

ART. VII. *Account of a successful Operation for the cure of Artificial Anus, accomplished with the aid of a novel instrument, and performed by J. R. Lotz, M. D., of New Berlin, Union County, Pennsylvania, with Observations on the Apparatus, &c., by REYNELL COATES, M. D.*

Since the first successful attempt at the cure of artificial anus, which was made by Dr. Physiek in the celebrated case of John Axilius, in 1809, the operation has not been employed, to our knowledge, on this side the Atlantic, until within a few months; and though several instances occurred in the practice of the late M. Dupuytren, the methods or rather the instruments employed by him, have varied from time to time, and the number of observations yet accumulated is too small, fully to establish the superior claims of either over the plan of Dr. Physiek. In this attitude of the subject, the following account of a case cannot fail to be highly interesting to surgeons. It is condensed from a letter from Dr. J. R. Lotz of Union County, to Professor Gibson, dated June 24th, 1835, which, with the newly contrived enterotome employed in the operation, has been kindly submitted to my inspection by the latter, with the assent of the author to the publication of such parts as possess general interest.

CASE. Dr. L. was called, sometime in February last, to see Mrs. —, aged 41 years, at a distance of eight miles from his residence. The physicians in attendance informed him that their patient had laboured under strangulated hernia for a week, and that all the usual remedies for the relaxation of the stricture had been tried in vain. A tobacco enema had been given a short time before the doctor arrived, and the system of the patient was much prostrated by it, but the stricture did not yield.

The usual operation was performed as speedily as possible under the circumstances. Both the sac and the intestine were "found full of holes," and in a complete state of mortification. The stricture at the external ring was very firm. It was divided in the usual way, with the blunt pointed bistoury, guided by the grooved director, the incision being carried directly upward. *A portion of the intestine was then drawn out*, all of which looked as if it might slough off. After consultation, the mass of the mortified portion of bowel was removed by the knife, and the sound extremities of the intestine were left in the external wound, anteriorly to the ring. No dilatation of the internal ring was required or performed.

Dr. L. was requested to visit the patient again in one week after the operation. He found that the remaining dead portions of intestine had sloughed off, and the wound was in a healthy condition. Moderate pressure over the ends of the bowel was recommended, and the case was left, in other respects, to nature.

About three weeks afterward, he was requested to visit the patient with his friend Dr. Thomas Von Volzoh. They found her general health improved. The acrimony of the fœcal discharge had excoriated the groin, but no complaint was made of pain from any other cause. The long tent of Dessault was tried, but without benefit. At the next visit, the ligature of Dr. Physick was proposed, but was rejected on account of the difficulty of its application, owing to the curvature of the two portions of the bowel. *The rectal portion* "was at this time considerably protruded."

Dr. Lotz now proposed the construction of a new instrument which he thought would enable him to re-establish the continuity of the canal between the two extremities of the intestine, more readily and securely than the ligature of Dr. Physick. His invention was modeled by an ingenious gunsmith of the neighbourhood, and before proceeding to the account of the mode and result of its application, it is necessary to describe the instrument, which is highly creditable to the inventor, when his distance from professional instrument makers is considered. But it is susceptible of some simplifications which will render it even more available, and which could not be executed in time to appear with the present publication, already too long delayed.

The accompanying figure will give a very correct idea of the general form of the instrument without further description. The two fenestræ are about an inch in length, and a quarter of an inch in breadth, surrounded by a solid rim about a line in thickness. The whole instrument is about six inches in length, and from these data the other dimensions may be readily deduced.

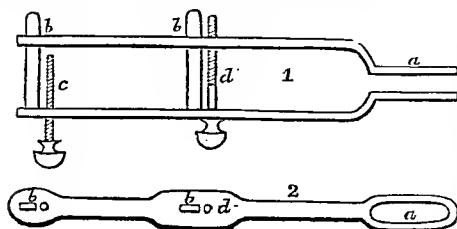


Fig. 1. A side view of the instrument of Dr. Lotz.

a, The rims of the fenestræ, seen in side view.

b b, The slides; c, The adjusting screw.

d, The pressure screw.

Fig. 2. A front view of the same.

a, The fenestræ; b b, The mortice holes for the slides.

d, The hole for the passage of the pressure screw.

