and general constitutional measures prescribed. The disease is regarded as curable if properly and persistently treated.

Croupous.—In its relationship to diphtheritic rhinitis this disease holds a subsidiary position corresponding to that of membranous croup in the larynx. The treatment is rather tedious, since the membrane is very adherent. Alkaline washes are followed by forceps, and an oily spray. Sometimes the nostrils are provided with a lightly carded pledget of menthol wool, 5 to 10 per cent. Tonics and a change of air are often required.

VAGINAL OVARIOTOMY.

BY JOHN MADDEN, M.D.

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Dr. T. G. Thomas, of New York, performed the first systematic vaginal ovariectomy in February of 1870. Before undertaking the operation he prepared himself by operating eight times upon the cadaver. He placed his patient in the knee-elbow position, secured by the apparatus of Bozeman. He passed a rectal bougie into the bowels for a distance of five inches "to prevent all possibility of the rectum falling into the line of incision," lifted up the perineum and posterior wall with a Sims speculum, seized the fornix vaginae between the rectum and cervix with a tenaculum, and, with a pair of long-handled scissors, made a longitudinal incision into the cul-de-sac "with one stroke." The tumor was then seized with a tenaculum, three small cysts ruptured and their contents evacuated, whereupon it was easily drawn into the vagina. The patient was now placed in the dorsal decubitus, the pedicle of tumor ligated with a double-silk ligature, cut off and the stump returned to the abdominal cavity. The incision was closed with a single wire suture.

Dr. Robert Battey performed the operation first in 1874, and in 1877 (*Trans. Am. Gyn. Soc.*) successful cases were reported by Drs. Gilmore, of Mobile, Clifton E. Wing, of Boston, and Goodell, of Philadelphia. In reporting his case Dr. Goodell mentioned a successful vaginal ovariectomy by Dr. R. Davis, of Wilkes-Barre, Pa.

In all of the cases here quoted the operation was done for the removal of an enlarged ovary, and are not examples of Battey's operation, which was introduced at this time. After the introduction of Battey's operation, however, a number of operators removed the ovaries per vaginam; but it is not possible to separate the cases belonging to each class.

In Europe vaginal ovariectomy never received any favorable recognition. Whether Hegar, following in the footsteps of Battey, selected the vaginal route for the performance of any of his cases of castration is not recorded. That he did so, is not likely. Olshausen in 1886 (*Krank. des Ovar.*), remarked that the operation had "never met with favor in Europe and seems to be quite generally abandoned in America, its fatherland." He quotes Mignon of having collected, up to that time, the literature of 113 cases. These cases, however, include all operations in which the ovaries were removed through the vaginal vault, including those in which destructive inflammatory and suppurative diseases had existed. Since 1887 this mode of operating seems to have been quite completely abandoned; for a careful search through a good deal of gynecologic literature published during the inter-

vening eight or nine years failed to discover the record of a single case,¹ and modern text-books dismiss the subject with a half-dozen lines. The complete abandonment of this method of operating is due more, perhaps, to the development of aseptic methods than to any other cause. Fifteen or twenty years ago an abdominal section was not made without hesitation and any method looking to an avoidance of wounding the abdominal peritoneum was looked upon with favor. At the present time the abdominal section has reached a degree of favor little short of an apotheosis. There can scarcely be any doubt, however, that in many cases the vaginal route is preferable to the abdominal. Certainly the operation is too valuable to be cast aside.

On the 8th of December last I operated through the vagina for the removal of a cystic ovary, and wish to contribute a description of the operation to the scant literature which now exists upon that subject. The patient was 42 years old, of a nervous temperament, poorly nourished, and gave a history of pelvic disturbance extending over a period of fifteen years. An examination disclosed the presence of a tumor occupying the left side of the pelvis, its lowest part reaching about the level of the internal os. There was no evidence of previous salpingitis, nor attachment of the tumor to surrounding parts; for when the patient was placed in the knee-elbow position the tumor escaped from the pelvic cavity entirely. The pelvis was roomy and the uterus freely movable; but the choice of method was influenced not a little by a lack of faith in being able to have strictly aseptic methods observed in the hospital which the patient had selected. After making the usual preparations, the patient was put in the lithotomy position, the vagina again thoroughly washed out, first with a 1:1,000 bichlorid solution, then with sterilized water, and the uterus exposed by means of perineal and vaginal retractors. The lower lip of the uterus was then seized with a pair of strong bullet-forceps, drawn down to the vulva and given to an assistant to hold. In the same hand the assistant held the nozzle of a fountain syringe filled with sterilized water, to which had been added bichlorid of mercury, 1:5,000, and chlorid of sodium, 6:1,000, for continuous irrigation. A transverse incision was now made through the lowest part of the cul-de-sac, close to the uterus. The incision was begun with the scalpel and made large enough, at first, only to allow the insertion of the index finger tip. The bleeding of the afferent uterine vessels was stilled by the introduction of a stitch. The incision was enlarged with a pair of blunt-pointed scissors, a stitch being taken each time to prevent hemorrhage (Fig. 1), before the tissue was cut. The method adopted is almost exactly like that used by Martin for vaginal extirpation of the uterus, whence this illustration is taken.

