dementing condition is even slighter than this. The progress is really arrested for many years, and the patient is simply a rather useless home-body, doing nothing, not suffering much, helping a little about the house, showing aversion to real work however, complaining of his head, his stomach, probably sexually weak, developing some delusional ideas or vagaries. If he is originally serious-minded and brought up to ideals of duty and work, he makes a serious fight, but a little work causes profound exhaustion, and he has to give up. These patients do not have the egotism of paranoia. The malady runs a slow course; there may be periods of depression and apathy, suggestive to the watchful of a stupor, but there is not true melancholy. The great characteristic is the mental exhaustion and exhaustibility; the difficulty in attention and decision. It is an abulia from sheer weakness, however, not the hesitation of the doubting mania between two motives, or the indecision of fear and apprehension. The mental depression as stated is not acute, and if present is simply the psychic pain that comes from exhaustion.

To sum up: It is my contention, first, that many cases of dementia precox are in the early stages considered neurasthenics; but also that there are abortive types of dementia precox which pass through life or many years of it, with the dementia arrested, and are classed simply as neurasthenic. They are seen in college men and young professional men who break down suddenly after starting out brilliantly and are never heard of, becoming perhaps, breadwinners and fathers and mothers of families, but never amounting to anything, and always working at a disadvantage. They have no initiative; they break down often, and have to rest and limit their work.

Finally, neurasthenia occurring under twenty is rarely neurasthenia. It is a dementia precox, or a recurrent melancholia, or the exhaustion of a phrenasthenia, and it is rarely paranoia. Neurasthenia occurring at this early period with a bad family history, including family alcoholism, should make one very suspicious of a serious malady.

THE CYSTOSCOPE—ITS DIAGNOSTIC VALUE.¹

BY A. M. WOSE, B.S., M.D., SYRACUSE, N. Y.

By cystoscopy of to-day is meant the introduction of an instrument through the urethra for a visual examination of the bladder. This instrument, as you know, is called the cystoscope.

Like other articles of utility the cystoscope has its cycle of development. It is divided into two epochs:

(1) Instruments constructed on the plan of a tube passed into the bladder with the source of light reflected from a mirror without.

Bozzini at Frankfort in 1806 devised the first cystoscope. Then followed Segalas in 1826 with a modification, Bombolini and John D. Fisher in 1827, Desormeaux in 1863, Cruise in 1865, Stein, 1873, and Gruenfeld in 1874. A question

¹Read before the Onondaga County Medical Society of New York State March 8, 1904.

at that time was the choice of a light to be reflected; one advocated gas, another — petroleum, gazogen or magnesium — light. The open tube gave rise to difficulty from the fact that the contents of the bladder flowed out on introduction, and that the bladder-walls collapsed soon after, thus limiting the time and field of observation. The use of fenestrated tubes overcame this difficulty. All this, however, found its application in the female alone; for, at no time did this reflected light suffice to examine the male bladder.

This state of things changed on the introduction of the electric-light into therapeutics. Here commences the

Second epoch — that of the modern cystoscope.

Dr. Julius Bruck, Jr., of Breslau in 1867 was the first to use the platinum-light in medicine. He devised two methods for its use:

(1) What he called stomatoscopy, or direct illumination of a cavity by a glowing platinum-thread.

(2) Diaphanoscopy — indirect illumination or translucency of a cavity by a glowing platinum-thread.

Ten years later Nitze returned to Bruck's method. For he believed that an organ like the bladder, connected by a long narrow canal to the outer surface of the body, could be satisfactorily lighted by passing the light itself into it. To accomplish this Bruck had already surmounted many perplexities for him as he had used the glowing platinum-thread, cooled by a stream of water, to investigate the aural cavity; and, as said, by introduction into the rectum to illuminate the bladder. Nitze then contrived an instrument not unlike an endoscopic-sound with Bruck's arrangement of lighting and cooling to be passed through the urethra into the bladder. On account of the narrowness of the lumen of the urethra, the field of vision of this cystoscope was no greater than the aperture of the sound used. On a suggestion from Nitze to enlarge this field of vision, an optician — Beneche in Vienna — constructed a tube with a combination of lenses comparable to those of a terrestrial telescope. After a thorough trial in Von Dittel's clinic, Nitze described and demonstrated this instrument at a meeting of the Medical Association of Vienna, March 9, 1879. So many were the difficulties in the use of his instrument, it found few adherents.