They are articulated in the following manner. At the upper end (that which in forceps corresponds with the joint,) and again in the middle of one of the blades, there are attached two steel slides which play loosely through mortice holes cut in the corresponding parts of the other blade. Near each of these slides is a screw; that at the lower end passes through one blade, and simply presses on the other, acting in such a manner as to regulate the distance of the blades from each other, while that in the centre of the instrument (*d*) passes through both blades, approximates them, and causes the edges of the fenestra to press against each other.

The mode of application is this. The central screw being removed, the blades are entirely detached. One of them is inserted into each of the intestinal extremities in this condition, and the slider (*b, b*) being introduced into the mortice holes, the surgeon is assured that the fenestra are equidistant from the orifice. The central screw is now introduced, and the adjusting screw having been previously turned far enough to allow for the thickness of the double walls of intestine included between the pinching extremities, the central screw is tightened until the edges of the fenestra press firmly upon the intervening membranes. By unscrewing the adjusting screw and tightening the central one, the pressure can be increased to any requisite degree without destroying the parallel direction of the blades.

This instrument having been constructed, it was applied upon the patient in the manner described, and tightened until the circulation was supposed to be arrested in the parts included by the pinching extremities. It had been the intention of Dr. Lotz to cut out immediately the portion of intestine included between the fenestra, but as the instrument occasioned some pain and sickness, he desisted from the attempt lest he might be subsequently compelled to remove the instrument before the adhesions were completed; he left the patient with directions that the adjusting screw should be loosened and the pressure screw tightened by half a turn each day.

This operation was performed on a Thursday. On the following Sunday the doctor saw the patient again. The physician in attendance stated that the pain had subsided shortly after the last visit, and that she had continued comfortable ever after. Dr. Lotz then introduced the index finger of his left hand into the extremity of the bowel, while with his right he carried a gun lancet into the other extremity. In this way he safely excised all the portion of bowel corresponding with the fenestra, and established a direct communication between the two ends of the intestine. He now ordered the instrument to be loosened from day to day in the same gradual manner in which it had

been previously tightened, and at his next visit, on Wednesday, he removed it altogether, and examined the result of the operation.

"I can scarcely describe to you," he says, "my gratification, when, upon examination, I found a smooth round hole about the dimensions of an inch, with the bowel, firmly adherent all around. By introducing my finger into the bowel next the stomach, I could with the greatest facility pass it through the opening, *and up through the abdominal ring.*"

Laxative enemata, a diet of rye mush, and, after a few days, more drastic enemata were prescribed, which soon caused about half the feces to pass by the rectum. A few days before the date of the letter, the doctor found her in excellent health, getting fatter daily, and discharging nearly all her feces by the natural passage. "One matter," he remarks, "operates against her yet—she is now in about her seventh month of utero-gestation, which opposes a considerable obstacle to the return of the feces *through the abdominal ring.* When she is safely conducted through her confinement, I shall make an attempt to heal the opening in the ends of the bowels, and make her whole. Of my ability to effect that object I have not the slightest doubt."

Remarks.—This instrument appears to be a valuable substitute for the enterotome of Dupuytren. It is certainly very preferable to the *original instrument* of that surgeon, being possessed of all its advantages, while it secures the cavity of the abdomen from all danger of a breach of integrity without necessarily producing such extended and violent irritation as must result from the process of that surgeon. It may be applied with more facility and is apparently more definite and certain in its action than the original ligature or suture employed by Dr. Physick, particularly when the patient is in the hands of a maladroitness or inexperienced surgeon.

The action of the instrument, in the case narrated by Dr. Lotz, was exceedingly happy, as is proved by the slight degree and short continuance of the pain resulting from the pressure, and also by the roundness of the orifice formed by the incision. But it is not improbable that the pressure of any such contrivance, however carefully employed, will occasionally produce the dangerous symptoms observed so frequently in strangulations of small portions of the circumference of an intestine, which symptoms occurred even in the case of Axillius, when the ligature of Dr. Physick was drawn a little too tightly.

Dr. Lotz seems to have acted upon the principle, that a gradual increase of pressure is preferable to a sudden violence sufficient to destroy the vitality of the parts; for, although he directed the instru-

ment to be tightened at first sufficiently to arrest the circulation in the parts included by the fenestræ, he also directed a daily increase of the pressure, which is obviously unnecessary, if the first purpose is once completely accomplished. If the pressure be made sufficient to arrest the circulation in the first instance, there seems no sufficient reason for removing the parts embraced by the instrument, as they might as well be permitted to pass away with the feces spontaneously.

