

of the rectum with readiness. This part of the operation was greatly facilitated by an assistant, who inserted his finger into the rectum and lifted it into the wound.

The final step of the operation was the implantation of the ureters into the lateral walls of the rectum, and this was accomplished in the following manner.

With his finger in the rectum the operator carefully determines the exact point at which the implantation is to be made. The requisite qualifications are: (1) It must be above the internal sphincter (Fig. 2 *e*). (2) It must be in the lateral and not in the anterior wall, so as to avoid kinking. (This actually occurred in the first instance in the author's case, necessitating a subsequent adjustment of the implantation.) (3) It must be high enough up to permit the ureter to project slightly (say $\frac{1}{2}$ to $\frac{3}{4}$ inch) into the lumen of the bowel without stretching (Fig. 2 *b*). If the ureter thus projects it forms a papilla, which when pressed upon from within the bowel becomes converted into a valve, similar to that at the entrance of the bile duct and the salivary ducts. This point having been decided upon, the operator or his assistant passes a slender forceps through the anus, presses them against it from the rectal aspect, and lifts it carefully into the anterior wound. The wall of the bowel is now incised upon the projecting forceps, which are then forced gently through. By stretching and cutting the wound is enlarged with great exactness, so that the ureter with its contained catheter will accurately fill it and yet not be injuriously pressed upon. The forceps are now opened, made to grasp the distal end of the catheter (Fig. 2 *d*), and withdrawn into the bowel and out of the anus, the operator at the same time carefully directing the ureter through the slit, and satisfying himself that its termination forms a papilla at least $\frac{1}{2}$ inch long upon the rectal mucous surface. In guiding the mouth of the ureter through the slit in the rectal wall forceps may be passed back again beside the catheter, and made to grasp the edge of the rosette of bladder tissue around the ureteral papilla. This process is repeated upon the other side. The sponge plug is now withdrawn, care being taken not to disturb the catheters while doing so.

There seems to be no necessity whatever for stitching the ureters in position, and in my case the attempt was not made. The catheters are left in position at least two or three days, or until they come away of themselves, which occurred in my case in about sixty hours.

The Dressing.—I do not think it judicious to attempt any plastic operation for immediate closure of the abdominal wound. The whole area to be healed will be found surprisingly small, and a moderately firm packing with iodoform gauze will afford efficient drainage, and at the same time furnish a support and splint to the delicate ureters in their new position. When the implantation has healed securely, and granulation has been established, a plastic closure may be done if it be deemed advisable. I allowed my case to heal entirely by granulation, and the scar is quite small and firm (Fig. 3 *a*).

Present Condition of the Patient, December, 1900.—It is now more than four years since the operation for prociencia recti was done, and one year and a-half since the rectum was converted into a cloaca by the transplantation of the ureters. The boy is to-day in perfect health, as is evident from his photograph (Fig. 3). There has never been the slightest tendency to a return of the prolapse, which is the more satisfactory testimony to the efficiency of the operation in consideration of the absence of a pubic arch. There is no evidence whatever of a disturbance of the functions of the kidneys. On examination *per rectum* the mouth of each ureter can be felt as a salient papilla as large as the tips of one's little finger. There is no eczema or excoriation of the anus or perineum, nor is there any evidence that the rectum resents the presence of the urine more—even less, perhaps—than that of any other fluid. The frequency of defecation depends largely upon the amount of fluid ingested, and upon the degree of activity of the lad. When playing about he requires to evacuate the urine at intervals of one, two, or three hours, but in bed at night he frequently goes six or even eight or ten hours without an evacuation. The following figures represent the intervals of an average day taken at random: Bedtime, six hours later, five hours, three hours, one hour and a-half, three-quarters of an hour, two hours, two hours and a-half, one hour and a-quarter, and two hours.

There is no evidence whatever of reabsorption of urine from the rectum. It seems reasonable to suppose that the mucous lining of the rectum may have the same disposition towards the urine that is observed in the bladder and kidney epithelium, since they have a common embryonic origin.

A remarkable feature of this case is the manner in which the cloaca seems to act habitually as a bladder, and only performs the function of a rectum at such times as a movement