Dittel, however, added new life to this method of investigation. In place of the glowing platinum-thread, he believed he could substitute Edison's incandescent-light, which came to his notice for the first time in 1880. For the cystoscope this light was its greatest boon. Thus the former cumbersome stream of cool water became superfluous, and in 1886 Leiter of Vienna completed an instrument, which was small in caliber, simple in construction, and handy in use. In the beginning of the year 1887 the problem of the cystoscope was solved.

The fundamental principles, as you know, in the construction of all modern cystoscopes is: the arrangement of an electric light on the vesical

end of a catheter-like metallic instrument with the optical enlargement of the field of vision by means of a prism, mirror and lenses. These instruments have a short Mercier curve with the lamps usually detachable, while the shaft of the instrument carries the optical apparatus, and a small wire to complete the electrical circuit. All the cystoscopes constructed by Nitze, Casper, Gueterboek, Berkley-Hill, Fenwick, Boisseau du Roher, Leiter, Loewenstein, Lewis or Albarra are of the same principle. The improvements in the instruments in the hands of these experimenters have been numerous; each and all, likewise, precious adjuvants for the diagnosis or treatment of the great number of the maladies of the urinary tract.

The cystoscope of to-day is employed in two classes of cases:

(1) For diagnosis, by the ideas it gives of the character of the vesical mucosa and the products of secretions issuing from the ureters.

(2) For therapeutics, that intervention which it permits to effect directly on the ureters or the mucosa itself.

Thus there are simple cystoscopes, more complex ones, as those given to irrigation of the bladder or for the catheterization of the ureters, operating cystoscopes with a cold wire or a galvanocautic loop, photographic-cystoscopes, and the cautery-cystoscopes employed in the operation of Bottini.

In spite of the perfection and the ingeniousness of the instruments themselves, cystoscopy remains a delicate and often difficult undertaking. A certain number of causes in fact may complicate its employment, and so introduce an error in the appreciation of the results obtained: First of all insufficiency in the brightness of the light always restrains one, which by too deep an introduction of the cystoscope obscures the view entirely, and if in contact with the bladder-wall may burn it with the consequent pain and movement of the patient (this latter property has been irradiated by the use of the new so-called cold lamps. These do not become heated). The arrangement of the apparatus — perhaps an imperfect contact in battery, or rheostat — diminishes the light or momentarily closes the circuit which prevents a just interpretation of that portion of mucosa observed. Immobility of the instrument after introduction, as rotation of the cystoscope on a longitudinal axis, or the movement of the ocular from side to side, forward or backward, limits the field of vision and a nicety of adjustment of the focal point to a clear image. Narcosis of the patient is generally necessary.

In order to investigate the bladder by means of the cystoscope the urethra must be passable. Strictures, a narrow meatus, or enlarged prostate must be calibrated or otherwise treated. In prostatic hypertrophy the use of the cystoscope becomes many times very difficult, and one should hold himself here to the strictest indications in its employment. The bladder must allow a moderate distention. Here a contraction

or malformation embarrasses one. Likewise acute cystitis, tubercular cystitis must be given due consideration before any cystoscopic investigation. The bladder must contain a transparent medium to obtain a clear view of the intra-vesical relations. This medium is water or air, the former is at present most frequently used. Purulent and catarrhal secretions or conditions with hematuria must be repeatedly irrigated until the wash-water runs clear, otherwise one has a dim and imperfect reflection from the mirror.