There are two methods by which the required union of the two portions of the intestine, in artificial anus, may be accomplished; first, by very slight pressure, just sufficient to secure the adhesion of the opposite serous surfaces; and, secondly, by very firm pressure, which destroys the vitality of the parts at once. We have heard it suggested that the former of these methods should be adopted, in order to avoid the danger of symptoms of strangulation. Neither the instrument of Dupuytren nor that of Dr. Lotz is calculated to accomplish this purpose, because, in acting on living parts by mechanical contrivances, we never can depend upon the accuracy of our measurement of the force of the screw. But it is very questionable whether the simple adhesion would furnish a sufficient guarantee against subsequent accidents being composed of very extensible materials. In order that either of the methods just mentioned should be safely and effectually employed, it is necessary that the edges of the two fenestræ should remain at all times parallel to each other, and it is very desirable that they should press equally at all points. The double adjustment of the screws in the apparatus of Dr. Lotz may enable the surgeon to accomplish this purpose, when great care is used, but the necessity for frequently counting the half turns of the screws is a serious inconvenience; some better mode of measurement would be very desirable.

One great advantage possessed by this instrument, is its levity. A specimen of the original enterotome of Dupuytren in the cabinet of the Pennsylvania Hospital, weighs about two ounces—the apparatus of Dr. Lotz weighs nine and a half drachms. The two transverse sliders of the latter are common to it, and the improved enterotome of Dupuytren, according to descriptions of this contrivance, which I have never seen delineated. The improved Parisian instrument is said to be even heavier than the original one, and by a little mechanical skill it would be easy to dispense with the slides altogether, without rendering the apparatus unsteady, the screws themselves being made the only medium of connexion between the blades of legs of the instrument. Time will not permit me to present in the present number of this Journal the slight modifications which would reduce the instru-

and clear. During the winter he had been confined to a very warm room, almost entirely to bed, where he was too warmly clothed. The abscess on the leg had assumed what, in his apprehensions, he thought was gangrene; this led him to the use of too heating and stimulating food and drinks. In this way the action of the heart had been much agitated. At this time I became convinced that there was organic affection of the heart, and enlargement of the right auricle, from some obstruction to the free passage of blood through the right ventricle. The left jugular vein was greatly enlarged; palpitations were frequent, and the action of the heart indescribably irregular. He supposed the dropsical intumescence to be the consequence of abdominal visceral disease. I thought it arose in the progress of diseased heart. I sounded the thorax; the left cavity was not resonant; the right gave a natural *raïssonance*. Influenced by the opinion of diseased liver, he used calomel too freely, and thus perhaps aggravated the disorder of the heart. The œdema was not very great when I saw him.

April.—About the middle of this month I visited him again. The dropsy had returned, and was very much increased; there was ascites and hydrocele; the pulse was not at all improved; it was firmer and more active; from the umbilicus to the soles of the feet the skin was covered with large patches of capillary sanguineous engorgement constituting the *purpura urticans* of Willan; the appearance of the skin, and of so extensive a surface, for he was a very corpulent man, was most striking; the heat of the skin and abdomen was increased; I bled him; the blood was firmly cupped; the jugular vein was very large, with a pulsation or rather an undulatory motion quite remarkable.

May 4th.—He had a slight attack of gout, preceded as usual by cough. He wrote me thus:—"Preceding this accession of gout, there occurred a singular appearance on my head. A small tumour commenced on the edge of the scalp over my right eye; on this disappearing, another and another showed itself near the crown of my head. They appeared thus in succession as large as partridge eggs; the skin was red, but no pain or itching. They spread nearly over the whole scalp, and preceding their appearance there was nausea and headache."

22nd.—He had been taking two grain doses of calomel at night; was improperly exposed to a current of night air; became very catarrhal, and was bled with benefit; mercurial fœter appeared in the breath. It became obviously necessary that the long continuing and increasing dropsy should be removed or reduced. He had taken various diuretic preparations, but was doubtful of digitalis. I informed him that in seve-

ral cases, four in number, the most unexpected benefit resulted from the following prescription recommended by Dr. James Johnson, and he agreed to use it. R. fol. digital. $\overline{3}$ s.; aq. fervent. $\overline{3}$ vij.; spir. nit. dulc. $\overline{3}$ s.—macerate four hours, then strain through paper. R. sod. siccāt. grs. e.; acid. tartar. grs. lxxx; aq. fontan. $\overline{3}$ ij. Take a table-spoonful of the digitalis infusion with one-fourth of the neutral solution twice a day in a little weak punch.

