ART. III.—*Observations on a Mode of introducing the Catheter in difficult Cases.* By CHARLES PATTERSON, M. D., Physician to the Rathkeale Infirmary and Fever Hospital.

DR. O'BEIRNE, in giving directions for passing an elastic tube up the rectum, says ; " if it," the tube, " cannot be introduced higher up without much force, attach to it the syringe, and, dipping the point of the latter into the fluid to be injected, let an assistant give two or three rapid strokes of the piston, and so bring the full force of a strong and unbroken column of fluid to bear upon the point of resistance, and, while this is doing, let the surgeon urge the tube firmly upwards, and it will generally pass the obstruction as if through a narrow ring."—*Dublin Medical Journal*, vol. xiv., p. 125. On reading this passage, at the period of publication, about two years back, it occurred to me, that a similar manœuvre might be successfully employed to pass the catheter in those cases where enlargement of the prostate gland renders it difficult to do so. This suggested itself to me the more readily, from having been a short time previously in attendance on an old man with enlarged prostate, into whose bladder it was not easy to introduce a catheter. It was not long until I had an opportunity of putting the suggestion in practice in another patient, in whose case, the instrument not passing freely, I took a large sized silver catheter, which happened to have the eye very near the end, and introduced it as far as the obstruction ; I then forced a stream of warm water through the urethra, at the same time depressing the instrument, when it immediately entered the bladder with the greatest ease.

In this case, it is most probable, that from my eagerness to try the experiment, I had recourse to it unnecessarily, and that the instrument might just as readily have passed where it did without the pioneering of the water. But in a few weeks I was again called to the old man, above alluded to ; he had been forty-eight hours without passing any water ; and a practitioner,

who was very expert in the use of the catheter, had already, in various attempts, failed to introduce it; I made use of every legitimate exertion and manœuvre, but was also unable to pass the instrument; I then forced a stream of water through the obstruction, when, after about two or three ounces of that fluid had been injected, the urethra became very much distended, and the catheter passed into the bladder with very little difficulty.

I have since employed the same means, under similar circumstances, on one or two other occasions, and always with success. I do not mean to say, that, in these instances, the instrument could not have been otherwise introduced into the bladder, but, having experienced much difficulty in endeavouring to accomplish that object, instead of persevering in embarrassing attempts, I had recourse to the above stated means, which had the effect at least of greatly facilitating the operation.

I have also used this contrivance to introduce the catheter in a case very different from the above. The patient laboured under most distressing inflammation of the mucous membrane of the urethra, and his bladder was greatly distended with urine, which he could only pass in drops and in extreme agony; there was a most unbearable desire to empty the bladder, occasioned in a great measure, it may be presumed, by that organ's partaking of the inflammatory action. The morbid sensibility of the urethra was such as that no instrument of any kind could be introduced, and the patient's impatience could not wait the abatement of the inflammation, under the employment of the most active means. In this case I attached an injecting apparatus to a curved elastic catheter, and, having inserted the extremity of the tube a little way within the orifice of the urethra, I, in the gentlest manner, injected, or rather insinuated a little warm decoction of linseed, just so as moderately to distend the urethra; I then gradually urged the catheter onwards, and succeeded in getting it into the bladder, with little or no pain or inconvenience to the patient.

The injecting apparatus which I have employed is very simple ; it is formed by merely attaching a small bladder to the end of the catheter, after the manner of a mounted enema pipe ; the bladder need not be large, one that holds about half-a-pint of water will be sufficiently so ; and the catheter must be furnished with a small cork, having a piece of twine fixed to it, just like the cork of an enema pipe. The largest sized catheter the urethra will admit of should be used, that the impetus of as large a jet of water as possible may act on the obstructed part of the canal, and also that the urethra being filled by the instrument, the fluid may be easily prevented from returning by the side of the catheter. The eye must be large, and very near the end of the tube ; or, what is better, the tube should have a large orifice within the circumference of its anterior extremity, with the edge rounded in so as that it shall not hurt, or catch the lining membrane of the passage. Also it must be a silver or permanently curved elastic catheter : for the injecting apparatus would prevent the withdrawal of the stilet necessary to maintain the curvature of a common elastic one.

The instrument, having the attached bladder properly adjusted, is to be passed down to the obstruction : if it cannot now, on further trial, be made to enter the patient's bladder, it must be held by an assistant, while the small cork is being inserted into its outer end : about six ounces of lukewarm water are to be poured into the injecting apparatus ; the latter must then be closed, and tied as near as possible to the fluid, so as to exclude every portion of air. The operator is next to encircle the penis with the finger and thumb of his left hand, making gentle circular pressure to close the urethra round the catheter ; he will then, having first withdrawn the cork, embrace the bladder of water with his right hand, so as to be able to apply strong and uniform pressure on as much of its surface as possible, in doing which, its contents being continuously and forcibly propelled into the urethra, and the handle of the instrument being

at the same time depressed, the latter at once passes with facility into the patient's bladder.