It can but suffice to mention briefly the most important vesical observations by means of the cystoscope:

The cystoscopic picture of the normal bladder appears strikingly pale, whereas the mucous membrane after a suprapubic cystotomy is usually dark red in color. At the base of the bladder one finds the ureteral openings, which are often in diseases of the pelvis of the kidney or the kidneys, reddened, swollen, and edematous. In renal hematuria or pyuria the blood or pus can be detected coming from the ureter or ureters. The cystoscope is of the greatest aid to differentiate the origin of intermittent hematuria, whether the blood comes from the kidney, or its pelvis, the bladder, prostate, or urethra. In the male a question of import, many times, is the contour and relation of the prostate-gland. The cystoscope gives positive evidence in hypertrophic conditions of the median or lateral lobes.

It stands for reason that the cystoscope renders the greatest possible assistance in the differentiation of acute or chronic cystitic conditions, tumors of the bladder, whether they are infiltrated, papillomatous, carcinomatous, or papillary excrescences; and such plastic objects as foreign bodies or vesical calculi. In the search for a stone the cystoscope is always a valuable and often an indispensable diagnostic aid, as it reveals a vesical calculus, which by sounding may fail to be discovered. After litholapaxy, the cystoscope is used in search of remaining fragments. There may be a stone in a diverticulum of the bladder-wall, while the lithothrite is contra-indicated, the cystoscope leads one to the proper treatment. Also such rare conditions can readily be detected as: troublesome cicatrices or presence of ligatures after operation on the bladder; wounds or lacerations of the bladder-wall after contusions; the presence of a fistula; the point of perforation into the bladder from abscesses in the surrounding viscera, as in appendicitis, pyosalpinx, perinephritic abscess; and likewise in malformations as the remains of the urachus and the like. In gynecology the cystoscope gives additional insight to the pathology of displacements and malpositions of the uterus and adnexa, the striking appearance of the base of the bladder and ureteral openings in cystocele, the transformation of the bladder by a gravid uterus, and in uterine neoplasms, as carcinoma and the like.

In those rarer cases where the urethral cys-

toscope cannot be employed, an instrument has been constructed of late with a trocar, which allows a suprapubic puncture of the bladder, and at the same time a cystoscopic investigation of this viscus.

THE IMPORTANCE OF THE CYSTOSCOPE IN THE
DIAGNOSIS OF DISEASES OF THE KIDNEY BY
MEANS OF CATHETERIZATION OF THE URETERS.

For the progress in the surgery of the kidneys seen in the last ten years, we are much indebted to the use of the cystoscope in the catheterization of the ureters. A question often of first importance to the surgeon in contemplated renal operations is, whether his patient has one or two kidneys. Although the presence of only one kidney is a rarity, nevertheless, such cases are recorded and likewise not a few of them for the first time at the necropsy, after the removal of that kidney. Here the cystoscope with the catheter leads to positive evidence in diagnosis and for the subsequent treatment. One can determine the existence of this kidney, if it is healthy or diseased, or if its functional activity is impaired. As above mentioned one can differentiate by means of a simple cystoscope the diseases of the bladder from those of the kidneys by the changes taken place in the ureters or about the ureteral openings. With the catheterizing-cystoscope one is in a position to collect this urine from both kidneys, as it were, and separately subject it to the important microscopic, chemical and cryoscopic analyses.

For the collection and segregation of urine from each ureter, there are such instruments as those advocated by Harris, Downes, and more recently, those of Cathelin and Luys. These instruments are more applicable to the female, for the slightest enlargement of the prostate-gland lessens their value in the male; and likewise, in such affections of the bladder with purulent, catarrhal, and hemorrhagic secretions. Thus the problem to separate the urine of both kidneys in a complete and unobjectional method is solved only by the direct catheterization of the ureters; or, best of all, by the catheterizing cystoscope.

The catheterism of the ureters by the cystoscope is not infrequently crowded with difficulties, for one may deal with those rarer cases where the ureteral openings cannot be detected, for example: cases with a tumor-like swelling of the mucous membrane of the bladder in chronic cystitis, prostatic hypertrophy with excessive enlargement of the median or lateral lobes, a trabeculated bladder, and one with other deformation or deformity.