The pulse acquiring considerable activity, he was bled, and after taking the mixture three days, he discharged, in three nights, three gallons of urine by measure. The effect of this treatment was singular. The pulse fell from 120, with all kinds of irregularity and intermission, down to 80 in the minute; and it became regular without intermission; palpitation of the heart ceased; the dropsy was greatly reduced, and he is much better. Eating some fruit, he was seized with cholera morbus; had watery stools, which still more reduced the swellings, and the *purpura was entirely removed*. He took small doses of acet. morph. at night. This restoration of the pulse to a normal state continued for some time, perhaps for three weeks; it induced me to doubt the existence of lesion in the heart: his health and spirits very much improved; the jugular vein diminished in size so as not to be conspicuous.

June.—An imprudent indulgence in fruit brought on a severe attack of colic, soon after which the legs swelled and purpura returned; he was bled twice, the blood being sisy; he also used the digitalis mixture, and the pulse fell to sixty-five in the minute.

July.—Dropsy increased in the lower extremities; he had dyspepsia and a return of the tumours on the scalp. He passed through this city on his way to Philadelphia. Although much improved in health, he was decidedly dropsical. There was peritoneal dropsy, hydrocele and cellular intumescence in the lower extremities. What was thought of his case, and what was done for it by his medical friends in Philadelphia, I cannot minutely say. He travelled to Bedford, found the waters there to produce vertigo. I saw him in September, on his return to Virginia, and he appeared better; his improvement he ascribed chiefly to occasional blood-letting. Dr. Chapman lent him Ayre's Treatise on Dropsy; and, on his return, he took small doses of squill and digitalis, and used occasionally mercurial cathartics; the dropsy, notwithstanding, steadily increased; the pulse had resumed irregularity and intermission.

December.—In his letter he states that his respiration is natural; can lie with ease on either side; no pain; pulse constantly from 100 to 120; on exertion the frequency is greatly increased. Appetite

is good, with tolerable digestion, and daily fecal evacuation, with much flatulence. Urine is straw-coloured, without sediment, and no albumen; mouth has been aphthous.

April, 1828.—He passed a better winter than could have been expected. He had two severe fits of gout, and several slight ones. Being confined to the house, without making any bodily exertion, the action of the heart was not aggravated. The dropsy constantly increased, and in March the abdomen was so distended as to affect respiration, inducing gasping and violent cough. On visiting him early in April, it was determined to tap him.

In infancy he had an exomphalos, and as the water accumulated in the peritoneum, there was a protrusion at the umbilicus. It was diaphanous, evidently containing water. It was excessively tense in the erect posture, and comparatively flaccid in the horizontal. I could imagine no anatomical cause for this tumour, other than the distension of the peritoneum, and its projection on each side of the cicatrix of what once was the fœtal end of the umbilical chord. I therefore urged the Doctor to allow me to make a puncture with a thumb-lancet, to evacuate the contents of the sac. I made an opening about the size of a large orifice in venesection, and in about three hours, with a steady stream, four gallons of water, by measure, were evacuated. He bore the operation well; a great deal oozed from the orifice afterwards. He complained of a dragging pain about the region of the liver and stomach, which arose from a loss of support which these viscera and the diaphragm received from the water. A bandage around the abdomen relieved him very much. The cough and dyspnœa subsided, and he soon walked about and enjoyed exercise.

It was not only gratifying to meet with such immediate success from the simple operation of puncturing the umbilicus, but there was the promise that the tapping could be repeated with great ease, and at pleasure. So it was, for whenever the accumulation became at all oppressive, the peritoneal sac was opened with a spring lancet. He was frequently tapped during the summer and winter of this year. A portion of omentum became troublesome by protruding, but from three to six pints of serum were drawn off; and the abdomen kept comfortable. He had an attack of cholera in June. He travelled in July and August; had occasional attacks of gout in the feet. The pulse continued irregular, intermitting and frequent. The jugular vein diminished in size.

