in passing the cystoscope. It gives perfect security against extraneous scratches, and it permits the removal of the wax-tipped catheter for examination without previously withdrawing the cystoscope. The latter is a great advantage. Several control waxed tips may be passed one after the other, thus confirming the findings or accurately measuring the distance of the stone from the ureteral orifice. At the same time, and through the same cystoscope, an ordinary ureteral catheterization followed by functional study, ureteropyelogram or even both may be made, thus obtaining complete information in the case at the one cystoscopy.

Fig. 4.—Catheter sheath fastened in place by rubber tip. The elevator of the instrument has been raised, showing how the rubber sheath protects the waxed tip.

The operating cystoscope (Brown-Buerger is used, but the method is applicable with any operating instrument) is passed into the bladder as for ordinary cystoscopy, the obturator withdrawn, the bladder washed out (the irrigating fluid should not be too warm, as it may soften or melt the wax), and the operating sheath of the instrument then inserted. The wax-tipped catheter has been provided with a soft rubber sheath, which should easily pass through the operating barrel of the instrument, as shown in Figures 1 and 3. The usual rubber tip (Fig. 2 A) for the irrigating instrument is too small to cover the orifice of the telescope when the slit ends of the rubber sheath are turned back. A very satisfactory tip may be quickly made, as indicated in Figure 2 B, C, D and E. In fact, this tip will be found to be much more satisfactory for all work with the operating cystoscope than the hard, friable tips on the market. The method of passing the wax-tipped catheter is indicated in Figure 4. The sheath with its catheter inside (to within 1 inch of the end) is threaded into the instrument until the end of the sheath appears in the visual field just beyond the end of the elevator of the instrument. The slit portions of the other end of the sheath are then spread to the opposite sides and covered by the rubber tip, which thus securely holds the sheath in place and insures dryness. The waxed tip is now carefully pushed into the field (Fig. 5), the elevator, which strikes the rubber sheath and not the catheter is raised, and the catheter then pushed on up safely by the beak of the instrument into the ureter (Fig. 4).

Fig. 5.—Waxed tip and rubber sheath before raising the elevator of the cystoscope.

In removing the wax-tipped catheter, after passing it up the ureter as far as desired, the lever of the instrument should be kept partially elevated; the waxed end can then be withdrawn into its sheath with no danger of striking the beak of the instrument. It is preferable to withdraw the sheath with the catheter in it, rather than to withdraw the catheter through the entire length of the sheath, for examination. In this way the waxed tip will have passed only a very short distance through its sheath, being originally retrograded into it to a distance of about 1 inch, and, before examination and after having passed up the ureter, not being withdrawn into it to a greater distance than this.

Physicians Building.

A NEW LID EVERTER

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This small lid everter is the outcome of an endeavor to find an instrument that would give a large exposure of the entire upper lid and culdesac. Its most salient features are simplicity of design, ease of manipulation, and freedom from causing pain in introduction. It has been the means of revealing several cases of trachoma that had been overlooked by ordinary methods.

In introducing the instrument, it is grasped at its distal end between the tips of the thumb and index finger. With the patient looking down, the lashes of the upper lid are held in the tips of the thumb and index finger of the left hand. The knobbed ends of the instrument are then placed gently on the upper lid about one-half inch from the ciliary margin with the instrument in the vertical position. With the fingers of the left hand holding the lashes, the lid is retracted over the knobbed ends, and with gentle pressure on the distal end, the entire under surface of the upper lid, including the culdesac, is freely brought into view. In this position the knobbed ends can be slid from the outer to the

Fig. 1.—New lid everter.

Fig. 2.—Method of using the lid everter.

inner canthus, exposing any part desired. In this position also, with the under surface of the lid exposed, the hold on the eyelashes by the fingers of the left hand can be released, and with the tip of the index finger of the right hand on the distal end still maintaining the position of the instrument in the vertical meridian, the thumb of the right hand can be dropped down to hold the lashes in place to maintain a complete eversion of the lid, while with the left hand free, any foreign body that is present on the under surface of the lid is easily removed.

The instrument can be readily carried in the pocket, and because of facility of introduction, can be used universally by the general practitioner and the ophthalmologist.

IMPROVED FORM OF BRAIN EXPLORER

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In the *Laryngoscope*, January, 1914, I described a brain explorer consisting essentially of two knife blades held together with a spring, to be used in cases of suspected brain abscess in place of the exploring needle or scalpel. As is well known, each of the latter instruments may pass through the wall of an abscess, and either on account of thickness of the wall or thickness of the pus, may not reveal its presence. The practice of passing in dressing forceps and opening them here and there in the brain can hardly be called either accurate or elegant. With this brain explorer,

one passes the instrument into the brain as far as one thinks necessary, and then opens the blades; if no pus escapes, they are closed and passed on, being opened from time to time until they have gone as far as is permissible in any given direction. One can be sure after having done this that no pus in this particular tract will be left undiscovered.

Since my first article was published, I have modified the instrument, because on using it I found there would be a decided advantage in having the spring set off at an angle from the main axis of the blades. This greatly facilitates the introduction of a drainage tube or other drainage apparatus into the cavity of the abscess when the latter has been found. When the abscess has been penetrated and pus found, the instrument is kept in position until the drainage tube or gauze has been introduced into the cavity between the separated blades of the explorer, which have

Fig. 1.—Angular form of brain explorer. In this and the accompanying illustration the blades are held apart.

been grooved on the inner side to facilitate the introduction of a glass tube. The opening in the abscess wall can be enlarged to the desired extent by the closed blades of the explorer, or, if preferred, this can be done with a blunt-pointed bistoury introduced between the blades.

