURNAL OF OPHTHALMOLOGY.

SIR,—Will you allow me to comment on Colonel Herbert's paper in your issue of December, 1920? I do so with the greatest hesitation on account of my great regard for Colonel Herbert, and of my admiration for the work he has done in the study of glaucoma. As he has named me in this paper, and has obviously referred to me on several occasions therein, I feel that silence on my part might be misconstrued as an admission that I accept the statements made.

He says, "filtration must be through uniformly grey scar lines, *without any trace of fistulous openings*" (the italics are my own). Later, he says, "Some surgeons are still inclined to question the existence of the strictly-filtrating cicatrix, thinking the leakage may be always through fistulous openings, possibly microscopic."

I have always gone much further than this, and have pointed out that his conception of a spongy mass of fibrous tissue allowing fluid to filter through it, is absolutely opposed to everything we know of the behaviour of scar tissue. Such a conception could only be justified, if its sponsor could furnish indisputable anatomical material, demonstrative of the correctness of his theory. Years ago I challenged anyone to bring forward such material, and it has never yet been done. Colonel Herbert illustrates this paper by a section, which he thinks "serves fairly well to illustrate the final condition of the scars which are found clinically to filter permanently and satisfactorily." He says that there was "quite a good area of oedematous conjunctiva but the filtration was insufficient." A few lines further down he adds, "I have little doubt that in this case, the tissue would have ultimately become further organized into a dense impermeable scar." Every pathologist will agree with him in this latter statement; the section is one all too familiar to the glaucoma operator. We know well how in these cases, filtration gradually lessens and the tension rises *pari passu* with the advance of evidence that cicatrization is taking place in the (sclerectomy) wound. The handwriting is on the wall, and the fact that there is still some filtration under the conjunctiva would deceive no one but a tyro. Colonel Herbert could hardly have produced a specimen better calculated to drive home the lesson with which I have begun this paragraph.

Colonel Herbert gives two reasons in justification of his belief in the filtering as opposed to the fistulous scar: (1) He says, "I do not believe there is ever a leaking hole in a scleral scar which does not give clinical evidence of its existence. Where the leakage is least, there is always a dark point to be seen," etc. He somewhat

modifies this statement in the remarks that follow, but I regret that, possibly due to my own fault, I find it difficult to fathom his exact meaning. Of one thing I can speak with the most absolute certainty: Following a trephine operation, the hole in the sclera may gradually disappear from view; the area of filtration may flatten down, appearing nothing more than an oedematous pad, and yet massage will rapidly increase the local oedema, showing that the fistula is still open. It would be quite impossible for anyone examining one of these cases to say whether a fistula was present or not. I have made enquiries of five other surgeons, with comparatively large experience in trephining, and they all tell me they are familiar with such results. I submit therefore that it is not possible to say from the mere inspection of a scar that it is not fistulous. (2) Colonel Herbert says, "It is no more strange that, bathed in aqueous, the healing process should remain permanently incomplete after these operations, than that it should fail altogether in the centre of a trephine hole. It would be strange indeed if, in not grossly dissimilar cases, there were only the two extremes—complete failure on one hand, and firm union on the other—with no connecting links." If I apprehend clearly the principles at stake, it is just these two extremes that we should expect. We know that if a wound in the iris remains absolutely aseptic, no change whatever takes place in the cut tissues; the line of incision is the same years afterwards as it was when made, there being no evidence of fibrous tissue formation in connection with it. From the first, it seemed reasonable to suppose that the same thing might happen when a hole was made in the sclera as the result of any form of sclerectomy. Experience, backed by anatomical evidence, has abundantly supported this view. Nor is this all, for we can go one step further than this: A mere puncture of the iris in a case of "l'iris bombé," may, we know, remain permanently open, though no tissue has been removed; may we not, on exactly similar lines, explain those cases in which a mere sclerotomy provides a permanent, filtering scar? With these we are familiar, and if we could command them at will, we should have no need of sclerectomy; unfortunately, we know we cannot. If Colonel Herbert had advanced the proposition that, by his method of sclerotomy, a permanent fistula was established in this way owing to the absence of healing in the lips of an aseptic wound, bathed in aqueous fluid, no one could have taken exception to his position; but he does not; he presupposes the formation of a certain amount of fibrous tissue, which remains spongy in nature, and does not go on to ultimate contraction. To me it seems that the presence of this connective tissue in a wound is an indication that that wound is no longer absolutely aseptic, and herein we have to my mind "the gross dissimilarity" which Colonel Herbert denies. Those of us who

have had large experience with any sclerectomy operation, know only too well the appearances which presage the formation of connective tissue in our wounds, and to know them is with all of us to dread them. I hold most strongly that a filtering wound must be absolutely aseptic, or it is doomed to failure. There is no room in these small spaces for half-way conditions.

To me, Colonel Herbert seems to have reversed the scientific method. He has not collected his anatomical facts and founded his theory on them, but he has visualized a conception of a possible condition, and has endeavoured to make his facts fit in with it. I should not write like this if I did not feel a great principle were at stake. One hears men get up at a meeting and say they have gone back to sclerotomy, and that they are satisfied with it. Sclerotomy is as old as de Wecker, and it has been weighed in the balance and found wanting. Lagrange took a big step forward, when he advocated and introduced the operation of sclerectomy, and to advance arguments, however specious, that would draw men away from the sound principle of surgery for which he has contended, is, I hold, to set back the clock of progress. Colonel Herbert, if I understand him rightly, is the antagonist of sclerectomy, and as such I feel bound to oppose him. He asks, "Is it any longer fair to the patient deliberately to aim at the formation of a sclero-corneal fistula, in treating a glaucoma, which can be relieved with certainty by the truly filtering cicatrix of a flap sclerotomy." I submit that he is here begging the question. He has not satisfied the profession that glaucoma *can* be relieved with certainty by the operation he advocates. Nor has he produced any reliable evidence of the existence in fact of what he conceives as "a truly filtering cicatrix."

