certain; at the period mentioned no central islands of true corneal epithelium exist. The presence of isolated smooth cells upon the corneal surface offers so much the less proof of the origin of the outer epithelium independently of the original epithelial covering, since also in the corneal tissue, according to Carl Friedrich Mueller (*Virchow's Archiv*, Vol. 41), cells similar to those of the co-called serous epithelium are not very infrequently present.

EXPLANATION OF THE ILLUSTRATIONS.

FIG. 1. Surface view of a portion of a frog's cornea, three days after removal of the epithelium by collodium. a. Border of epithelium in process of regeneration. b. Corneal tissue. c. Finely granular substance which forms a narrow border at the epithelial edge. d. Young nucleus. Prepared with arg. nit. Objective 9 and ocular 2, Hartnack. Drawn with the camera lucida.

FIG. 2. Another part of the same preparation. a, b, c. As in Fig. 1. d. Border of the protoplasm of the marginal cells, which have been pushed outward. Magnified and drawn as in Fig. 1.

FIG. 3. Surface view of the cornea of a rabbit, three days after the removal of the epithelium and outer layers of the cornea, with the knife. Letters and preparation as above. Objective 5 and ocular 2, Hartnack. Camera lucida.

FIG. 4. Frog's cornea prepared as in Figs. 1 and 2. a, b, c. As in Fig. 1. d. The dark border of the corneal tissue interrupted by several parallel lines. Magnified and drawn as in Fig. 1.

FIG. 5. A. B. Two marginal cells of the regenerating epithelium of the frog's cornea. Preparation and magnifying power as in Fig. 1. A. 1. Original nucleus; 2. Young nucleus surrounded by a narrow, clear zone; 3. Nucleolus surrounded by a delicate but plainly contoured border. B. 1. Old nucleus; 2. Young incurved nucleus, with two nucleoli.

FIG. 6. Regeneration of epithelium of frog's cornea, after the central portions had been killed by collodium, but not removed. a, b, c. As in Fig. 1. d. Dead epithelium lying above the marginal cells. e. Dead, but still attached epithelium. Prepared, magnified and drawn as in Fig. 3.

FIG. 7. Outshoot from an island of epithelium allowed to remain in the centre of the frog's cornea, with prevention of new formation from the periphery. a. Separated epithelial cell. b. Edge of the main island. c. Corneal tissue. Objective 5 and ocular 3, Hartnack. Prepared and drawn as in Fig. 1.

FIG. 8. From the same preparation as Fig. 7. a. Junction of the outshoots of epithelium. Objective 7 and ocular 3, Hartnack.

"I suppose," said a quack, while feeling the pulse of a patient who reluctantly submitted to solicit his advice, "I suppose you think me a bit of a humbug?" "Sir," gravely replied the sick man, "I was not aware until now that you could so readily discover a man's thoughts by feeling his pulse."

CASE OF IMPACTED CALCULUS IN THE URETHRA. EXTERNAL URETHROTOMY. RECOVERY.

By M. F. GAVIN, M.D., F.R.C.S.I., &c., Surgeon to Out-patients, City Hospital, Boston.

HENRY M., a delicate lad, aged 10 years, born in South Boston and always lived there. Has had the diseases usual to childhood. No pump-water on the premises where he lives. About December, 1868, mother first noticed his water grow cloudy and thick, but free from blood, while the act of urinating caused intense pain in the region of the bladder, extending up towards the lumbar region. From January, 1869, until May of the same year, patient's general health failed, and incontinence of urine and severe "attacks of gravel" became frequent, when he entered the City Hospital under the care of my predecessor, the late Dr. Ropes, who failed to detect stone. Under treatment and rest he rapidly grew better, and left the hospital, feeling well. For some time after leaving the hospital he remained free from all symptoms of his trouble, except after severe exercise, when the pain in making water returned, and once or twice he suffered from retention, which was relieved by a hot bath.

Early in the autumn the "fits of gravel" returned, grew more severe, lasted longer, and were not relieved by the warm bath. About this time the patient had a very severe hæmorrhage from the urethra, probably caused by a rupture of a small portion of the urethra from the great straining of the patient during an "attack of gravel."