May, 1829.—He passed the very long and severe winter in his room almost entirely. The dropsical swellings were not very troublesome. Tapping was occasionally resorted to, and I omitted to state that

he has been twice operated on for hydrocele. Debility had greatly increased. I received a note from his attending physician as follows:

"Eight or ten days previous to the death of Dr. Spence, the umbilicus was tapped, and about a quart of water drawn off. The orifice would not unite, continuing to ooze until the moment of his death. This, I presume, was owing to the incessant vomiting with which he was harassed. The orifice was closed by ligature, but the efforts to vomit tore it open. He was seized with a violent ague, which lasted an hour, and was succeeded by severe fever and delirium. Heat and pain over the abdomen, costive bowels, twinges of gout through the great toe; pulse 140; these symptoms soon proved fatal."

From this account it appears that Dr. Spence died of peritoneal inflammation. The serous membrane in chronic irritation responded to the irritation of the punctured orifice, which was repeatedly stitched, and acute peritonitis finished the mortal career of this distinguished physician.

Remarks.—1. The operation of *tapping at the umbilicus* was perfectly successful. The operation can, or ought, only to be done when the protrusion of the umbilicus offers a direct and obvious admission into the sac of the peritoneum. What effect the ligature, applied to close the orifice after the last operation, had in inducing peritonitis, is worthy of consideration.

2. The *dyspepsia* preceding the gout was conspicuous for intensity, and for producing *tumours on the scalp* so numerous and large. I have never in any other case seen those tumours. They are not more remarkable than the wheals of urticaria and other eruptions, that arise so suddenly from gastric irritation. This gastric irritation induces numerous and curious remote sympathetic phenomena.

The formidable dyspepsia, so accurately portrayed in the language of the sufferer, should be treated with stimulating frictions; and, in certain cases, may be speedily removed by exciting vomiting with camomile tea. In other cases, an emetic of ipecac. and carb. potass given in ginger tea. This emetic should only be used when the stomach is loaded, or oppressed with acid or unpleasant eructations. Immediately after the emetic, frictions to the feet, with camphor liniment, give favourable direction to gouty action. A sinapism to the stomach may be necessary at the same time. I need not say that the emetic is not called for in ordinary gastric embarrassment, preceding gout.

3. The case of Dr. Spence is not the only one in which, as premonitory to the gout, I have known the heart so agitated, and the circulation so obstructed, as to threaten immediate danger. The action of

the heart is often so much increased in force and irregularity, and this so continually, as to simulate hypertrophie and aneurismal disorder. The following case shows this.

A distinguished physician, whose eye these remarks may meet, was in early life seized with palpitation at the heart. It was not subdued by treatment; and he consulted the late Professor Rush, who urged the depleting plan to great extent without benefit. He then made application to the late Dr. Kuhn, of Philadelphia. The doctor advised him to discontinue the bleeding and other depleting measures; and to substitute a few grains of powdered gum guaiac. during the day, and a little flor. sulph. at night, assuring him that the true nature of his case would then soon be made manifest. The result was, that gout, in its acute regular form, appeared, and dispersed entirely the affection of the heart. When these symptoms about the heart arise, the habits of the patient should be considered; and particular inquiry be made if pains in the ankle or toe have been felt. Such pains sometimes precede the regular demonstration of gout, for a long time, especially where habits and hereditary predisposition concur.

This medical friend, to whose case I allude, and who has been a martyr to gout, has very often felt what cannot be better named, than by calling it the *aura arthritica*. In an instant, he has felt the most extraordinary passage of gouty pain from head to foot. He declares that he has perceived the dart of the aura from the head to the toe, in the twinkling of an eye—after which regular gout would have course.

The premonitory symptoms of gout are very various, as different organs are disposed to sympathize with the stomach. The practitioner cannot be too well aware of this. The following case is now under my care.

M—, a soldier, æt. 40, is given to drinking a great deal of ardent spirit daily; yet is seldom unable to do duty. On 18th April, 1836, he dined on fresh fish in Baltimore, drank as usual, of whiskey, and returned to the post, at 5 P. M. He was soon after seized with vomiting, and severe headache. At 7, P. M., I saw him in hospital, enduring the most intense pain through the head; pulse full, face turgid; stomach sick, with occasional efforts to vomit. The stomach having been entirely emptied of its contents, I bled him to thirty ounces, when he became faint. With reaction the pain returned, though not so violently. Ordered a dose of calcined magnesia, with cold applications to his head. Bowels were freely open.