Since I first described the explorer, I have had occasion to use it in three cases of brain abscess. In two of these it worked most admirably. In one of them, the abscess was deeply situated in the frontal lobe, and it is a very open question whether the ordinary instruments would have opened it successfully. This patient on account of disagreement with the internist in charge, passed out of my hands to that of another surgeon, and what the final outcome will be, remains to be seen. Another patient with a large temporo-sphenoidal abscess is now, after three months, apparently perfectly well. In the third case, the abscess was a very small one originating apparently from the sphenoid cavity,

Fig. 2.—Form of explorer suitable for entering the floor of the brain through the mastoid wound.

and was situated so far back, and so close to the median line, that although a careful search was made for it, it was missed, and the patient died.

In speaking of this instrument, which I have had in mind for a number of years, I have always said that the principle of it was so obvious that the idea must certainly have occurred to many operators beside myself, and I have found since my paper was published that West and Scott of London, in their excellent book on aural surgery (Blakiston's Sons & Co., 1909, p. 106), figure an instrument which they call an expanding trocar, which is made to be used in the same way. This, however, has such narrow, short blades that it must be decidedly less effective than the explorer here shown.

Beside the angular form of explorer (Fig. 1), I have had one made with curved blades (Fig. 2) for use on the floor of the brain. This form enables one to enter the temporo-sphenoidal lobe through the mastoid wound much more readily than could be done with the straight blades.

A COMBINED STAINING METHOD FOR MALARIAL PARASITES AND BLOOD SMEARS

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In this country the most popular blood stain is Wright's modification of the Romanowski method; in England and the English colonies, Leishman's stain is used almost exclusively, while in Germany, Giemsa's is the favorite. These stains and their many modifications are all excellent for chromatin, but as ordinarily used they fail to bring out the cytoplasm of the malarial parasite with the sharpness and distinctness obtained with Manson's borax methylene blue. The latter, until the Romanowski was simplified by Leishman, Wright and others, was the best we possessed for malarial parasites; in fact, for routine work it is still used by many.

The advantages of Manson's stain may be briefly stated as follows: 1. Cheapness, permanence and simplicity of preparation. It is made by dissolving 5 gm. of borax in 100 c.c. of boiling water and adding 2 gm. of methylene blue, medicinally pure; when cool the volume is made up to 100 c.c. and the stain is ready for use. 2. The clearness and distinctness with which it brings out the cytoplasm of the malarial parasite. 3. The rapidity and simplicity of the staining technic. The smear is fixed for a few moments in equal parts of alcohol and ether, or methyl alcohol, and allowed to dry; it is then immersed in a very dilute solution of Manson's stain for from ten to thirty seconds, washed in water and dried. 4. It also shows well the basophilic degeneration of the erythrocytes.

Its disadvantages are that: 1. It fails completely to show the nuclear chromatin of protozoal parasites. 2. It fails to bring out the granulations in the leukocytes. Because of these two defects, Manson's stain has fallen into disuse in this country in spite of the fact that it stains the cytoplasm of the malarial parasite better than any other.

The disadvantages of the methyl alcohol stains of Leishman, Wright, Hastings and MacNeil are: 1. Their expense; it requires approximately 1.3 c.c. for each slide, and methyl alcohol of proper quality is costly. 2. The rapid evaporation of the stain on the slide, with resulting precipitation; this is especially troublesome during the windy season in the tropics. In Vera Cruz, for example, it was difficult to obtain clear preparations unless the slide was protected during the staining by a bell jar. 3. Great care and watchfulness are necessary to success in staining. 4. With none of these stains is the cytoplasm of the malarial parasite so clear and distinct as with Manson's stain. The stain of Giemsa belongs to this class, although it is used in aqueous solution; it is slow, expensive, practically impossible to obtain except from Gruebler in Leipzig and while it gives excellent chromatin stains, the cytoplasm is not well brought out.

The advantages of the methyl alcohol stains are: 1. The rapid and perfect fixation. 2. The clear and beautiful staining of the chromatin of the nucleus. 3. The production of Schuffner's dots in the erythrocytes in tertian malaria. 4. The beauty and distinctness of the nucleus, cytoplasm and all classes of granules in the leukocytes. 5. The distinct staining of the blood platelets.

It is evident that an ideal picture would result if the best of the methyl alcohol chromatin stains could be combined with Manson's cytoplasmic stain. After several attempts the following method was found to give the best results and it has been used for the routine of the laboratory for thousands of blood preparations:

1. Fix and stain for two minutes in Wright's or similar methyl alcohol stain. It is most convenient and economical to use about 50 c.c. of stain in a Coplin jar; the top should fit well to prevent evaporation and the stain may be used repeatedly.

2. Without washing, transfer the slide to a glass of tap water for from three to five minutes.

3. Without washing, transfer to diluted Manson's stain for from twenty to forty seconds. One-half c.c. (7 drops) of Manson's stain to 50 c.c. of tap water in a Coplin jar gives