My first visit to him was in January, 1870, when he was suffering from one of these attacks, of unusual severity, which had lasted more than two days at the time of my visit. Three days before my visit the lad took severe exercise in running and jumping off a shed fourteen feet high to the ground, and that night began to complain of pain in urinating, extending up the urethra, and passing only a few drops at a time. There was constant pulling of the prepuce; no sleep; hot and feverish; appetite gone.

It was evident something should be done, and at once, as the little fellow was in agony; the bearing-down pains were really distressing to bear, hardly leaving the patient for a moment, and unless something were done, the bladder, which extended almost up to the umbilicus, was in danger of being ruptured.

A warm bath was first tried, without any

benefit; when I attempted to pass a No. 5 elastic catheter, but failed, owing to the pain and restless condition of the patient. The parents would not allow ether or chloroform to be given, preferring to wait a few hours before any operative measures were undertaken. After trying opiates and the warm bath for a few hours without relief, ether was given, when a foreign body could be felt filling the urethra about an inch in front of the bulb, which was shown, on passing a sound, to be an impacted stone. The parents preferred to have a consultation, when Dr. Thaxter was called in and gave me his valuable assistance during the operation.

An effort was first made to extract the stone with a long narrow forceps, but it failed. Dr. Thaxter held the stem firmly and drew back the scrotum, while an incision was made in the raphé just anterior to the scrotum: the stone was now pressed forward toward the cut and withdrawn by a forceps.

Very little bleeding followed the operation. A No. 5 elastic catheter was passed through the entire length of the urethra and retained by straps; the edges of the wound were brought together by two very firm silk sutures, with the expectation of obtaining union by first intention, as the wound did not differ from any ordinary flesh wound as long as the urine was not allowed to come in contact. An opiate was ordered in case he became restless.

Jan. 17th, twenty-four hours after operation. Patient had a very good night, slept well; no occasion to give opiate. Free flow of clear urine through the catheter; not any through the wound. Pulse 88; no heat of skin or headache; tongue clean. Cold-water dressing and milk diet.

18th.—Slept well; no heat of skin or headache; pulse 70; tongue clean and moist; wound partly united; sutures removed. Catheter withdrawn and larger one (No. 6) put into the bladder, with considerable difficulty.

19th.—Pulse 104; skin hot; tongue moist and coated. No swelling or redness of scrotum. Some pain in the right iliac region. A few drops of urine came through the wound. Catheter taken out. Cold-water dressing; liquid diet, and a saline purgative.

20th.—Pulse 68; tongue clean and moist. Bowels moved yesterday. Urine all came through the normal passage, without causing any pain.

21st.—Pulse 66; tongue clean; appetite good. Wound not quite healed; a few

drops of urine came through this morning.

22d.—General condition excellent. Passes water freely and without pain, a few drops escaping through the lower angle of wound. No. 6 catheter passed and allowed to remain in for ten minutes. Wound touched with nitrate of silver.

From this time forth the patient did well, and was allowed his usual diet. Catheter (No. 6) was passed every third day for two weeks, when the wound was firmly united.

The unsettled state of many minor points in surgery was very well shown in this case.

1st. Was it better to remove the stone from that part of the urethra where its further progress was arrested, or to press it back towards the perinæum or membranous portion of the urethra? The latter proceeding is strongly advocated by Mr. Erichsen, who dreads the infiltration of urine taking place if the urethra is opened anterior to the scrotum, and if infiltration does not take place we are very apt to have a fistulous opening remain. No doubt Mr. Erichsen's suggestion has the advantage, that if other stones are present Allerton's or the lateral operation for stone may be done without waiting. On the other hand, if, as in the case reported, the stone is firmly impacted midway in the spongy portion of the urethra, to press it back to the membranous portion must lacerate the urethra, which is quite likely to be followed by infiltration of urine or organic stricture.

2d. Was it better to pass a catheter after the operation, or allow the urine to come in contact with the fresh wound in the urethra? On this point systematic works on surgery have nothing to say, while practical surgeons differ in practice. In the case reported we think the healing process would have been slower if the urine had been allowed to come in contact with the wound.

TREATMENT OF ECZEMA.—Dr. Kent Spencer, of Bath, has found black wash useful as an application in eczema rubrum of the legs, mixed with a tenth part by measure of glycerine. Linen rags are soaked in this and laid on the parts and kept *in situ* by a bandage, but no oiled silk used. He renews the dressings twice daily, wetting them with warm water before removal. He has recently almost always been successful in such cases by this plan.—*Canada Medical Journal*.