

dilate the very limited wound found in the prostate, while the staff is withdrawn and the stone extracted in the usual way.

It will be observed that no incision is made over the angle of the staff before it is penetrated. To make such a preliminary cut only complicates matters. No aid is got from it, and the parallelism of the two cuts is difficult to ensure. The staff is opened at one thrust, and if the precautions above described are taken there is no danger in this step. The knife should never be pushed on till the operator feels confident that it is in the groove. This the grating of the point of the knife on the groove makes very evident to him, and the assistant holding the staff also plainly perceives it.

From the above description it will be apparent—(1) That in this method of operating, only one incision or cut is, as a rule, required, and no dissection called for. (2) That the incision lies lower down (*i.e.*, nearer the anus) than in Cheselden's operation. (3) That the urethra is opened considerably nearer the bladder than it is in the lateral operation. (4) That a straight, short, and direct road is followed to the bladder; the prostate gland being reached at the point where it most nearly approaches the surface of the perineum. (5) That less injury is done to the soft parts of the perineum and the urethra than in the ordinary operation, the incision, though all that is necessary for the purpose in view; being much shorter and more limited. (6) That there is much less danger of wounding important blood-vessels, as the incision does not go near them. (7) That the rectum is, by the action of the horizontal portion of the staff, rendered straight, and is therefore not in the least danger of being wounded, as at first might be supposed it would be. (8) From the near neighbourhood of the anus to the incision the wound is easily stretched or dilated, so that it does not require to be of great size. (9) A more limited incision is made in the neck of the bladder than is usually inflicted in the lateral operation, and the wound lies in the longest axis of the prostate. (10) If the one is very large and much room needed, the right side of the prostate is easily reached, and can be incised with a probe pointed bistoury.

In short, I hold that this mode of operating most perfectly fulfils all the requirements of an easy, rapid, and safe access into the bladder; that the surgeon cannot go wrong who exercises the most trifling care; that there is the least injury to structures and the minimum risk of complications; that it provides the shortest road for the stone to travel as it is extracted, and that the most direct and efficient drain for the urine is established.

In speaking to hospital surgeons elsewhere of this operation, I have always found that their objections to use it were either, (1) the supposed difficulty of introducing (especially in children) a staff of the rectangular form; (2) "the stab in the

dark," as the passing of the knife into the angle was occasionally termed; (3) the risk of the knife escaping from the groove; and, lastly, the supposed danger of wounding the rectum.

There is no doubt but that the first objection is well founded. It requires care to pass the heel of the staff especially through the meatus, even though the operator catches the staff short (as he should do), and exercises every care. So, too, in watching the heel, beginners are apt to get the point caught at the subpubic curve, and it was to overcome this difficulty that I had the staff changed as afterwards described. The second objection has not much practical force. The heel is so easily defined by the forefinger and thumb of the left hand applied in the way above indicated, that it is readily entered. Yet some operators hesitate to attempt this by one movement of the knife, and make a preliminary incision to that by which the point of the blade is placed in the groove. This should, however, be avoided, as was before explained. The third objection is groundless if the rule I give is followed—*viz.*, to insert the knife at an angle into the groove, and to keep it at a slight angle to the horizontal portion of the staff all the way into the bladder. In this way the groove is "felt" all the way by the point of the knife. The fourth objection is quite untenable. It is suggested by experience of the curved staff, which, from its shape and the way it is held in lithotomy, exaggerates the curvature of the bowel. The rectangular staff, on the contrary, renders the upper surface of the rectum straight, and no injury whatever to the bowel attends an operation performed with it. There is a tradition in the school that it was once wounded, but I have never known it happen in my day.

It was, however, to overcome the force of the first and second objections that I was led to alter the construction of the rectangular staff. After trying various experiments, I have finally had the staff hinged by a very simple and effective mechanism, ably executed by Mr. Hilliard, of this city, so that when being introduced it can be placed in the most favourable position for being passed along the canal, and when it is in place, by turning a screw in the handle, it is firmly fixed in a rectangular position. The pressure of the left forefinger in the rectum brings it to its right-angled position (and that it cannot pass), and then two turns of the screw fixes it there. By this simple plan much is gained. First, all difficulties of introducing it is overcome. Secondly, the heel of the staff (which is the point we seek for, and which there may be a difficulty in finding if the staff is a small one), may be greatly enlarged (widened and made more easily detected), and so more surely entered. And, thirdly, the removal of the staff from the urethra is also facilitated, as by reversing the screw the horizontal portion is allowed to fall, and so the angular shape of the staff is done away with. So long as