19th. 7, A. M. Headache again intense; face somewhat livid; tongue clean; bled him again to \bar{z} xvi. and gave him calomel, grs. x.

if not relieved, apply cups to the neck. 6, P. M. Bowels freely evacuated; head much relieved; great vertigo; pulse soft; skin moist; was cupped.

20th. 7, A. M. Some headache, with increased vertigo; apply blister to the neck. 6, P. M. Since the blister drew, the head is entirely relieved; but he complains of rheumatism in his foot. On examining the limb, I find in the great toe high acute gouty inflammation. The next day the toe was relieved, but the ankle was full of gout. The colchicum and small doses of magnesia relieved the pain.

I never saw an adult suffer more severe pain than this soldier did—a pain in the head entirely relieved by gout in the foot. On inquiry, I found that he had often had pains in his feet, but never to confine him.

The pain of gout is but the play of morbid sympathy, primarily excited by irritation in the chylopoietic organs. Gout can be properly treated only by taking this simple view of it. No other need be taken either for present relief, or for the permanent removal of the disease. Remedies directed to the removal of abnormal irritation, and processes on the stomach, duodenum, and liver, will render local applications almost useless in gout during the paroxysm. Suitable diet and exercise will prevent a recurrence of the disease. That the strongest hereditary predisposition to gout can be thwarted by appropriate habits, I do not for a moment doubt. These habits are such as tend to preserve the integrity of the digestive functions; or they may go farther, and actually improve any fault hereditarily existing in those functions. When we approach gout as we would a pleurisy, and assure our patients that we have the same power over the one disease as the other—that gout is a less dangerous disease than plenrisy—that the patient has the great advantage in gout, as he can control the return of the disease; we may then hope to inspire our gouty patients with a firmness of purpose to resist the habits that give rise to the disorder. So long, however, as we talk of the necessity of an occasional or annual attack of gout, we perpetuate the case. It is true, that, when the gouty habit exists, the most safe sympathetic irritation is the pain in the foot, or in other joints. We should aim constantly at a radical removal of the diathesis; this can be done only by determined self-denial on the part of the patient. I speak now of the radical removal of gout in those who have not repeatedly suffered from it.

4. The state of the capillaries is worthy of a remark. The serous membranes were all in irritation, producing great effusion. The effusion was in the pleura, in the peritoneum, in the tunica vaginalis, and the cellular tissue was anasarcaous. At one time that tissue in the

lower extremities was tensely infiltrated, and from the heat of the bed to which he confined himself for a whole winter, and from using too full diet, effusion of blood occurred in the dermoid system, giving to the abdomen below the umbilicus, to the legs and thighs, a deep claret colour. It was a form of purpura. The very large dark red blotches appeared distinctly through the thick plantar cuticle. The whole appearance was most remarkable.

I commend, after much satisfactory experience, the digitalis mixture given above. To excite the absorbents and kidneys to remove serous collections, it has, in bad cases, at critical junctures, exceeded in effect all other means in my hands.

The capillary congestion was the result of increased action in and sanguineous determination to those vessels. The heat of the room, of the parts of the body under the bed clothes, the action of the heart, and the unsuitable diet, gave febrile aspect to the dropsy. Bleeding was serviceable. If my impressions be correct, dropsy is much less frequent than it was thirty years ago. It is so, probably, from the improved practice in those diseases that are prone to terminate in dropsy, particularly some forms of fever. It is, doubtless, somewhat owing to more correct views of the pathology of dropsy. Professor Rush did much to elucidate this subject practically, and hence the case of dropsy from increased vascular action is more readily recognised than when it was supposed "that debility caused dropsy."

The heat of the surface—the soreness of the integuments, the redness of the skin—the active pulse—the thirst—although there be dropsy, ought not to be set down to as theories. They point to bleeding, to the persevering, judicious use of appropriate cathartics, to the persuasive effects of the supertart. potass. My experience and success with bleeding and supertart. potass. in dropsy have been truly satisfactory.

ART. IX. *Case of Induration and Enlargement of the body of the Penis, with a new method of amputating that organ.* By THOMAS L. OGIER, M. D., of Charleston, S. C.

A negro man, (Abraham) aged 27 years, was sent from the country for an enlargement of the penis and difficulty of urinating. Upon examination of the parts, the penis was found to measure eight inches