The combination of the x-rays with a catheterizing cystoscope mounted with a silver ureteral sound or a catheter loaded with a mandrin gives the following assurances in the radio-graphic plate: (1) absolute confirmation of course of ureters, (2) exact localization of an obstruction in ureter, (3) the exact topographical localization of pelvis of kidney, (4) solution of difficulty in

diagnosis between biliary and renal calculi, (5) conclusion over size of kidney pelvis, (6) nature of a stopping of the ureter.

By the same method one can often differentiate between an abdominal tumor, wandering spleen, or a questionable wandering kidney on the left side.

As advocated by Dr. Howard A. Kelly, a ureter-stone can be revealed by the scratch marks on such a substance as a mixture of wax and olive oil on a catheter, after contact with the said stone.

When it is necessary to operate for calculus anuria it is often difficult to know upon which kidney to operate. The inquiry as to the side which gave localized pain is deceptive, and examination of the kidney region gives no assistance. Here the cystoscope clears up the scene.

Catheterization of the ureters is now employed with success in cases of tuberculosis of the kidneys, inflammation of renal pelvis depending on the presence of calculi or pyelitis itself. In these cases the common cure may remain resultless. Pawtick, Albarran, Casper and Kelly advocate the direct catheterization of the pelvis of the kidney. They employ this means in cases with increasing pyelitis or infectious forms, but not in primary affections of the kidney. Casper is of the opinion that in all cases of chronic pyelitis, which defy medical treatment, catheterization of the ureters is indicated; an operation is then in order if this fails.

Prior to an Edebohls or modified Edebohls operation for nephritis, the ureters should be catheterized. By this segregation of the urine one can determine the permeability of the kidneys, whether he deals with a unilateral affection, and that important question, whether his patient can sustain this operation. This latter factor would bring one to the consideration of the functional diagnosis of the kidneys. To allude briefly to this subject:

There is a comparable value between the permeability of the kidneys and the catheterization of the ureters. This value is in the Phloridzin test, the Methylene-blue test and the Cryoscopic test, in estimating the functional activity of the kidneys. Results of these tests are:

In the Phloridzin test: on segregation of the urine one obtains, from a healthy kidney, glycosuria, and from a diseased kidney no change whatever.

In Methylene-blue test: on catheterizing the kidneys, from a diseased kidney a pale barely-colored urine will be collected, while from a healthy kidney a pure green urine is obtained.

The Cryoscopic test: the freezing point of the urine lies between 0.9 and 2.3°. If the urine on segregation from the kidneys is below 0.9, an insufficiency of kidney or kidneys is shown.

Thus by the catheterization of the ureters one is able to estimate the functional activity of each kidney individually, by separately collecting the urine and subjecting it to the microscopical, chemical and cryoscopical analyzation.

In conclusion one can rightly say that the cyst-

toscope of to-day affords an exactness in the diagnosis of urinary diseases, which as yet in comparison is unattainable by any other means. Likewise, one can safely conclude in the present state of our knowledge that the catheterization of the ureters offers a valuable and ever-widening field of usefulness in the just appreciation of nephritic affections.

LIGATION OF THE LACHRYMAL CANAL TO PREVENT INFECTION FOLLOWING CATARACT EXTRACTION.¹

BY ALEX. QUACKENBOSCH, A.M., M.D., BOSTON,

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INFECTION through the tear duct is one of the common causes of suppuration following cataract extraction. To overcome this difficulty, various means have been employed, in cases where disease of the tear passage exists; viz., probing, syringing out the sac, treating the nasal cavity, packing the sac with antiseptic ointment, obliteration of the sac or canal with the cautery and extirpation of the sac. Probing, syringing out of the sac, or treatment of the nasal cavity, entails a long course of treatment, and is often ineffectual. Personally, I have had no experience with packing the lachrymal sac with antiseptic ointment. Cauterizing the duct or sac has occasionally been followed by infection. Removal of the sac is undoubtedly the safest procedure, the only objection to it, in cataract operations, is that a great many of this class of patients are old and infirm. Dr. Knapp, in Norris and Oliver's "System of Diseases of the Eye," speaks of "ligating the lachrymal canal as a temporary or permanent means of shutting off infection."