After making the incision about 2½ inches long, the finger was introduced into the pelvic cavity and the tumor found to be entirely free of adhesions. The tumor was now seized with a pair of volcellum for-

¹ Since this was written my attention has been called to a case reported by Staude, of Hamburg. *Monatsschrift für Geburtshilfe und Gynäkologie*. Bd. ix, Heft 4). In this case the tumor was not discovered until labor had begun, when it was felt crowding the posterior wall of the vagina forward. Unable to push it up, Staude opened it, allowing the escape of considerable fluid. He then drew the tumor into the vagina and ligated it together with the tube; but the labor pains came on with such strength and rapidity that he was obliged to finish the operation after the child was born. He closed the incision with a catgut suture. The patient made an uninterrupted recovery.

ceps, drawn down, two of the cysts ruptured and their contents evacuated, when the tumor was easily drawn into the vagina. The pedicle was ligated, cut off and returned to the abdominal cavity. The pelvis was thoroughly washed out with sterilized water, the incision was left open, several strips of iodoform gauze were put in for the purpose of absorbing whatever moisture might be left, and the vagina was also filled with the same material. The tumor, after being in alcohol several weeks, now measures $6\frac{1}{2}$ inches in lesser and $9\frac{3}{4}$ in greater circumference. The time occupied in the operation was a little less than thirty minutes, and there was absolutely no shock following it. A profuse uterine hemorrhage, however, occurred on the third day after the operation, and on the fourth day there began septic disturbance, resulting in the formation of a pelvic abscess which apparently began in the pedicle stump, and made the convalescence tedious. The point of infection, however, was easily reached and the abscess thoroughly drained through the vaginal incision.

The employment of the vaginal route for the removal of ovarian tumors certainly has great

INCISION INTO CUL-DE-SAC.

limitations. A large tumor can not be removed in this way, especially if it be solid. Dr. Thomas would limit it to cases in which the tumor was "not larger than the head of a child a year old," but this must necessarily depend upon the peculiarities of each individual case. It is obvious that a simple cyst filled with serum only might be easily removed, while a multilocular cyst containing much semi-solid matter and connective tissue, though comparatively small, could not be removed in this way. Firm adhesions, too, especially between the tumor and the intestines, would make the operation impracticable.

The ovaries are not as easily accessible through the vaginal vault as they are through an abdominal incision, and if the soft parts be rigid and the pelvis narrow, these conditions may make the operation difficult; but if the uterus be freely movable the difficulties are not insurmountable. Furthermore, this method of operating can be abandoned for the abdominal route at any time during its progress, should it be thought for any reason to be impossible to complete; for the vaginal incision does not add to the gravity of the abdominal operation. It may, indeed, serve a useful purpose in permitting perfect

drainage. The advantages of the vaginal operation are, first of all, that it is not followed by shock. The short, simple incision, involving only the thin septum between the vaginal vault and floor of the cul-de-sac, produces little or no impression upon the nervous system, while the abdominal incision is often followed by profound nervous depression. The operation leaves no sensitive scar and there seems to be no danger of subsequent hernia. Upon this latter point I wish to quote Dr. Leopold Landau, of Berlin. He told me (in October of 1893) that that he had made over 200 vaginal hysterectomies with clamps and that he had never had a prolapsus of the intestines and had never seen the operation followed by a hernia. Furthermore, septic infection is certainly more dangerous where there is a large abdominal wound to become involved; aside from the fact that the abdominal peritoneum is much less tolerant of septic invasion, and much more speedily and frequently terminates in death than when only that of the pelvis is involved; and lastly, the point of infection is easily reached through the vaginal incision if suppuration does take place. Of the recorded cases which I have been able to find, none have terminated fatally. Olshausen (*Krank. des Ovar.*), in his discussion of this operation, states that Mignon collected from literature 113 cases, with 77 recoveries. As these cases embraced all kinds of conditions, some of profound inflammatory and suppurative disease, they should not be discussed under the head of vaginal ovariectomy. To sum up, the writer believes that in the case of a small, non-adherent tumor of the ovary with a normally mobile uterus, the vaginal route should be selected for its removal.

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THE SANITARY INSPECTION OF FACTORIES.

Read before the New Jersey Sanitary Association at their Twenty-first Annual Meeting held at Atlantic City, N. J., Dec. 6 and 7, 1895.

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CAMDEN, N. J.

While a study of the legislative enactments on factory inspection, as found in the labor laws of our States and Territories, teaches us that our legislators and health authorities have not entirely neglected the subject of sanitary inspection (since in a few of our manufacturing States there are laws good so far as they go), yet it is very evident that no great effort has been made to improve the sanitary and hygienic environments of the workingman, and create the best possible conditions for his health and work; conditions which conform to the scientific knowledge of our age. It would appear that nothing had been done beyond what necessity had enforced. No scientific knowledge of sanitation seems to have been promulgated among our factory owners and the working people of our country.

It is true that laws have been enacted regulating the age at which children can be employed in mills of various character, yet from going through these mills and looking at those working therein, we feel doubtful as to whether these laws are being lived up to. It is also true that the working hours of men, women and children have been established by law; also ventilation, water-closets, and accidents from