I have read with bewilderment the following words in his paper: "Take, for instance, trephining as practised by Colonel Elliot. In the milder glaucomas now particularly considered, only a section of the disc is removed, particularly of the deeper layers, and much of the trephine hole is covered by a lid of impermeable corneal tissue. (It does not seem clear that this superficial covering of corneal tissue ever becomes permeable to aqueous," etc.). These statements of Colonel Herbert's on the subject of my work and teaching are in direct opposition to everything I have written from the commencement of my advocacy of trephining. If he will refer to the first edition of "Sclero-corneal Trephining," 1913, p. 56, he will find that I then advocated cutting the disc in such a way as to "leave *a part of its deeper layer* in situ." There is no suggestion that the superficial layers were left. In my second edition of the same work, 1914, p. 68, I advocated cutting off a portion of the trephined disc, "at right angles to the surface, thus leaving the posterior edge of the fistula we aim at making as steep as the anterior edge, which has been cut with the trephine." The same lesson has been pressed

home in my book on "Glaucoma," p. 464. I feel sure that if Colonel Herbert will be kind enough to look up these references, he will acknowledge at once that his statements which I have quoted above are in error, and that they give his readers a very wrong view of my method, and of my clearly-expressed teaching.

There is another statement to the correctness of which I must take exception. Colonel Herbert says, "Attempts to graduate the flow of aqueous in accordance with one's estimate of the needs of individual cases, by altering the size and shape of sclero-corneal openings, seem to have been rewarded with but indifferent success." These remarks are in flat contradiction, not only of my own experience, but of that of many others, who are successfully using my operation. As Colonel Herbert does not use sclerectomy, he cannot be speaking from his own experience. I have read with great care the literature on the subject, and am not aware of any justification therein for his statement.

I have never belittled the danger of late infection, but I think that there has been a tendency on the part of some to exaggerate it, and to lose sight of the fact that it may follow any or all of the modern *successful* operations for glaucoma. I italicise the word "successful," for, as I have so often said, the establishment of a flow of fluid from the interior of the eye to the subconjunctival space, whilst it is the one passport to the cure of glaucoma, brings in its train the possible risk of an infection of the interior of the globe from without. The operations, whose scars are absolutely free of this risk, may be ruled out of the list of reliable procedures; that at least is my estimate of the case.

The really practical point is: how great is this risk of late infection, which we have to set off against the advantages of a successful operation for glaucoma? No one, who has carefully examined the evidence, can fail to be struck with the extraordinary difference in the results of different surgeons. On the one hand, you have Lagrange, Kirkpatrick, Wilmer, and other surgeons, a number of whom have been kind enough to write to me, or to publish their experience—I set aside my own experience for the moment—who have practically no such misfortunes to the debit side of the account of their filtering cicatrices. On the other hand, you have a certain number who have published, and one must honour them for their courage, the most deplorable results. It would be difficult to escape the conclusion—believing, as I firmly do, in the honesty of them all alike—that the personal factor is a very large one, and that many of the unfortunate results recorded might have been avoided by the adoption of a better technique. I know from the letters I have received that not a few of those who believe that they are doing my operation, have never read my writings with any care, and are practising methods of their own

which they believe to be identical with mine, but which are not. I believe that thick flaps, made in accordance with the technique which I have been at much pains to lay down, would, if introduced into the practice of some of these surgeons, revolutionise their results. I would take this opportunity of pleading that they should in future do me this amount of justice.

In conclusion, I wish to comment very shortly on Colonel Herbert's words, "In a few . . . glaucomas . . . I have preferred iris prolapse operation to flap sclerotomy." I am well aware that in different parts of the world, a few surgeons have of recent years advocated iris-inclusion operations, and that amongst these are to be included some very distinguished names. I should be untrue to everything I hold worth contending for, if, while answering other points in this paper, I let this pass unchallenged, much as I would prefer to do so. In our student days we learnt the lesson handed down by men of long and ripe experience, that the inclusion of iris in the lips of a wound was a grave menace, not only to the eye affected, but also to its fellow. As the years have passed over us, and many other lessons have been forgotten or set aside, this one has stood the acid test of time and experience, and we have learnt to dread iris inclusions more and not less than we did in our early days. No array of names, however imposing, and no list of successes, however seductive, can persuade me that it is the right thing to do, to bring about deliberately in our patients' eyes a condition which the whole of our experience goes so strongly to condemn.

Yours truly,
R. H. ELLIOT,
Lt.-Col. I.M.S. Retd.

NOTES

Deaths

WE regret to announce the death of Charles Higgins, consulting ophthalmic surgeon to Guy's Hospital, and ophthalmic surgeon to the French Hospital, London, which occurred suddenly on December 28th, at Pursers, Bramdean, Hants, at the age of 75. The funeral took place on January 1st at West Meon, Hants. A full notice of his career will be published in the next number of the Journal.

Alfred St. Clair Buxton, consulting surgeon to the Western Ophthalmic Hospital, died in a nursing home on December 19th last, aged 67.