At the meeting of the American Ophthalmological Society in 1902, Dr. Buller of Montreal advised the "temporary ligation of the canaliculi, as a means of preventing wound infection in operations on the eye."

During the past year, I have operated on two cataract cases in which there was trouble with the tear passage; I have also seen two other cases operated on. The canal was tied, and in each case was successful in preventing infection.

The report of one case will suffice to show the method employed.

CASE. Female, age sixty-two; mucocoele, O. U. staphylococcus; pressure over lachrymal sac causes muco-purulent discharge into eye.

The usual preparations for cataract extraction were carried out.

Operation under cocaine. Before operating for cataract, the contents of the mucocoele were squeezed out, the eye washed out with corrosive (1-5,000), then a small probe was inserted into the upper puncta, and a suture passed around the canal, from the inside of the lid out. This was repeated on the lower lid. The sutures were passed two or three mm. from the puncta and were tied quite firmly.

Inserting a probe into the puncta aids in controlling

¹ Read at the New England Ophthalmological Society, November, 1903.

your lid and in placing your stitches; this is especially so with the upper lid. The cataract was then extracted without incident, the usual dressing was applied, the dressing was changed daily and omitted at the end of six days. Healing process normal, very little injection being present at any time following the operation.

The patient complained of no discomfort from the stitches, and they apparently caused no irritation. The stitches were removed at the end of two weeks; before taking them out, pressure over sac failed to discharge anything into eye, but after removal, a probe was easily passed, and pressure on sac caused a small amount of muco-purulent matter to come through puncta.

I see no reason to keep stitches in, after the corneal wound has healed firmly, and in my second case removed them at the end of the ninth day. The advantages of this method are, its simplicity, the ease with which it can be done, its freedom from pain, that it can be done at the time of the operation, and that it can be used even in doubtful cases.

Clinical Department.

A CASE OF APPENDICITIS WITH GENERAL PERITONITIS.

BY CHARLES A. ATWOOD, M.D., TAUNTON, MASS.

L. M., schoolboy, age fourteen years. Has had four previous attacks of appendicitis within the last year. These attacks were of varying intensity and usually kept him confined to his bed about two weeks. Present attack began Dec. 24, 1903. I first saw him Dec. 28, 1903, at 9 p.m. Pulse 120. Temperature 103. Vomiting. Abdomen tense and distended. More resistance over the right lower quadrant. Diagnosis, appendicitis with probable general peritonitis. Prognosis decidedly unfavorable. Immediate operation advised as only chance. This was accepted. I immediately sent the boy to Morton Hospital and with usual preparation operated at 10.15 p.m.

Operation under ether. I opened the abdomen by an incision parallel with the fibres of the ext. oblique over the appendix. As soon as peritoneum was opened, there was found to be free pus in the abdominal cavity. The pelvis was full of pus, the intestines red and covered with masses of lymph.

Pus was washed away with normal salt solution. A short, gangrenous, perforated appendix was found, tied off, and removed. Salt solution was used in washing out the abdomen until the washings returned clear. Large gauze wicks were introduced around former site of appendix. A gauze drain passed up towards diaphragm and one into the pelvis. A long counter opening was then made in the left lower side of the abdomen and a long gauze drain introduced into the pelvis. The boy was in poor condition when removed from the table. Temperature next morning was 100.6° F. Pulse, 119. Dec. 30 temperature had come down to normal. His convalescence has been uninterrupted.

I report this case because it has been one of much interest and satisfaction to myself, also as it shows how much we may sometimes accomplish by surgery even under most unfavorable conditions, and lastly, as this was a case where