The left hand, in holding the penis, should be quite passive, allowing the utmost freedom of motion to the catheter; the right hand should not touch any part of that instrument, but manœuvre it through the medium of the attached bladder of water, in the act of compressing the latter, so that its extremity may be free to follow, as it were spontaneously, the course the current of water opens before it.

It is not difficult to comprehend the mode in which this operation facilitates the passage of the catheter. The patient's bladder, being full of urine, opposes considerable resistance to the influx of the water forced through the instrument; this fluid then, pouring into the urethra, forcibly distends that canal and the neck of the bladder; and, from the circumstances of their connexions, the distention principally takes place in the direction of the rectum, forcing the tumid middle lobe of the prostate backwards and downwards, and so diminishes the obliquity of the passage. It may be, also, that when the patient's bladder admits a portion of the injected fluid, its increased distention, from that cause, aids in drawing backwards the enlarged lobe of the prostate, in the way Sir Everard Home states partial relief to occur naturally in such cases, when, about the third day of the obstruction, the bladder, becoming extremely distended with urine, its posterior part bulges backwards, and draws the swollen lobe with it.

Thus the distention of the urethra, its acquirement of a more normal direction, and the altered position of the tumid lobe of the prostate gland, all concur in allowing the instrument to glide with ease into the patient's bladder.

At the moment of compressing the apparatus, and forcing its contents into the patient's urethra and bladder, he complains of a sense of painful distention in the hypogastric region, and a most urgent desire to make water. The complaining of distention might lead one to dread rupture of some portion of the

patient's bladder, from a continuance of the forcible injection of the fluid. But if we reflect how that viscus is uniformly supported by the abdominal parietes, and on the great strength of its own tissue, it will be evident that such an action can hardly occur from the indirect force of the operator's hand ; besides, we have the fact, that however distended the bladder becomes in cases of retention of urine, from whatever cause, its parietes never give way, except under the process of sloughing : that there is no such danger to be apprehended is also proved by the simple experiment of forcing water, in a similar way, into the bladder of a sheep or calf, when it will be found that the utmost force of compression, exerted by both hands, will be insufficient to rupture it. As to the patient's desire, however pressing, to make water, we should pay no attention to that, but still persevere in the endeavours to pass the instrument. Should the practitioner yield to the patient's entreaties, and withdraw the catheter, it is obvious that the tumid portions of the prostate will close in on the passage, and present the same obstacles as before to the expulsion of the urine.

For the injecting apparatus a pig's bladder will be found to answer much better than an elastic bag or syringe, in allowing freedom of motion to the catheter, and ease of management to the hand.

In cases of stricture, M. Amussat of Paris has forced water with a syringe through the obstructed part of the urethra, and having, in that way, dilated the passage, the urine flowed by the patient's own expulsive efforts. It is scarcely necessary to remark, that this plan would not afford relief in cases of obstruction from enlarged prostate. The water might be forced easily enough into the bladder, but the expulsion of the urine would be prevented by the valvular action, or collapse of the gland and neck of the bladder.

Of course the practised operator, who is every day in the habit of using the catheter, will rarely, indeed, have occasion to use any other means than the tact and dexterity of his own fingers ;

but the less experienced are liable to find themselves in embarrassing circumstances from the very great difficulty they occasionally meet in introducing that instrument; to such the simple plan now proposed may, perhaps be found of not a little advantage.

ART. IV.—*On Asphyxia, resulting from Wounds in the Neck.*

By GABRIEL STOKES, M. D.

It appears to be the general opinion of writers on the subject of suicidal cutting of the throat, that death in such a case may either take place immediately, or that the individual escaping from the first danger may live, in some instances days, in some weeks, and then die of some of the after consequences of the wounds; and that when death takes place immediately on the infliction of the injury, it is from hæmorrhage, the result of a wounded bloodvessel. Numerous cases are on record of transverse wounds of the neck, dividing the trachea completely across, and even the œsophagus where death was not an immediate consequence; and when death was immediate in these cases, it has been heretofore uniformly attributed to a wound of some of the large bloodvessels producing a fatal hæmorrhage. Every surgeon of experience knows that the suicide is frequently foiled in his attempt on his life in this way, in consequence of inflicting the wound too high up in the neck, when the great vessels from their retreating direction escape injury; and it is consequently said, that suicidal wounds in the upper part of the neck are not so likely to be immediately fatal as those situated lower down: this, as far as death from hæmorrhage is concerned, is true; but it appears to me, that when a deep transverse wound is made between the thyroid cartilage and the os hyoides, although none of the larger vessels of the neck are touched, that death takes place as certainly and as instantaneously as if the carotid artery and jugular vein were divided; and that in this case