

urine being in contact with the line of junction of the symphysis, will necessarily interfere with union. Added to this there is the probability in the female of a resulting deformity of the pelvis. In the operation for diverting the urinary channels towards the rectum, the great objection is, the possible infection of the kidney from an ascending ureteritis, besides which the urine is, as a rule, an irritant to the rectal mucous membrane. To overcome this possible infection Maydl transplanted the bladder and ureters intact into the rectum, the expectation being, that the oblique entrance of the ureter would act as a valve as in the normal bladder, but the rectum would not contain sufficient urine to mechanically compress the ureter entrance, and hence, Fowler devised a special valve—a tongue-like projection—which may be a success, but there have not been a sufficient number of successful cases of this operation reported as yet, to allow one to judge. (*Annals of Surgery*, April, 1899).

Gersuny converted the rectal pouch into a receptacle for urine only, by making an artificial anus and shutting off the upper end of the rectum entirely. Besides the dangers mentioned as objections to these transplanting operations, there is the important fact that they all necessitate the total extirpation of the bladder. In the plastic operation, on the other hand, the bladder is retained, and an attempt is made to cover up the defect by a flap, generally of skin. Ayers, of New York (1858), and Pancoast, of Philadelphia (1859), first used the flap method in America, and since then many modifications of this method have been proposed, as Wood (1887), by whom an upper flap was reversed and placed with its skin surface towards the bladder, the raw surface being covered by means of two lateral flaps. (An improvement in the technique of this was devised by Forest Willard, Philadelphia Academy of Surgery, 1898).

Thiersch used granulating flaps, and Rutkowski (*Annals of Surgery*, 1899), instead of using the skin as a flap, brought down a portion of the intestine, which he had first excised, and leaving it still to receive its vascular supply through the attached mesentery, sutured it to the edges of the defective bladder. The rationale of this latter operation emphasizes the defects that have characterized the flap method all through, viz.: an attempt is made to remedy a defect in a muscular organ by means of tissue,